National STEPS Survey for Non-communicable Diseases Risk Factors in Bangladesh 2018

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Ministry of Health and Family Welfare

World Health Organization

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PREFACE

The STEPS survey of non-communicable disease (NCD) is the first ever population based national survey in Bangladesh. It is the first ever STEPS survey in the world to be done using digital technology, Bangladesh society is a proud part of this history.

I gratefully admire and acknowledge the attitude of DGHS and Ministry of Health and Family Welfare towards us for their wholehearted support to the investigators. I also acknowledge and sincerely express my gratitude to the WHO, for its technical support to the investigators team for smooth completion of the project. Especially I can't help mentioning Dr M Mostafa Zaman, without active support of him and his team it wouldn't be possible to complete the task in time.

I must covey my gratitude to the investigators team, field supervisors and enumerators, the IT specialists and above all the participants who spent their valuable time to provide data. I would like to extend my gratitude to the Advisory Committee for guiding the study.

Because this survey has given nationally representative data on NCD risk factors, this report will help in formulating the prevention strategy on NCDs in Bangladesh.

Professor Dr Baizid Khoorshid Riaz
Director
NIPSOM, Mohakhali, Dhaka

NCDs are major causes of preventable deaths and disabilities. The second National Survey on NCD Risk Factors provides information on the prevalence of important risk factors comparable across countries.

I am pleased to see that National Survey on NCD Risk Factor in Bangladesh was completed successfully even in spite of various limitations. I commend the Ministry of Health and Family Welfare for their leadership in conducting the survey. NIPSOM has done a good job to generate evidences.

This survey used electronic data capture machines, which has contributed substantially to capacity building of the country to conduct large and standardized surveys using information technology. The same machines are now can be used in any further national surveys.

The National Survey on NCD Risk Factors report has gathered important data on various aspects of the non-communicable diseases and their risk factors in Bangladesh. I am confident that this report will be useful in designing and implementing effective NCD control policies and interventions in Bangladesh. This will also help reporting to the Global NCD Monitoring Framework.

WHO Representative to Bangladesh

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List of Acronyms

BBS	Bangladesh Bureau of Statistics
BMI	Body Mass Index
BP	Blood Pressure
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardiovascular Disease
DBP	Diastolic Blood Pressure
DM	Diabetes Mellitus
HHQ	Household Questionnaire
MET	Metabolic Equivalent
NCD	Non-communicable Disease
NIPSOM	National Institute of Preventive and Social Medicine
PSU	Primary Sampling Unit
SBP	Systolic Blood Pressure
FCTC	Framework Convention on Tobacco Control
STEPS	STEP wise Surveillance
WHO	World Health Organization

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Executive Summary

Non-communicable diseases (NCDs), also known as chronic diseases, tend to be of long duration and are the result of a combination of genetic, physiological, environmental and behavioral factors. Globally, more than seventy percent deaths occurred due to these pandemic NCDs. Most of the NCDs are preventable if the risk factors can be minimized. So information regarding distribution and determinants of those diseases and their risk factors is essential for launching appropriate community programs to reduce death and disabilities from NCDs. Current nationwide survey was conducted to get the distribution of NCD risk factors among Bangladeshi adult population both in urban and rural areas.

METHODS

A cross–sectional survey was carried out from February to May 2018 among adult population aged l8-69 years including men and women residing in the households in all the divisions of Bangladesh. Sampling was done by multistage, geographically stratified probability based sampling on the basis of Primary Sampling Unit (PSU) developed by Bangladesh Bureau of Statistics (BBS) for census 2011. The sample size was calculated considering prevalence of different NCD risk factors, relative precision rate and feasibility of the survey.

To calculate the final sample size, the design effect and non-response rate at the household and individual level were considered. Considering the findings of Demographic Health survey and previous BBS surveys, the person non-response rate and household non-coverage rate and design effect, security issue and non-clearance of local administration, the final adjusted sample size was 9,900 adults of 495 PSUs. However, based-on eligibility, refusal etc. finally, out of 9900 complete data were gotten from 8185 respondents, physical measurements could be done in 7208 participants, and blood and urine sample was collected from 7065 and 7028 respondents respectively. Both the blood and urine samples were given by 6901participants.

RESULTS

1. Population characteristics

Among the total 8185 respondents 3804 were men and 4381 were women. Response ration men: women was1:1.15.Mean age was 39.3 years. They had a mean 5.5 years of education (5.9 years in men and 5.2 years in women). Mean number of years of education was found to be higher in both men (7.0 years) and women (6.3 years) residing in urban area than in rural (men 4.7 years, women 4.2 years) area. By occupation, most of the women were homemakers whereas, businessmen, farmers, day laborer and service holders were dominant among the men respondents.

2. Tobacco use

Current tobacco consumption in any form was found in 59.6% men and 28.3% women. Smoking was habit of 46.6% men and 1.0% women among the respondents. Daily smoker was 44.4% of men and 0.9% of women. Smoking prevalence was higher among 33-59 years aged men (51%), and 60-69 years aged women. On an average people started smoking at 17.7 years. The average duration of smoking in the survey population was 23.7 years. Cigarettes were being smoked by 83.0% and 33.8% responded smoked bidi. Frequencies of manufactured cigarettes were 7.3 per day and bidi smoking was 13 per day. Overall prevalence of smokeless tobacco consumption was 27.5% and daily user was 23.9%. There was no substantial difference between prevalence of smokeless tobacco consumption of men and women. Consumption of smokeless tobacco was increased with age. Among the smokeless tobaccos, jarda by 77.3%, sadapata by 28.9% and gul was used by 15% survey population.

The prevalence of smoking was slightly higher in rural areas (23.0%) than the urban areas (21.7%). Smokeless tobacco use was slightly more in rural area (31.3%) than urban area (26.0%). Any form of tobacco consumption smoking or smokeless was done by 65% men and 32.4% women. However, both forms of tobacco were consumed by 12.8% men and 0.4% women.

3. Diet

a. Fruit and vegetables intake

On an average, fruits were being taken by the survey population 1.6 days a week. Men consumed fruits more days (1.7 days/week) than women (1.6 days/week). Frequency of vegetables consumption was 5.9 days a week. Consumption of vegetable was higher in women (6.1 days/week) than men (5.6 days/week). Among the survey population, consumption of both fruit and vegetables was higher in urban respondents (2 days/ week, 5.9 days/week respectively) than rural (1.3 days/ week, 5.8 days/week respectively).

Regarding quantity of intake, per capita mean consumptions of fruit and vegetables were 0.4 and 2.3 servings per day respectively. Mean number of servings of fruits and/or vegetables on average per day was 2.6. Considering the minimum requirement of servings of fruits or vegetables (at least 5 servings per day), 89.6% respondents did not consume adequately on an average day.

b. Salt Intake

Overall, 48.2% (men 44.9% and women 51.5%) of the respondents were used to always or often add salt to their food before eating or as they are eating. Usage of salty sauce to their food was found among 1.8% and processed foods high in salt was taken by 13.5% respondents. Mean intake of salt was 16.5 grams per day.

4. Physical activity

Insufficient physical activity (<150 minutes of moderate-intensity activity per week, or equivalent) was done by 12.3% respondents (men 9.6% and women 14.8%). Among the respondents, high level physical activities and moderate level physical activities were reported by 57.7% and 27.2% people. High level physical activity was reported by more men (66.3%) than women (50.2%) but more women (32.5%) than men (21.2%) were in moderate level physical activity. Mean total activity time was 193.4 minutes (men 258.7 minutes and women 136.9 minutes. All types of activity time such as work related, transports related etc. were higher in men compared to women.

5. Alcohol consumption

Alcohol consumption was very low as only 1.5% respondents drank within last 30 days and 3.7% consumed within past 12 months. Alcohol consumption was found more among urban population than rural in both the respondent who drank within last 30 days (urban 1.6% vs rural 1%) and among those who consumed within past 12 months (urban 5.0% vs rural 2.5%). However, 91.4% survey participants were lifetime abstainer of alcohol. This percentage was higher in rural (94.5%) than urban (90.1%). Among the alcohol users, only 4.2% were daily drinker. Current drinkers consumed at least one standard drink in each occasion of average 4.8 occasions in past 30 days. Percentage who engaged in heavy episodic drinking (6 or more drinks on any occasion in the past 30 days) was only 0.5%. Appreciating that, 13.7% respondents did not consume within last 12 months ago due to health reasons.

6. Obesity

Body mass index (BMI) was ≥25.0 kg/m^2 among 25.9% respondents. Based on BMI 5.4% people were obese (BMI≥ 30 kg/m2) and the proportion was much higher among women (9.8%) than men (3.3%). About 13% respondents were underweight (BMI<18.5). Men (15.3%) were found more in underweight category than women.

Among the survey population 31.4% population had increased waist circumference (men ≥94 cm, women ≥80 cm) and 15.2% had substantially increased (men ≥102 cm, women ≥88 cm) waist circumference. Percentage of women (increased 48.3%, substantially increased 25.9%) in both cases were much higher than men (increased 12.6%, substantially increased 3.4%). So, both BMI and central adiposity (waist circumference) was higher among women which increases risk of NCDs among them.

7. Blood pressure

Prevalence of self-reported hypertension was 14% in men and 20.0% in women and one-third (32.9%) of the population never measured their blood pressure. About 26% survey participants never measured blood pressure (BP). Antihypertensive drugs were being taken by 45.7% respondents. Reduction of salt was the most common advice of the physicians to the self-reported hypertensive patients (60.3%).

On spot measurement, 17.3% men and 24.4% women of the survey participants were having stage I hypertension (BP>140/90 mmHg) and 7.8% had stage II hypertension (BP>160/100 mmHg). Prevalence of hypertension tended to increase with age irrespective of medication and age. Even with medication 18.2% respondents were hypertensive. Among the hypertensive 63.2% respondents were not taking any medication.

8. Diabetes mellitus

Around 75% survey population never measured their blood glucose level in lifetime. Self-reported diabetic patients were 6.6% but only 2.8% were taking medication. Oral medication was being taken by 57.1% (men 65.0% and women 50.7% and insulin was being taken by 20.3% (men 23.8%) and women 17.4%) respondents. Again 2.2% diabetic people were taking medication from traditional healer during data collection.

On spot measurement, 8.4% of the respondents were found having raised blood glucose (≥126mg/dl) and impaired fasting glucose (>110 to 126 mg/dl) was found among 6.2% respondents. Among the population 1.7 % respondents were having raised blood glucose those were not diagnosed previously. Again, 2.9 % of the survey population with diagnosed raised blood glucose previously was not on medication and women (3.5%) were found higher in proportion than men (2.2%).

9. Total cholesterol

About 94% of the survey population never measured their serum cholesterol level but 3.6% of them were found to have self-reported raised total cholesterol. Among those with raised total cholesterol level, 40.8% (men 46.5% and women 34.7%) were taking medications. Again 2.0% people with raised total cholesterol were taking medication from traditional healer.

On measurement, the mean total cholesterol among the survey population was found 4.4 mmol/L. blood cholesterol ≥190mg/dl was found in 29.4% and ≥240mg/dl was found in 5.6% of the respondents. High density lipid level <40 mg/dl was found in 74.7% respondents (men 88.6%, women 62.8%). Triglyceride level >180 mg/dl was found 39.8% of the survey population (men 46.8% and women 33.8%).

10. Cardiovascular diseases

Cardiovascular diseases were reported by about 11% respondents and women (11.1%) were found more than men (9.8%). Among the patients, 2.7% (men 3.3% and women 2.2%) were taking aspirin and 2.1% (men 2.4% and women 1.8%) were taking statin.

11. Oral health

About 39.5% of the respondents had pain or discomfort caused by their teeth or mouth during the past 12 months. Forty nine percent respondents were used to clean their teeth at least once a day and the proportion was higher among the18-29 years age group. Toothpaste was used by 55.7% respondents, of which 47.7% respondents used fluoride containing toothpaste.

12.Cervical Cancer Screening

Cervical cancer screening test was ever done by 6.1% of 30-49 years aged women.

Summary of Combined Risk Factors

Following risk factors were identified in the survey
- Current daily smokers
- Less than 5 servings of fruits & vegetables per day
- Insufficient physical activity
- Overweight (BMI ≥ 25 kg/m2)
- Raised BP (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)

About 1.9% men and 4% women had none of the above risk factors. Overall, 26.2% people of 18-69 years age had three or more of the above risk factors. The proportion was higher among the 60-69 years aged people (40.1%) than the 18-29 years aged people (16.5%).

POLICY RECOMMENDATIONS

This second nationally representative survey provides essential information on key indicators of NCD risk factors and creates an opportunity for policy makers, program managers, academicians, development partners and researchers to adopt necessary interventions to combat the burden of NCDs in Bangladesh. Inadequate intake of fruit and vegetables, use of tobacco, low physical activity, obesity (especially central), high blood pressure, diabetes mellitus, extra salt intake, dyslipidemia and binge drinking among drinkers are identified risk factors for NCDs in Bangladeshi adults. Majority (70.9%) has at least one risk factor and substantial proportion of people have two or more risk factors. Based on these findings, the specific recommendations are:

1. To build mass awareness on the risk factors of NCDs, multidimensional and multilateral collaborative health education interventions are warranted through mass media, campaigns and school curricula.

2. To raise awareness of the people on non-communicable diseases, comprehensive population-based approach using community-oriented health care system for NCD prevention is essential to in Bangladesh.

3. Effective strategies to promote accessibility and availability of fruits and vegetables round the year for all people should be devised and implemented.

4. To promote empowering environment for physical activity in both urban and rural settings, appropriate measures should be undertaken, with emphasis on physical activity, leisure time physical activity in particular,

5. For early detection and treatment of hypertension or high blood pressure, initiatives and health programs for periodic checkup of blood pressure should be launched throughout the country.

6. To reduce the prevalence of diabetes mellitus, early diagnosis and prompt treatment through primary health care system should be established throughout the country.

7. To establish national database on NCD risk factors, digital NCD surveillance system must be developed under the leadership of relevant public health institute.

8. To reduce tobacco consumption behavior of the people, adequate enforcement of the Act is necessary. Necessary amendment of the Act is also required to match with the provisions of WHO Framework Convention on Tobacco Control and close all the loop holes in the tobacco control program.

9. To prevent obesity and dyslipidemia, relevant health information communication and health education interventions are indispensable to implement throughout the country with special emphasis on the urban people.

10. Diseases specific screening programs also should be launched for early detection NCDs like cervical cancer among the females.

11. To improve oral health status of the people, awareness building interventions on dental care, oral hygiene and healthcare utilization should be commenced in the country with special emphasis on the rural people.

12. To reduce the risk of NCDs, drug abuse, alcohol addiction, special measures and interventions focused on lifestyle modification and behavior change communication are necessary to be portrayed in the country.

Bangladesh at a Glance

Bangladesh, officially the People's Republic of Bangladesh is one of the world's most densely populated countries. Bangladesh is situated in a delta of rivers that empty into the Bay of Bengal and sharing borders with India and Myanmar. Bangladesh has an estimated total population of 161.4 million people[1] with steadily decreasing rural population of 63.4% in 2018[2]. Estimated Gross National Income per capita (GNI) was 1750 (current USD) in 2018[3] and ranked 136 globally in United Nation's Human Development Index (0.608) in 2017[4]. The majority of Bangladeshis are Muslim followed by Hindus and some Buddhist and Christians.

The average life expectancy at birth in Bangladesh is 72 years in 2017 (74 for women, 70 for men)[5]. Administratively, Bangladesh is divided into 8 divisions. Each division is further sub-divided into progressively smaller units: districts,

Map of Bangladesh showing divisions
Source: https://www.mapsofworld.com/bangladesh/bangladesh-political-map.html

sub-districts (Upazila), unions, wards, and villages. Current existing government health services include community clinics, union health and family welfare centers, Upazila health complex, district sadar hospitals, medical college hospitals and specialized hospitals.

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[1] United Nations. United nations world population prospects 2019. Available from: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=BD Accessed on Dec 4, 2019.

[2] The World Bank. Rural population % of total population – estimates based on the United Nations Population Divisions: World Urbanization Prospects. Available from: https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=BD Accessed on Dec 4, 2019.

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[4] United Nations Human Development Programme. Human development index and its components. Available from: http://hdr.undp.org/en/indicators/137506 Accessed on Dec 4, 2019.

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Chapter 1 Introduction

1.1 Background

The global burden of non-communicable diseases (NCDs) continues to increase, accounting for 73.4% (41 million) of all deaths in 2017 with the greatest burden occurring in developing countries with significant health, social and economic consequences[6]. In Bangladesh, NCDs are estimated to account for 73.2% of all deaths in 2017. Four main groups of NCDS – CVD (36.1%), cancers (11.2%), chronic respiratory diseases (9.3%), and diabetes mellitus (5.8%) – are responsible for majority of theses NCD related deaths[7].

The Sustainable Development Goals 3.4 targets to reduce by one-third premature mortality from NCDs and promote mental health and well-being[8]. This is further supplemented by the Global Action Plan for the Prevention and Control of NCDs 2013-2020 with 9 voluntary global targets to be attained by 2025 with 2010 as the reference year (**Figure 1.1**)[9]. Bangladesh has incorporated all 9 targets in its 3-year multisectoral action plan for 2018-2025[10].

Figure 1.1 Nine targets in Bangladesh Multisectoral Action Plan for the Prevention and Control of NCDs 2014–2020

A 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.

At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context.

A 10% relative reduction in prevalence of insufficient physical activity.

A 30% relative reduction in mean population intake of salt/sodium.

A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years.

A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances.

Halt the rise in diabetes and obesity.

At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes.

An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities.

The key to controlling the global epidemics of NCDs is primary prevention based on comprehensive population-wide programmes. This requires the identification and surveillance of the most common NCD risk factors identified by the World Health Organization (WHO) which are shared between most common NCDs: tobacco use,

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[6] Roth GA, Abate D, Abate KH, et al. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2018;392(10159):1736-1788. doi:10.1016/S0140-6736(18)32203-7

[7] Noncommunicable diseases country profiles 2018. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.

[8] United Nations General Assembly. Transforming our world: the 2030 Agenda for Sustainable Development [Internet] 2015 [Accessed on 2019 Oct 22] Available from: https://sustainabledevelopment.un.org/post2015/transformingourworld

[9] World Health Organization. Global action plan for the prevention and control of NCDs 2013-2020. Geneva.

[10] Multi-sectorial action plan for prevention and control of non-communicable diseases 2018-2025 (2018). Dhaka: Non-communicable Disease Control Programme, Directorate General of Health Services.

harmful use of alcohol, unhealthy diet (low fruits and vegetables consumption, high salt intake), physical inactivity, overweight and obesity, raised blood pressure, raised blood glucose and cholesterol.

The WHO STEP-wise approach to noncommunicable disease risk factor surveillance facilitates countries to track national NCDs status including the 25 key indicators (except the indicator on NCD mortality and per capital alcohol consumption) highlighted in the NCD Global Monitoring Framework which will help Bangladesh track progress and guide policy and program planning in NCD prevention and control[11].

1.2 STEP survey and NCD surveillance

STEP surveys are an integral part of nationwide NCD surveillance to track trends in key NCD risk factors and health system response including service coverage and utilization. As part of this surveillance system, this is Bangladesh's 2nd national STEPs survey. The first national STEP survey conducted in 2010 did not include biochemical measurements. This second nationwide STEP survey along with biochemical measurement for blood glucose and lipid profile will help to assess change in key indicators and provide Information that will guide appropriate programs to reduce death and disabilities from NCDs. National Institute of Preventative and Social Medicine in Bangladesh implemented the survey with technical supports of WHO.

1.3 Objectives

General Objective

- To assess the prevalence of selected NCD risk factors among 18-69 years old population in Bangladesh

Specific Objectives

- To measure the prevalence of behavioral risk factors (tobacco use, harmful use of alcohol, low fruits and vegetable consumptions, average population salt consumption, and physical inactivity)
- To measure the prevalence of biological risk factors (raised blood pressure, overweight, obesity, raised blood glucose and total cholesterol and abnormal blood lipids)

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[11] World Health Organization (2017). WHO STEPS Surveillance Manual: The WHO STEPwise approach to chronic disease risk factor surveillance. Geneva, World Health Organization.

- To assess responses of national health system in terms of coverage with early detection and treatment of key physiological risk factors (ie. diabetes, hypertension, tobacco cessation) and cervical cancer screening and source of care.
- To assess the oral health practices of the adult population.
- To assess the coverage, availability and use of cervical cancer screening/testing services and reasons for not getting screened or treated.

Chapter 2 Survey Methodology

2.1 Survey design
STEPs- 2018 is a national cross-sectional population-based survey that used multi-stage cluster sampling design to sample households and eligible adult men and women (18-69 years of age) for interview and physical examination (anthropometry, blood pressure measurement, blood glucose and cholesterol an urine sample for salt) was adopted.

2.2 Survey population
Survey population included men and women aged 18-69 years who have been the usual residents of the household for at least six months and have stayed in the household the night before the survey regardless of citizenship. People with the following characteristics were not included:

- Those whose primary place of residence was in a military base or group quarters
- Those residing in hospitals, prisons, nursing homes and other institutions
- Those too frail and mentally unfit to participate in the study
- those with any physical disability or were severely ill.
- those unable or unwilling to give informed consent

2.3 Sampling design
Samples were collected by multistage, geographically stratified probability based sampling on the basis of Primary Sampling Unit (PSU) developed by Bangladesh Bureau of Statistics (BBS) for census 2011. To ensure generalization and reliability of the survey results to the entire target population in Bangladesh, the sample size calculator as recommended by WHO (sample size calculator STEPS) was used to derive a sample size. The sample size was calculated that is sufficient to produce reliable estimates for all the indicators for men and women and for 4 age-groups (18-24, 25-39, 40-54, 55-69).

2.3.1 Sample size
The sample size was calculated considering prevalence of different NCD risk factor, relative precision rate (20%) and feasibility of the survey. Using the prevalence of obesity (based on BMI), 472 people was required for effective analysis for each group (8 groups: 4 age-groups and 2 gender categories).To calculate the final sample size, the design effect and non-response rate at the household and individual level were considered. Considering the findings of Demographic Health survey and previous BBS surveys, the person non-response rate shared around 10% and household non-coverage rate around 10%. So, in the proposed survey, overall 20% non-response rate and design effect of 2 were considered. Initially the survey considered 496 Primary Sampling Units (PSUs) (248 each from rural and urban area)

as updated by BBS for GATS survey 2017. But during field work, one PSU was excluded due to inaccessibility. As a result, the final adjusted sample size is 9,900 adults of 495 PSUs.

1st STEP: sample size by risk factor/condition per group (8 groups: 4 age group, 2 gender group)

Sample size was calculated[12] as follows: $n = (z^2) q / (d^2) p$

Where,

p =Proportion of population having events, (here, p=16.9%)

q = Proportion of population having events (1-p) =q (here q=0.831)

z = The value of standard normal variety at a given level (here, 1.96)

r = Relative Precision (Here, r= 20% = 0.20)

Table 2.1: Calculation of initial sample size

Risk Factors/ Conditions	z2	Prevalence (p)	q	Relative Precision (r =20%)	n = (z^2*q)/r^2*p	Margin of error (e)	Rounding	Reference for prevalence
Hypertension	3.84	0.208	0.792	0.20	365.5384615	3.7	366	NCD risk factor survey Bangladesh 2010
Diabetes mellitus	3.84	0.056	0.944	0.20	864	2.7	1618	Bulletin of the World Health Organization 2014;92:204-213
Fruit/Veg. <5 Serving	3.84	0.918	0.082	0.20	8.575163399	2.5	9	NCD risk factor survey Bangladesh 2010
Low physical activity	3.84	0.345	0.655	0.20	182.2608696	4.3	182	NCD risk factor survey Bangladesh 2010
Overweight (BMI≥25)	3.84	0.169	0.831	0.20	472.0473373	3.4	472	NCD risk factor survey Bangladesh 2010
Central Obesity	3.84	0.211	0.789	0.20	358.9763033	3.7	360	NCD risk factor survey Bangladesh 2010
Tobacco use	3.84	0.510	0.490	0.20	125.7090069	4.5	92	NCD risk factor survey Bangladesh 2010
High Cholesterol (≥200mg/dl)	3.84	0.013	0.987	0.20	7288.615385	1.1	7290	Zaman MM, Choudhury SR, Ahmed J. Blood Glucose….STEPS 2006 survey

$n = ((1.96^2) * 0.831)/((0.2^2) * 0.169)$, for each group without taking into account the non-response and design effect

2nd Step: adjusting for design effect of 2, response rate of 80%, and 8 groups, sample size was calculated.

$n = (472 * 2 * 8)/0.8 = 9440$

One adult was sampled from each sampled household. Twenty households were selected by systematic random sampling on the basis of estimated sampling interval from each out of 495 PSU. So, the calculated final sample size was = 495*20= **9,900. (sample size a national level)**

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[12] Lwanga SK, Lemeshow S, World Health Organization. Sample size determination in health studies: a practical manual. Geneva: World Health Organization; 1991..

The final sample size of the survey was 9,900 adults of Bangladesh, which allows national estimated disaggregates by gender and 4 main age groups.

2.3.2 Sampling Frame and primary sampling unit

The sampling frame for the survey was the complete list of Primary Sampling Unit (PSU) i.e. Enumeration Areas (EAs) (about 293,533) covering the whole country prepared by the BBS for the 2011 Population and Housing Census of the People's Republic of Bangladesh. A PSU is a geographic area covering 100 to 220 households with an average of 113 households. The sampling frame contained information about the PSU location, type of residence (urban or rural), and the estimated number of residential households. A sketch map that delineates the PSU geographic boundaries was available for each PSU. The population coverage rate of this Census 2011 was around 95.85% of the total population. **(Annexure A)**

A special zonal operation was carried out by BBS before 2011 census in 2010 whereby both the urban and rural areas were subdivided with updating of *mauzas (rural)* and *mahallas(urban)* maps with demarcation of PSU boundaries comprising of 100 to 120 (average) houses. Thus based on 2011 census, the sampling frame for the survey was about 293,533 PSUs for both rural and urban areas. The urban stratum included urban and city corporation areas. In Bangladesh, 23.3% of the households are in urban areas; 8.2% are in city corporations, and 15.1% are in other than city corporations.

A new division has been added in 2014 after conclusion of census 2011. So, all the PSUs in the 2011 census were mapped out as per the latest divisions. Thus the sampling frame for STEPS survey 2018 in Bangladesh comprised of 293,533 PSUs: 65,193 urban and 228,340 rural PSUs. Table 2 describes the complete sampling frame by division and by urban and rural areas.

Table 2.2: Sampling frame used for 2017 STEPS NCD Risk Factor Survey based on Census 2011

Name of Division	Rural		Urban		Total	
	PSU	HHs	PSU	HH	PSU	HH
Barishal	14812	1561303	2688	301538	17500	1862841
Chattogram	40019	4211325	12241	1411240	52260	5622565
Dhaka	41249	4600373	27377	3133637	68626	7734010
Khulna	27485	3072496	5646	664774	33131	3737270
Mymensingh	25064	2668255	3650	427080	28714	3095335
Rajshahi	34101	3712882	6599	772370	40700	4485252
Rangpur	29388	3333437	4273	482940	33661	3816377
Sylhet	16222	1511519	2719	278890	18941	1790409
Bangladesh	228340	24671590	65193	7472469	293533	32144059

PSU: Primary sampling unit
HH: Household

Households in this survey was defined according to BBS as "A dwelling in which persons either related or unrelated living together and taking food from the same kitchen".

2.3.3 Sampling strategy

This survey used the same 496 PSUs which were sampled and used during a recently concluded GATS-II survey. In GATS Bangladesh 2017 these PSUs were equally allocated to each division (62 each), and within each division, were equally allocated to urban and rural stratum (248 PSUs each to both urban and rural strata). The rural and urban PSUs were arranged by population size in terms of household numbers for both urban and rural stratum in each division. In each stratum (rural and urban), 31 PSUs were selected independently in each division by probability proportional to size (PPS) sampling

Table 2.3: Number of sampled PSUs* and households by division for 2018 STEPS NCD risk factor survey based on Census 2011 sampling frame

Division	Rural		Urban		Total	
	PSUs	**HHs**	**PSUs**	**HHs**	**PSUs**	**HHs**
Barishal	31	620	31	620	62	1240
Chattogram	30	600	31	620	61	1240
Dhaka	31	620	31	620	62	1240
Khulna	31	620	31	620	62	1240
Mymensingh	31	620	31	620	62	1240
Rajshahi	31	620	31	620	62	1240
Rangpur	31	620	31	620	62	1240
Sylhet	31	620	31	620	62	1240
Total	**248**	**4800**	**248**	**4800**	**496**	**9900**

*Same sampled PSUs as used in Global adult Tobacco Survey Bangladesh 2017, no fresh sampling of PSUs was carried out for this survey

A household listing operation was carried out in all the selected PSUs by BBS during GATS-II survey in July 2017 was used and no new household listing was carried out for this survey. As the survey used the same PSUs as used during GATS-II survey, HHs lists prepared by BBS during GATS-II survey in July 2017 served as sampling frame for the selection of households in the second stage.

A fixed number of 20 households were systematically selected from each sampled PSU with an equal probability using a fractional interval technique. Selected households in all the selected PSUs were randomly assigned as "male" or "female" in a ratio that produced equal numbers of male and female households. The 20 selected HHs in a PSU were divided into two groups as 1) male HHs for interview of a male member and 2) female HHs for interview

of a female member. All the sampled HHs from each PSU were listed sequentially, and alternate house was assigned as female or male household, with the first household in the list assigned as female household.

Finally, one individual was sampled randomly from all the eligible adults in a participating household using the survey app in android tablets. No replacements and no changes of the pre-selected households were allowed at the implementing stage to prevent bias.

2.4 Data collection tools

The survey was conducted using the WHO NCD STEPS instrument version 3.2[13]. The questionnaire consisted of three STEPS for measuring the NCD risk factors. Each step consisted of a number of core, expanded and country specific questions that were modified to suit local needs. Bangladesh included all core modules and optional modules: oral health and cervical cancer screening. The questionnaire was translated into Bengali. Validation of the translated questionnaire was done by back translation. **(Annexure B and Annexure C)**

STEP I (questionnaire) included:

- Demographic information: date of birth/age, sex, religion, marital status, years at school, primary occupation, possession of specific household assets (to compute household wealth index as a proxy for economic status in place of income/expenditure).
- Fruit and vegetable consumption
- Dietary salt
- Physical activity
- Tobacco use
- Alcohol consumption, practices, knowledge and perceptions
- Oral health status and care seeking behaviour
- Cervical cancer screening
- History of raised blood pressure, raised blood glucose, and sources of care and reasons, for non-treatment.
- History of cardiovascular diseases
- Lifestyle advice from health workers

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[13] World Health Organization. WHO STEPS instrument (core and expanded). Geneva, Switzerland: WHO URL: https://www.who.int/ncds/surveillance/steps/instrument/STEPS_Instrument_V3.2.pdf

STEP II included physical measurements: weight, height, waist/hip circumference and blood pressure.

STEP III included biochemical measurements: fasting blood glucose, total cholesterol, lipid profile and urine sample for testing of sodium and creatinine levels. **(Annexure D)**

2.5 Data collection technique

Based on the sampling frame outlined above (2.3 Sampling design), field workers visited the sampled households with the assistance of registrars from 495 BBS PSU's to in finding the selected household . The appointed person was remunerated on daily basis including per diem and travel allowance. Each household was followed up at least twice in case of non-availability of the respondents during the first visit. A respondent who could not be contacted even after the second attempt was counted as a non-response. An interview tracking form was completed to record brief information about the respondents. If the sampled household member was present on the first visit, s/he was requested to participate in the study and written consent was obtained. If s/he was not available at home during the first visit, a second visit was made. Once the consent was obtained, the STEP I and II questionnaire were completed, urine container with QR code was assigned. After completing STEPS I and II. participants were given a feedback form. This form included information on their height, weight, hip and waist circumference, blood pressure (third reading) and heart rate (third reading).

An appointment/clinic card was also given to every participant for biochemical measurement containing fasting instructions. This card contained the appointment date, time and place for blood glucose and lipid measurement. On the given date and time, the enumerators made biochemical assessment (Fasting blood glucose and lipid) using cardio-check.

Participants were instructed to fast overnight for 12 hours and diabetic patients on medication were requested to bring their medicine/insulin with them and take their medicine after providing the blood sample. To ensure high response rate for STEP3, the enumerators called the respondents on the day of testing if he/she failed to come as per the appointment. Similarly, for the purpose of population salt estimation, urine containers with QR code pasted on them were provided to participants to collect spot urine. The instruction for sport urine collection was given and asked them to bring the urine sample with them to the appointment for blood testing the next morning.

The questionnaire was administered by trained interviewers through face to face interviews and responses as well as physical measurement were recorded in the survey app (ODK software) on android tablets. Data from the tablets were submitted to cloud-based server after completing the data collection.

Assistive pictorial show cards were shown to the participants during the interview to provide visual references including various tobacco, alcohol products, servings sizes of different fruits and vegetables (one standard serving of fruit or vegetable equals 80 grams), various salty sauces and processed foods, various levels of physical activity and sedentary activities (**Annexure E**)

2.6 Physical measurements: Anthropometry and blood pressure
2.6.1 Anthropometry

Height, weight, hip and waist circumference were measured for all sampled individuals who gave their consent for STEP 2.

Height was measured with a portable stadiometer (Seca Measuring Scale 213®). For the height measurement, respondents were asked to remove footwear (shoes, slippers, sandals) and any hat or hair ties. Respondents were requested to stand on the stadiometer facing the interviewer with their feet together and knees straight. They were asked to look straight ahead and not tilt their head up, making sure that their eyes are at the same level as their ears. Height was recorded in centimeters.

Weight was measured with portable digital weighing scale (Tanita). The instrument was place on a firm, flat surface. Participants were requested to remove their footwear and socks, wear light clothes, stand on the scale with one food on each side of the scale, face forward, place arms idly at their side and wait until asked to step off. Weight was recorded in kilograms.

Waist and hip circumference were measured using a constant tension tape (Seca, Germany). A private area, such as separate room with in the house, was used and the measurement was taken over light clothing. Waist circumference was taken at the end of a normal expiration with the arms relaxed at the sides at the midpoint between the lower margin of the last palpable rib and the top of the iliac crest of hip bone). Hip circumference was taken at the maximum circumference over the buttocks. Participants were requested to wrap the tape around them. The measurement was read at the level of the tape to the nearest 0.1 cm, making sure to keep the measuring tape snug.

2.6.2 Blood Pressure

Blood pressure and pulse was measured with a digital, automated blood pressure monitor (BP–BOSO–Medicus Control with universal cuff®) with uniform cuff-size. Before taking the measurements, participants were asked to sit quietly and rest for 15 minutes with legs uncrossed. Three readings of the systolic and diastolic blood pressure were obtained. Participants were requested to rest for three minutes between each reading. The mean of the second and third readings was calculated. The sphygmomanometer cuff was placed on the left arm while the participant rests their forearm on a table with the palm facing upward. Participants were requested to remove or rollup clothing on the arm. The cuff was kept above the elbow aligning the mark for artery on the cuff with the brachial artery and making sure the lower edge of the cuff is placed 1.2 to 2.5 cm above the inner side of the elbow joint and with the level of the cuff at the same level as the heart.

2.7 Biochemical measurements

2.7.1 Blood glucose and lipids

After STEP 1 and STEP 2 of data collection at sampled households, biochemical assessments were performed the next day at a designated place for each PSU for blood glucose and total cholesterol, measured in venous blood samples. Concentrations of glucose, total cholesterol and HDL cholesterol were measured in plasma samples. Fasting samples were taken to measure raised blood glucose.

Participants were instructed to fast overnight for 12 hours at the time of household visit for Step I and II. During the appointment, participant was asked to sit in comfortable position with exposing forearm in a table or if patient could not sit in that case at supine position. If the technician was not able to collect blood despite two attempts, he/she didn't try to attempt the 3rd prick, and just recorded the reason for non-collection of sample in laboratory and interview tracking sheet. Each participant was given 50 taka and made him / her rest and then allowed to go).

The ante-cubital fossa was cleaned with disinfectant (70% alcohol) and identified the ante-cubital vein. Then 5ml of blood will be collected by disposable syringe. 2 ml of this blood was transferred to Fluoride-oxalate vacutainer (brown top) for serum glucose testing and 3 ml of the blood was kept in a normal tube and allowed to stand for separation of plasma (for lipid profile) with proper labeling. The sample for blood glucose was left in upright position in vacutainer rack and then centrifuged and separated serum was keep in the cold box ($2-8^0C$) surrounded by ice packs and sent to the NIPSOM Lab within 24 hours.

Each sample tube was labeled with the participant identification number using autogenerated ID tablet, as automatically generated during the questionnaire administration. The medical technologist labeled the laboratory ID (Based on PSU and HH number) against the corresponding participant ID on the appointment card following their lists.

Disposable sterile gloves in multiple sizes: The medical technologist and lab staffs used sterile gloves during blood collection from the participant. Each time the medical technologist washed his/her hands including gloves with Chlorhexidine Gluconate (0.5%) and Isopropyl alcohol (70%) (Hexisol®) and collect blood sample with sterile syringes and needles. A single-use disposable needles, and syringes or lancing devices were in sufficient numbers to ensure that each patient has a sterile needle and collection device or equivalent for each blood sampling. All the used syringes and all other used materials were collected in a supplied biohazard bag. The needles were stored in hard plastic container/box. All the medical wastes created for sample collections were sent within biohazard bag to NIPSOM. Finally all the medical wastes were disposed centrally scientifically by PRISM[14], the specific agency concerned with management of biomedical wastes. NIPSOM had an agreement with PRISM for management of all laboratory and biomedical wastes. Sufficient laboratory sample tubes were supplied to prevent reuse and manual washing.

Immediately after reaching to the NIPSOM laboratory, the samples were properly registered with lab ID and sent for measuring blood glucose, lipid profile with biochemistry auto analyzer (Selectrao Pro M) for blood glucose, Human®, Germany; for HDL with control, Elitech®; TG, Elitech®; with control, Humatrol/ serodos®; cholesterol, Elitech® with control Humatrol®, Germany.

2.7.2 Spot urine testing for estimation of 24-hour salt intake
Spot urine collection was done to identify the level of sodium (Na), potassium (K) and creatinine.

Spot urine sample collection process
Urine sample were collected from all respondents age 18–69 who consented to STEP 3-biochemical measures component of the survey. Respondents were excluded if they were pregnant; were fasting before collecting the urine sample; have contaminated urine samples

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[14] PRISM Bangladesh Foundation. Aims and Objectives. [Internet].2020. [Cited: 22 March 2020] Available from: http://pbf.org.bd/

with blood. Urine samples were self-collected by respondents the night of the survey interview at home before fasting for blood sample collection the next day during their scheduled appointment. The respondents were requested to void into the urine containers provided, fill half of the container and record time of collection. Instructions were given to store the sample in a cool, dark place without direct sunlight before they brought the sample container to the collection centre the next morning during their appointment. Urine analysis was conducted at NIPSOM using reagent: Easylyte plus® 400mL solution pack® with the analyzer: Easylyte plus Na/K/Cl analyzer® by Medica Corporation, USA. Urine samples were matched with respondents using identification number attached to each urine sample that corresponds to respondent's unique identification number. Sodium data was received in units of mmol/L, while creatinine was received in mg/dl.

24-h salt intake estimation

The STEPs survey utilizes spot urine sample as a proxy to 24h urine samples for the estimation of mean population salt intake. WHO has long supported the use of 24 hour urine sample as the preferred method for the assessment of population mean salt intake, despite so, the challenges faced during sample collection due to high participant burden has significantly reduced the use of the tool. The relative convenience of spot urine samples have provided a more appealing alternative. Current literature supports the use of spot urine samples to estimating mean population salt intake[1]. Three main studies developed the estimation of 24-h urinary sodium intake from spot urine samples that are used in our STEP survey: Kawasaki[2], INTERSALT[3] and Tanaka[4]. However, limited evidence support the preferential use of one equation over another in a given population/context. Hence, to facilitate comparison of results and assessment of trends, equations used in previous survey rounds was maintained in current survey round. This is the first year urinary salt was measured in the Bangladesh STEPs Survey and the Tanaka equation was used.

Tanaka equation

$$21.98 \times (Naspot(mmol/L)/(Crspot(mg/dL) * 10) \times PrUXr24h(mg/day))^{0.392}$$
$$PrUCr24h = 14.89 \times Weight(kg) + 16.14 \times Height(cm) - 2.04 \times Age(year) - 2244.45$$

Additional information that are required by the equations include respondent weight, height, age, sex. When conversion of creatinine from mg/dl to mmol/L was called for, creatinine in mg/dl was multiplied with a conversion factor of 0.00884. The equations above derive 24 hour sodium intake, which is then converted to salt intake by the division of 17.1 (or multiplication of 2.54/1000*23) as a conversion factor to obtain the final estimated salt intake of interest in grams.

2.8 Quality assurance and pretest

This study adopted the validated WHO STEPs instrument version 3.2.[13] The survey protocol development followed standard format of WHO with explicit explanations of all scientific issues. Extensive literature review was done to develop the survey protocol. The protocol was finalized through workshop presentation and reviewing with WHO. All members of the field team were extensively trained on the research objectives, research design and methods, data collection instruments and techniques (see below). Data collection instruments were pre-tested and corrected as per requirements. The instruments were translated into Bangla and was back translated and validated among the adults of similar urban and rural communities. The android devices were programmed with the help of WHO technical advisors and were used for data collection after extensive pretesting.

2.9 Staff and Field work

Staff

The technical committee of the survey was composed of one coordinator, two co-principal investigators and ten co-investigators. In addition to that one finance and budget officer, one IT-cum data manger, one data analyst was recruited in the survey. Investigators were involved in planning and conduction of the study. Field supervisors, responsible for coordination and supervision of field work, all had previous experience in conducting community based surveys with a minimum of a graduate degree that were selected by written tests and interviews. Enumerators who had a minimum of a graduate degree, and qualified laboratory technologist were recruited. In whole, the field staff body included 30 field supervisor, 60 enumerator, and 30 laboratory technologist forming a total of 30 field teams.

All field staff undergone an extensive 3-day-training at NIPSON on survey protocol questionnaire, field procedure manual, interview technique, physical measurements, aseptic collection, storage and transportation of blood and urine samples, super vision of field activities, safety of subjects, privacy, confidentiality and data collection by WHO technical experts between Feb 17-22, 2018.

Field work

Field work was carried out between March to May in 2018. Each field team comprised of 1 field supervisor, 2 enumerators (one male and one female) and one laboratory technologist. Each team surveyed 16–17 PSU and visited on average 330 households and conducted the similar number of surveys. Each team was supplied with 2 android tablets. Each team

completed field work in 1 PSU within 4 days with interview/visit of 5 households per day. Two recall visits were done for each participant for Step1 and Step2.

2.10 Quality control

To ensure quality of data, quality control procedures were put in place through regular field supervision of interviews and daily review of collected data. Trained medical technologist collected the biomedical samples for the participant following standard guidelines. On the day before sample collection, the enumerator/medical technologist provided detailed instructions regarding urine sample collection and fasting blood sample and provide urine container to each participant. They motivated the participant to collect the samples following standard procedure and instruments.

Laboratory instruments were calibrated following standard procedure and the findings were validated with the same sample findings of other standard national laboratory. The blood and urine samples were tested in the NIPSOM central laboratory dividing the sample samples into multiple samples and same samples in multiples times to compare the findings and to validate the instruments and procedure.

To ensure accurate findings of the biochemical samples; pretesting was done in both urban and rural areas from where samples were sent to NIPSOM laboratory. Accordingly samples were received at different time's interval after collection and were tested in different time period. The findings of different times were also be compared and on the basis of this; samples were sent at the NIPSOM laboratory within short possible time (Within 24 hours).

2.11 Data processing and analysis

2.11.1 Data management and processing

The survey data was entered directly in the ODK software on the PDAs. As soon as data entry for STEPS 1 and 2 and STEPs 3 was completed, data were sent electronically and stored in ONA data base server. The same applied to urine test results. Frequent monitoring and supervision was done during data collection period. Furthermore, field team uploaded the data on daily basis to the server and the data were downloaded at central office for consistency check. The central data management team checked the data for any inconsistencies and incompleteness. The enumerators were alerted and advice in every steps of data collection and provide guidance if any inconsistency persist. The data stored were downloaded into Microsoft Excel® format. Each survey participants had a unique identifier QR-code and personal identification number (PID) which was used for merging data for steps 1,2,3 and urine data. Once the survey was completed the data were cleaned and analyzed according to

guidelines of WHO STEP wise approach to surveillance. For the validity of study, all steps were followed as per the guideline of WHO STEP wise approach to surveillance.

2.11.2 Data analysis

Data analysis was primarily performed using STATA version 15.0 and Epi Info version 3.4 was used as a reference for programming purposes and cross-validation of STATA outputs, with appropriate methods for the complex sample design of the survey. The prevalence and measures of central tendency of NCD risk factors were estimated. Outcome measures (prevalence and mean variance) and differences between groups were calculated with a 95% confidence interval. Data analysis and report writing was carried out by the NIPSOM team.

2.12 Response rates

Survey could be done in 495 PSUs. One PSU could not be visited due to movement restrictions imposed by the local authority. A total of 9162 households out of 9353 eligible households participated (response proportion: 0.98). In next step, 8185 individuals completed the step-1 and 2 out of 8423 eligible subjects (response proportion: (0.972). Finally, 7065 completed step-3 (response proportion: 0.863). Therefore, the overall response rate was (0.98*0.863) 84.6%.

Table 2.4: Disposition codes for household roster, steps 1, 2 and 3.

Level/Step	Number
Household level:	
Roster completed	9162
Not a household	11
Group accommodation	40
Locked/vacant	431
Broken household	65
Others	104
Refused	87
Total	9900
Individual level:	
Step 1 and 2 -	
Completed	8185
No eligible respondent	739
Incomplete Refused	39
Refused	199
Step 3 -	
Blood collection	7056

2.13 Ethical considerations

The survey was conducted maintaining all possible ethical considerations. Ethical approval for the study was obtained from Bangladesh Medical Research Council (BMRC). Informed written

consent form was obtained from all participants prior to collection of survey data or specimens. Detailed study related information were read out and explained in the local language from a printed handout including information on objectives, methods of the study, duration, frequency, physical measurement and biochemical measurements, risks & benefits of the study. Finger impressions were obtained from the participant who can't sign.

The information were dealt with highest confidentiality and was used only for this study. Privacy of the respondents was maintained during data collection and no physical harm or risk on the study population occurred as no hazardous procedure were involved in the survey.
Before data collection, formal permission was also obtained from the respective community leaders.
Additionally, every participant was provided 50 taka, after the fasting blood collection to buy breakfast. The participants were offered due respect and they were given full freedom to withdraw their consent of participation at any stage of the study.

Respondents were also informed about their anthropometry and test results (BMI, BP, fasting blood glucose and total cholesterol). Respondents with out of range values were advised and referred to nearby health facilities for further evaluation and necessary care in writing through a courier/mail. An educational sheet on the best practices on diet, salt consumption, tobacco and alcohol use, and physical activity was given to each participant after completion of data collection in all steps. It was given to raise their awareness of the participants regarding major NCD risk factors and to encourage healthy lifestyle.

Results

Chapter 3 Characteristics of respondents and households

Key findings

o **Age***:* two-thirds of all respondents were less than 40 years of age.

o **Marital status***:* 85.5% of women and 79.8% of men were currently married, while 4.9% of women and 20.0% of men have never married.

o **Education***:* 44.1% of respondents have either no education or less than primary followed by 34.8% have completed primary level, more than one-tenth (12.1%) have attained secondary, and 8.7% completed higher secondary education or university level.

o **Occupation***:* 9.1% of women and 63.5% of men were currently employed either in government or private jobs.

o **Religion***:* 87.3% of respondents belonged to Islam and 11.9% were Hindu.

o **Household wealth***:* A vast majority (89.4%) of households in the country have access to electricity and own a mobile phone (96.7%). Dhaka division have the highest proportion of individuals in the wealthiest quintile and lowest proportion was observed in Rangpur division.

Introduction

This chapter presents information on demographic and socioeconomic characteristics of the survey respondents such as age, education, place of residence, marital status, occupation and wealth status; and of household characteristics (in terms of household possessions). This information is useful in understanding the epidemiology of NCD risk factors and factors that affect health care seeking and other behaviors as well prevalence of health inequities.

3.1 Basic characteristics of survey respondents

The 2018 STEPS Survey interviewed 4,381 women and 3,804 men age 18-69 years. Nearly two-thirds (63.7%) of the respondents were less than 40 years of age. A majority of women (85.5%) and men (79.8%) were currently married, while 4.9% of women and 20.0% of men were never married. 9.6% of women and 0.3% of men were divorced, separated or widowed. More than three-fourth (78.5%) of respondent lived in rural areas whereas 21.5% of them from urban (**Table 3.1**).

Most of the respondents belonged to Islam (87.3%) religion, 11.9% were Hindu followed by 0.3% Christian and 0.6% Buddhist respondents (**Table 3.5**)

3.2 Education

Nearly half (44.1%) of adults reported that they haven't had formal schooling or not completed primary level, more than one-third (34.8%) had completed primary-level of education whereas more than one-tenth (12.1%) of adults completed secondary level of education while only 8.7% were having higher than secondary education (**Table 3.1**).

Patterns by background characteristics (**Table 3.2**)

- *Age and educational level*: An inverse relationship was seen between level of education and age, with younger age-cohorts less likely to report no education or less than primary education (18.5% in 18-24 years versus 64.4% in 40-54 years and 72.8% in 55-69 years age group).

- *Household wealth and educational level*: The likelihood of no formal schooling or less than primary education decreased with increasing wealth from 70.2% of respondents in lowest wealth quintile to 16.8% in the highest wealth quintile. The reverse relationship was seen with secondary and more than secondary education as well as.

- *Residence and educational level*: Adults who lived in rural were more likely report lower education levels. Nearly half (47%) of adults in rural areas reported no education or incomplete primary-level compared to 32.9% in urban areas. The similar inverse difference was seen in the secondary and more than secondary level education in these areas.

3.3 Employment

More than half of men (63.5%) and 9.1% of women - overall 35.9% - were currently employed either as government, non-governmental or self-employed. Overall 10.9% of respondents (21.8% men and 0.3% women) were businessman either small or big. 0.8% of women and 3.5% of men were unemployed. Overall 43.7% (85.9% of women and 0.3% of men) reported as homemakers. (Table 3.2)

Patterns by background characteristics (**Table 3.2**)

- *Age, sex and occupational status*: Respondents at the lowest of age group (18-24 years) were less likely to be report being employed. Highest proportion of respondents reported being employed in two age groups (25-39 and 40-54 years). More men reported as being employed (63.5%) than women (9.1%).

- *Household wealth and occupation status*: Overall, the likelihood of being employed increased with increasing wealth from 39.3% of respondents in lowest wealth quintile to 42.8% in the middle wealth quintile, however then decreased from 32.1% in fourth

wealth quantile to 25.4% in highest wealth quintile. The likelihood of being a businessman increased with household wealth index. The reverse relationship was seen with being a home-maker.

- *Residence and occupational status*: There was no significant different in being employed by rural/urban residence (36.6% in rural and 36.7% in urban). By division, the likelihood of being employed varied from 29.4% in Barishal to 40.0% in Rajshahi and Sylhet.

3.4 Household characteristics and assets (**Table 3.3**)

The survey collected data on type of household roof, access to electricity, and selected household durable goods (mobile phones, televisions, radio) and means of transportation to assess the overall household wealth. In addition to this survey also collected data on family type. Nearly three-fourth (71.6%) of respondent reported living as nuclear family and 28.5% of respondents in joint family. A vast majority (89.4%) of households in the country have access to electricity (96.3% in urban and 87.4% in rural). A variety of roofing materials are used in households - the most common being Tin/Tiles (81.3%), cement/concrete (16.4%) and *katcha* - Bamboo/Thatched/Straw/Gunny (2.3%).

Household cosumer goods:

Almost all houshoeld (96.7%) have at least one mobile phone, however only 0.5% of households have fixed land-line telephones (0.1% in rural and 1.9% in urban). Overall more than half (52.7%) of housholds reported to own a TV, while the ownership of TV is much higer among urban compared to rural households (78.9% versus 45.9%). The ownership pattern of TV increased with increasing wealth from 6.6% of respondents in lowest wealth quintile to 93.1% in the highest wealth quintile. Only 6.7% of households reported having a computer/laptop/tablet, much higher in the urban (15.5%) than in the rural households(4.1%).

3.5 Household wealth index

Household wealth assessed on the basis of selected household characteristics (e.g. type of roof, access to electricity), mean of transporation used and possession of seleceted consumer good was used as indicator of economic status rather than direct assessment of household income or other traditional measurs of income--consumtion/expenditure levels, as the former is easier to assess in household surveys and was found to be valid marker of

economic status[15]. Household wealth index has been used as a key stratifier to assess socio-economic differentials in prevalence of NCD risk factors and care-seeking behaviors.

Computation of household wealth index:

Households were given scores based on the number and kind of consumer goods they own ranging from a television to a bicycle or a car and housing roof characteristic. These scores are derived using principle component analysis. National wealth quintiles ae compiled by assigning the household score to sample individuals, ranking them by his/her household score, and then dividing the distribution into five equal categories, each comprising 20% of the population.

While 43% of individuals living in urban areas were categorized under the wealthiest quintile, only 13.2% from rural were in the fifth wealthiest quintile. Dhaka division (30%) have the highest proportion of individuals in the wealthiest quintile and lowest proportion was observed in Mymensingh (7.4%) followed by Rangpur (8.3%). **(Table 3.4).**

Figure 3.1: Distribution of sampled individuals by wealth quintile and residence

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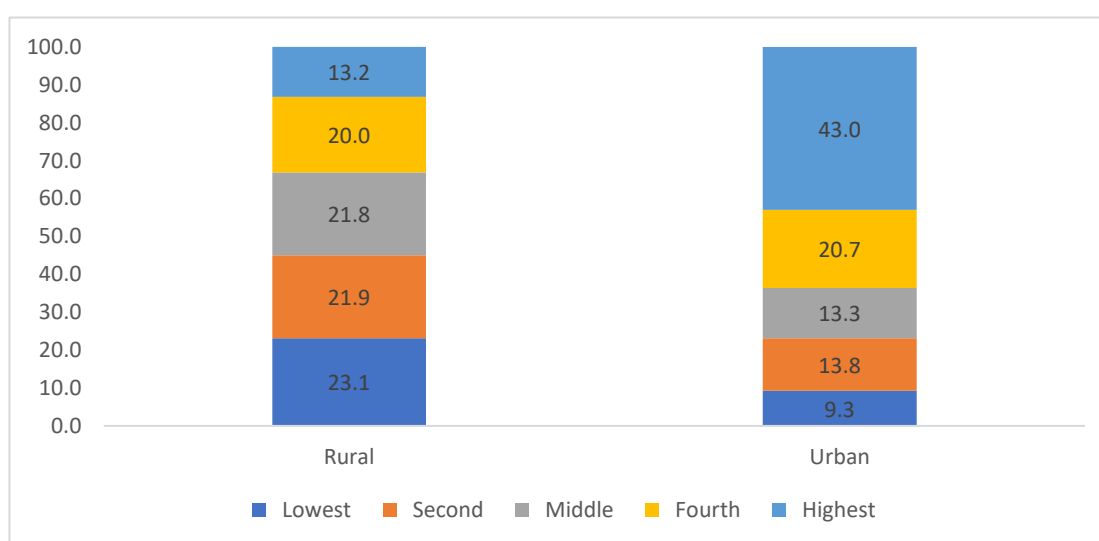
[15] Filmer, D. and L. Pritchett. 1988. "Estimating wealth effects without expenditure data—or Tears: An application of education enrollments in States of India." World Bank Policy Research Working Paper No 1994. Washington DC: World Bank Development Economics Research Group.

Figure 3.2: Percent of households in the poorest quintile by division.
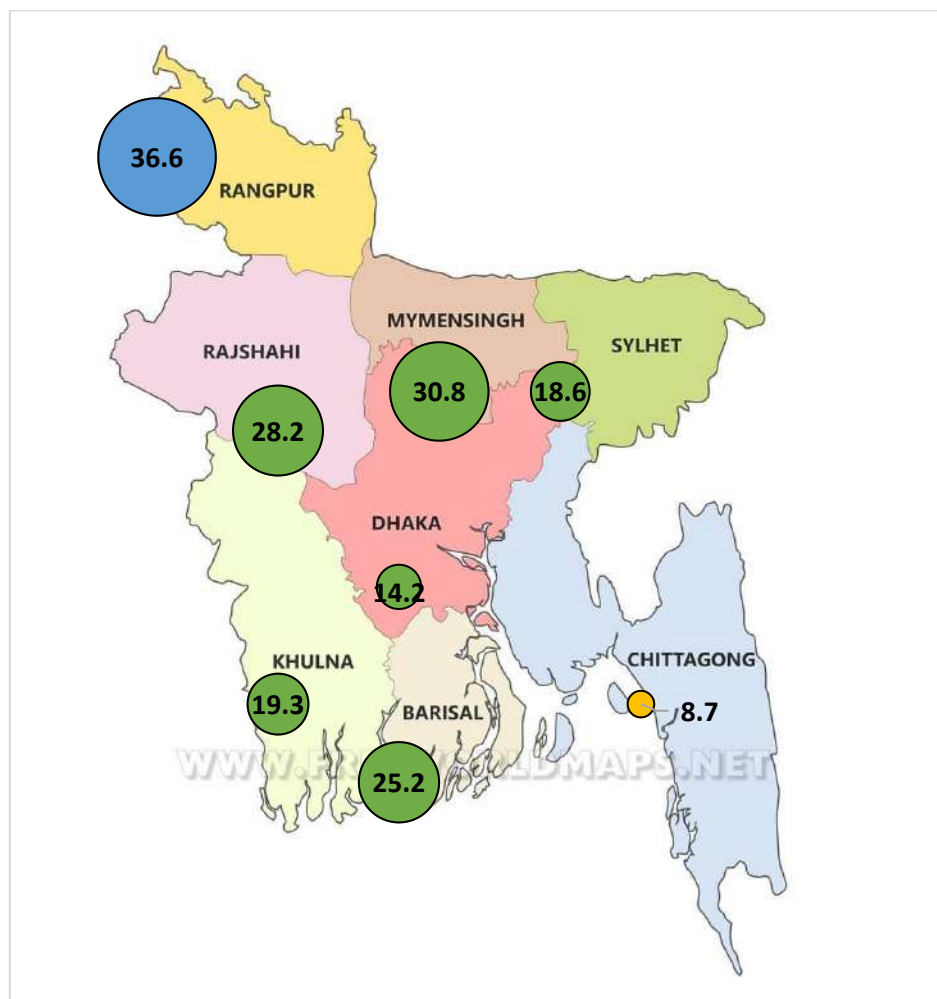
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Table 3.3 household characteristics based on roofing material and other household assets by residence and household wealth quintile.

Table 3.4 Percent distribution of sampled individual in different wealth quintiles by residence and province

Table 3.5 Percent distribution of households by religion

Table 3.1 Background characteristics of respondents by sex

Percent distribution of respondents age 18-69 by selected background characteristics, [Bangladesh STEPs, 2018]

Background characteristic	Women		Men		Total	
	Weighted %	n	weighted %	n	weighted %	n
Age						
18-24	25.8	621	22.1	405	23.9	1026
25-39	40.1	2019	39.4	1470	39.7	3489
40-54	19.5	1284	19.9	1219	19.7	2503
55-69	14.7	457	18.7	710	16.6	1167
Residence						
Rural	78.5	2264	76.5	1919	77.5	4183
Urban	21.5	2117	23.5	1885	22.5	4002
Division						
Barishal	5.7	540	5.5	446	5.6	986
Chattogram	22.0	552	18.8	501	20.4	1053
Dhaka Rural	23.8	520	25.5	477	24.6	997
Khulna	11.1	560	11.9	480	11.5	1040
Mymensingh	9.1	552	7.9	469	8.5	1021
Rajshahi	12.0	569	14.0	497	13.0	1066
Rangpur	9.6	543	10.1	466	9.9	1009
Sylhet	6.7	545	6.3	468	6.5	1013
Marital status						
Never married	4.9	125	20.0	410	12.3	535
Currently married	85.5	3865	79.8	3385	82.7	7250
Ever married[1]	9.6	391	0.3	9	5.0	400
Education						
No education/less than primary	44.1	1960	43.5	1718	43.8	3678
Primary	34.8	1525	27.2	1008	31.0	2533
Secondary	12.1	434	13.1	454	12.6	888
More than secondary	8.7	441	16.3	624	12.5	1065
Wealth quintile						
Lowest	22.4	978	17.6	661	20.0	1639
Second	20.3	912	19.9	758	20.1	1670
Middle	17.1	725	22.8	726	19.9	1451
Fourth	19.2	718	21.1	788	20.1	1506
Highest	21.1	1048	18.7	871	19.9	1919
Total (18-69)		**4381**		**3804**		**8185**

[1] Separated/Divorced/Widowed

Table 3.2 Educational and occupation status of respondents

Percent distribution of educational and occupational status of respondents age 18-69 by selected background characteristics, [Bangladesh STEPs, 2018]

Background characteristic	Education				Occupation						n
	No education/ less than primary	Primary	Secondary	More than secondary	Employed[1]	Businessman[2]	Student	Homemaker	Unemployed[3]	Others[4]	
Age											
18-24	18.5	36.2	23.2	22.2	24.0	5.9	23.8	44.3	2.0	0.0	1026
25-39	36.7	39.5	11.9	11.8	40.4	13.0	1.0	44.2	1.0	0.4	3489
40-54	64.4	21.9	6.0	7.3	40.1	13.4	0.0	44.8	1.0	0.7	2503
55-69	72.8	14.3	6.7	6.2	37.2	9.8	0.0	40.3	6.5	6.1	1167
Sex											
Women	44.1	34.8	12.1	8.7	9.1	0.3	3.5	85.9	0.8	0.6	4381
Men	43.5	27.2	13.1	16.3	63.5	21.8	8.8	0.3	3.5	2.1	3804
Residence											
Rural	47.0	32.0	10.8	10.1	35.6	10.1	5.4	45.7	2.1	1.0	4183
Urban	32.9	27.8	18.6	20.7	36.7	13.3	8.4	36.9	2.3	2.3	4002
Division											
Barishal	39.0	35.2	13.4	12.5	29.4	9.6	8.8	47.2	3.3	1.7	986
Chattogram	43.5	31.7	13.3	11.5	32.5	11.2	3.8	48.8	3.2	0.5	1053
Dhaka Rural	39.5	29.4	17.5	13.6	37.6	12.4	6.1	39.5	2.3	2.1	997
Khulna	38.6	37.7	11.4	12.4	35.6	11.3	8.4	42.2	1.5	1.1	1040
Mymensingh	57.1	25.2	4.9	12.4	35.4	8.7	5.5	47.5	1.3	1.5	1021
Rajshahi	47.6	26.5	12.2	13.7	40.0	10.7	6.7	40.6	1.1	0.7	1066
Rangpur	49.5	29.9	9.3	11.3	40.0	9.5	5.9	44.0	0.1	0.6	1009
Sylhet	40.8	38.1	8.8	10.8	32.3	9.2	6.6	44.4	4.8	2.9	1013
Marital status											
Never married	14.7	25.2	22.9	37.1	31.2	12.5	45.3	5.9	5.0	0.1	535
Currently married	46.2	32.7	11.5	9.5	37.9	11.2	0.6	47.2	1.7	1.4	7250
Ever married[5]	75.4	17.6	5.4	1.0	14.9	0.8	0.3	78.8	3.0	2.3	400
Wealth quintile											
Lowest	70.2	20.8	5.6	3.2	39.3	6.0	2.3	50.3	1.3	0.7	1639
Second	58.4	28.5	8.6	4.2	39.8	7.4	4.5	45.6	2.0	0.7	1670
Middle	38.9	40.3	11.0	9.7	42.8	11.6	6.6	35.0	3.0	1.0	1451
Fourth	34.5	35.4	15.2	14.9	32.1	14.9	6.8	42.8	2.3	1.1	1506
Highest	16.8	30.2	22.5	30.6	25.4	14.4	10.3	44.7	2.1	3.1	1919
Total (18-69)	**43.8**	**31.0**	**12.6**	**12.5**	**35.9**	**10.9**	**6.1**	**43.7**	**2.1**	**1.3**	

[1] Government/Non-Government/Self-Employed/Labourer;

[2] Small/Large business;

[3] Able to work/Unable to work;

[4] Retried, Others;

[5] Separated/Divorced/Widowed

Table 3.3 Characteristics of sampled households

Percentage of households having different roof types and household possessions by residence and household wealth quintile, [Bangladesh STEPs, 2018]

Household characteristic	Residence		Wealth quintile					Total	
	Rural	Urban	Lowest	Second	Middle	Fourth	Highest	Weighted %	n
Roofing material									
Katcha[1]	2.7	1.1	3.0	4.0	2.8	1.3	0.6	2.3	185
Tin/Tiles	87.6	59.4	96.6	95.4	94.8	89.1	30.2	81.3	6411
Cement/Concrete	9.7	39.5	0.4	0.6	2.4	9.6	69.2	16.4	1589
Family type									
Nuclear family	70.3	75.9	77.1	75.6	72.4	69.4	63.2	71.6	6653
Joint family	29.7	24.1	22.9	24.4	27.6	30.6	36.8	28.5	1532
Household possessions									
Electricity	87.4	96.3	64.3	88.4	95.5	99.0	99.8	89.4	7400
Flush toilet	20.7	30.3	2.9	8.2	19.6	29.6	54.2	22.8	1700
Land Phone	0.1	1.9	0.1	0.1	0.2	0.2	2.0	0.5	69
Mobile phone	96.6	97.3	87.5	98.1	99.1	99.5	99.5	96.7	7846
Television	45.9	75.9	6.6	25.1	54.8	83.9	93.1	52.7	4552
Refrigerator	24.5	52.4	0.3	1.0	9.4	54.5	88.7	30.7	2729
Washing machine	0.2	1.7	0.0	0.0	0.0	0.1	2.4	0.5	61
Sewing machine	12.4	18.8	1.7	5.4	12.8	17.5	31.8	13.8	1166
Almirah / wardrobe	56.4	70.8	8.6	35.1	69.9	88.5	96.5	59.6	4673
Table	84.7	85.4	49.9	86.7	91.7	97.2	98.7	84.8	6990
Khat/ Chowki	98.8	98.6	94.9	99.4	99.8	99.8	100.0	98.8	8063
Chair or Bench	93.5	89.9	76.7	93.8	96.1	97.8	99.2	92.7	7571
Watch or Clock	37.4	57.2	3.3	17.8	44.3	60.4	84.0	41.9	3504
Computer/ Laptop/Tab	4.1	15.5	0.1	0.1	1.5	4.0	28.0	6.7	694
Means of transport									
Bicycle	34.6	20.1	28.5	31.8	38.3	31.5	26.6	31.3	2377
Moped/scooter/motorcycle/Auto-Rickshaw	10.9	12.8	0.5	5.5	10.4	15.1	25.4	11.4	953
Car	0.3	1.4	0.0	0.0	0.1	0.2	2.3	0.5	51
Shallow Machine/Power Tiller/Tractor	9.4	2.4	7.0	5.5	10.6	8.1	8.2	7.9	448
Rickshaw	1.3	1.6	3.6	1.0	1.8	0.2	0.3	1.4	152
Ownership of domestic animal2	51.0	15.2	62.2	41.7	52.9	35.5	22.5	43.0	2874

[1] Bamboo/Thatched/Straw/Gunny

[2] Cow/ Buffalo/ Goat

Table 3.4: Household Wealth quintiles

Percentage distribution of the sampled individuals in different wealth quintiles by residence and division, [Bangladesh STEPs, 2018]

Residence/ Division	Wealth quintile				
	Lowest	Second	Middle	Fourth	Highest
Residence					
Rural	23.1	21.9	21.8	20.0	13.2
Urban	9.3	13.8	13.3	20.7	43.0
Division					
Barishal	25.2	30.5	14.5	13.7	16.1
Chattogram	8.7	19.3	21.5	29.4	21.0
Dhaka Rural	14.2	13.9	18.7	23.3	**30.0**
Khulna	19.3	18.3	22.4	19.5	20.5
Mymensingh	30.8	26.1	19.9	15.8	7.4
Rajshahi	28.2	21.1	18.2	16.3	16.3
Rangpur	**36.6**	25.2	19.6	10.3	8.3
Sylhet	18.6	22.9	23.5	13.9	21.1

Table 3.5: Religion

Percentage distribution of the sampled individuals by religion, residence and division [Bangladesh STEPs, 2018]

Residence/ Division	Religion				
	Islam	Hindu	Christian	Buddhist	Total
Residence					
Rural	87.2	11.9	0.3	0.6	100.0
Urban	87.5	11.9	0.2	0.4	100.0
Division					
Barishal	88.1	11.8	0.2	0.0	100.0
Chattogram	81.0	16.3	0.0	2.7	100.0
Dhaka Rural	91.4	8.6	0.1	0.0	100.0
Khulna	83.3	16.5	0.2	0.0	100.0
Mymensingh	92.6	7.3	0.2	0.0	100.0
Rajshahi	93.2	6.8	0.0	0.0	100.0
Rangpur	78.7	19.1	2.0	0.2	100.0
Sylhet	92.3	7.7	0.0	0.0	
Total (%)	87.3	11.9	0.3	0.6	100.0
Total (n)	7124	994	33	34	8185

Chapter 4 Tobacco

Key findings

Tobacco use

- In 2018, 43.7% of adults aged 18-69 years (59.6 % men, 28.3% women) currently used any tobacco product (smoked or smokeless).
- 23.5% of adults (46.6 % men, 1% women) were current tobacco smokers and 27.5% (26.9 % men, 28.1% women) were current users of any smokeless tobacco product and 7.2% of adults used both smoke and smokeless tobacco products

Tobacco use status

Figure 4. 1 MPOWER Policy Package

Source 1: Report of Fifth Global Youth Tobacco Survey (GYTS) Myanmar-2016

- In the overall population, 69.6% adults never smoked tobacco, 7% smoked formerly (5.8%-daily and 1.2%-non-daily) and 23.5% were current smokers (22.3%-daily and 1.2%-non-daily). 69.9% of the adults never used smokeless tobacco, 2.7% used formerly and 27.49% were current users of smokeless tobacco (23.9% daily and 3.6% non-daily).

Type of Tobacco products used
Smoked tobacco products

- In the overall population, 23.3% of adults smoked cigarettes, 7.6% smoked bidis, and less than 1% smoked products like pipes, cigars, *hookah*/dhaba and shisha. (0.8% smoked pipes/cigars/cigarellos and 0.3% smoked *hookah*/dhaba/shisha).
- Amongst the current users, cigarettes and bidis were the most commonly used smoked tobacco products reported by 99.3% and 32.5% of current tobacco smokers, respectively.

Smokeless tobacco products

- In the overall population, 20.2% adults use betel quid with *zarda* (bqz), 7.8% reported using betel quid with *sadapata* (bqs), 2,5% reported using pan masala with tobacco, 3.8% reported using *gul* and about 3.2% reported using other smokeless tobacco products)khoinee, *sadapata* chewing and *nossi*).
- Amongst the current users of smokeless tobacco,73.4% reported using bqz, followed by 28.2% of the users consuming bqs, 13.7% using *gul* and 9.2% using pan masala with tobacco.

Age at initiation of tobacco use
- The average age at initiation of smoking tobacco in Bangladesh was 18 years (men-17.9 years, and women- 24.5 years).

Tobacco cessation and cessation methods
- Among the current users of tobacco (18-69 years) - 46% of smokers (men -46% and women-44.4%) tried to stop smoking during the past 12 months.
- 60.5% of current smokers of tobacco (men -60.3% and women-65.8%) received advise to quit smoking during any visit to a doctor or a health worker in the past 12 months.

Electronic cigarettes
* 9.3% of all adults (18-69 years) reported that they have heard of e-cigarette and among them 13.2% had ever used an e-cigarette and 6.7% of were currently using the product.

Introduction

Tobacco use is a leading modifiable behavioral risk factor contributing to NCDs. Tobacco use kills more than 8 million people each year. More than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are the result of non-smokers being exposed to second-hand smoke.[16] In 2003, WHO Framework Convention on Tobacco Control (WHO FCTC) was the first evidence based treaty developed for tobacco control and currently there are 180 signatories, including Bangladesh, to the convention. In 2007, MPOWER (**Figure 4. 1**)-- a policy package---was developed and adopted by the countries to end the tobacco epidemic and to enable implementation of WHO FCTC. As a signatory to FCTC, Bangladesh has also taken steps to monitor the use of tobacco, protect people from further or continued use, offer assistance in quitting, raise awareness about the dangers of tobacco and curtail the creation of new demand by enforcing bans on promotions and by raising taxes on various tobacco products.

Strengthening the implementation of WHO FCTC is recognized as an important means to achieve SDG 3 – Good health and well-being. Furthermore, Bangladesh has also set a target of 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years by 2025 in its current multisectoral action plan (2018-2025) aligned with target set in WHO's Global Action plan for the prevention and control of NCDs. Furthermore, it has set a vision of a tobacco-free Bangladesh by 2040.[17]

This chapter focuses on indicators related to tobacco use in Bangladesh. This data will help Bangladesh to analyze the differentials across different population groups defined by age, gender, residence, education, administrative divisions and wealth quintile, which can then strengthen the various programs designed for the implementation of the tobacco control programs and policies.

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[16] World Health Organization. WHO report on the global tobacco epidemic 2019 [Internet]. 2020. [cited 25 Mar 2020]. Available from: https://www.who.int/tobacco/global_report/en/

[17] Multi-sectoral action plan for prevention and control of non-communicable diseases 2018-2025. 2018. Dhaka: Non-communicable Disease Control Programme, Directorate General of Health Services

Current relevant policies and programs in Bangladesh for tobacco control

- Smoking and Usage of Tobacco Products (Control) act, first enacted in 2005, and amended in 2013 with new rules in 2015 that prohibited all forms of tobacco advertising (except in Internet), prohibited tobacco smoking in public transportation and public places (but allowed smoking in designated areas) and prohibited sales of all tobacco products to or by people younger than 18 years of age.
- National Tobacco Control Policy; and the Policy to Curb Tobacco Cultivation
- Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases (2018-2025)
- In March 2016, introduced pictorial health warnings on all tobacco products covering at least 50% of the package surface area.

4.1 Tobacco use

The tobacco-related questions used in the survey were based on the core tobacco module of STEP Survey (Version 3.2)[13] and were aligned with the Tobacco Questions for Surveys (TQS) developed by CDC and WHO. The respondents were men and women between the ages of 18-69 years, and the analysis has been presented for the said age group, unless otherwise stated.

4.2.1 Tobacco use, smoked tobacco, smokeless tobacco use

The prevalence of tobacco use has been estimated by asking all adults if they currently smoked any tobacco products (cigarettes- manufactured and hand-rolled, bidis, cigars/cigarellos pipes, hookah, shisha or any other) or used any smokeless tobacco products (betel quid with *zarda*, *zarda* only or *zarda* with supari, betel quid with *sadapata*, pan masala with tobacco, *sadapata* chewing, *gul*, *khoinee*, *nossi*)

Figure 4.2 Percent of all adults (18-69 years) that currently use any tobacco product, smoke tobacco, smokeless tobacco and use both smoked and smokeless tobacco, Bangladesh STEP Survey 2018
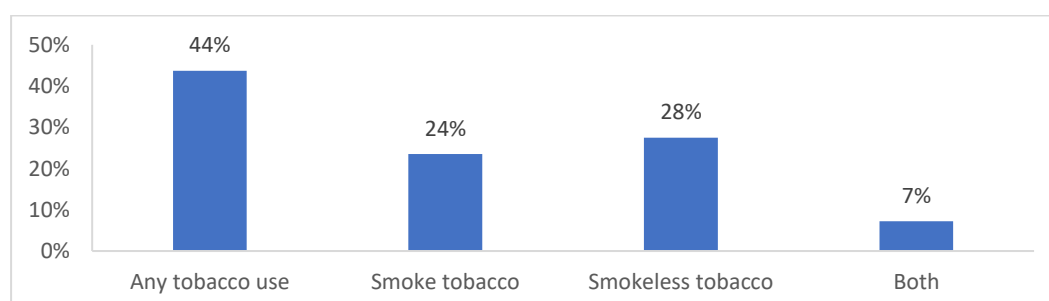
- In 2018, the prevalence of tobacco use (tobacco product of any kind) amongst all adults was 43.7%;

- 23.5% of all adults reported current use of any smoked tobacco product and 27.5% reported current use of any smokeless tobacco product;

- 7.2% of respondents used both smoke and smokeless tobacco products.

Patterns by background characteristics

- The reported current tobacco use increased with age, lowest among 18-24 years of age (22.3%) and increasing to 68.4% among 55-69 years of age. Similar patterns were seen with use of both smoked and smokeless tobacco.

- Prevalence of any tobacco use was significantly higher among men (59.6%) than women (28.3%). However, different patterns were seen for smoked and smokeless tobacco. While differential was much wider for smoked tobacco (1% women and 26.9% men), no significant differentials were seen for smokeless tobacco (28.1% for women and 26.9% for men). Accordingly, the dual use was much higher among men (13.9%) than women (0.8%). (**Figure 4.3**).

- Residents of rural areas had a higher prevalence of any tobacco use (45.2%) as compared to urban residents (38.8%), with much wider difference for smokeless tobacco than for smoked tobacco.

Figure 4.3 Prevalence of tobacco use amongst all men and women aged 18-69 years
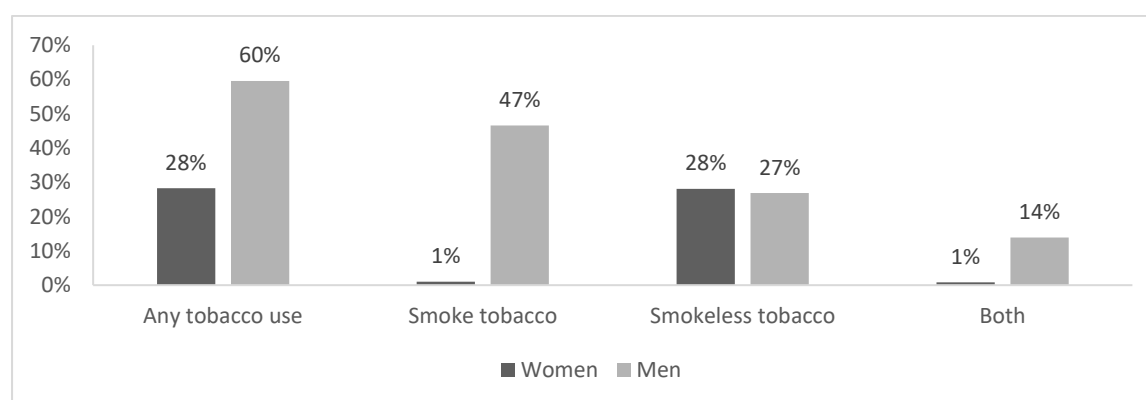
- Dhaka Rural had the lowest prevalence of any tobacco use, compared to the national average of 43.7%. Mymensingh and Sylhet had the highest prevalence of any tobacco use, 56.5%.

Figure 4. 4 Variation in tobacco use amongst all adults, aged 18-69 years, by division, Bangladesh STEPs survey, 2018
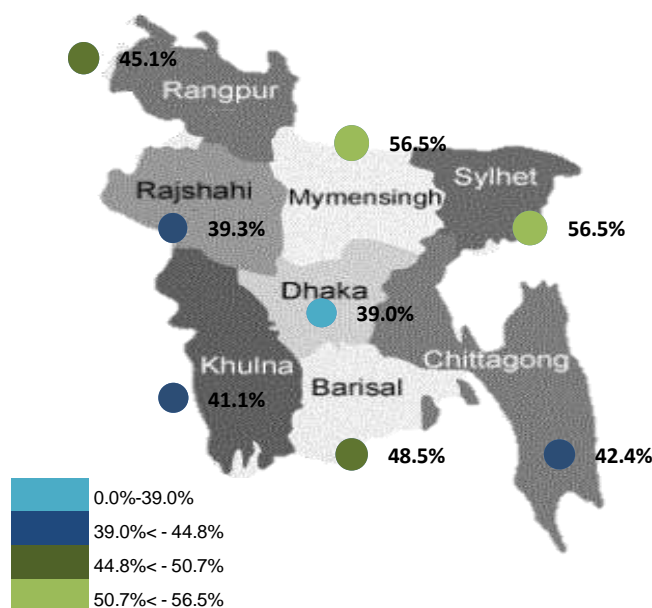
- The reported tobacco use decreased with increase in education levels, with highest usage amongst people with no or less than primary education (60.2%), decreasing to 22.8% for people with more than secondary education. The declining gradient is much stronger for smokeless tobacco than smoked tobacco.

- The reported tobacco use decreased with an increase in wealth, the highest amongst those belonging to the lowest wealth quintile (51.6%) and lowest amongst those in highest wealth quintile (31.6%). This declining pattern was more due to pattern of smokeless tobacco use, much less differentials were observed for smoked tobacco, with no consistent declining pattern (though tobacco smoking was still the lowest in the highest wealth quintile). (**Figure 4.5**).

Figure 4.5 Differentials in tobacco use amongst all adults, aged 18-69 years, by levels of education (A) and by wealth (B), Bangladesh STEPs survey, 2018
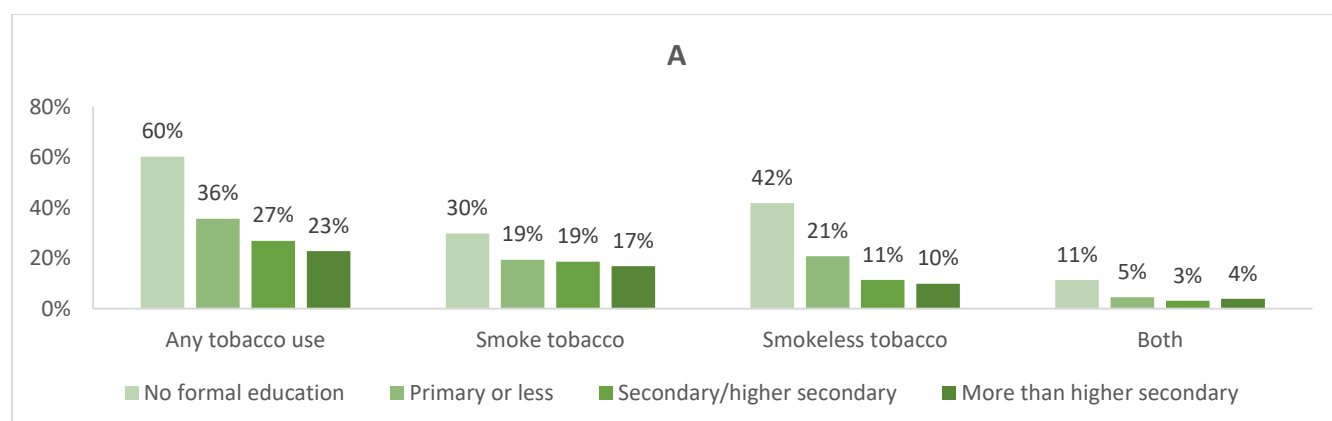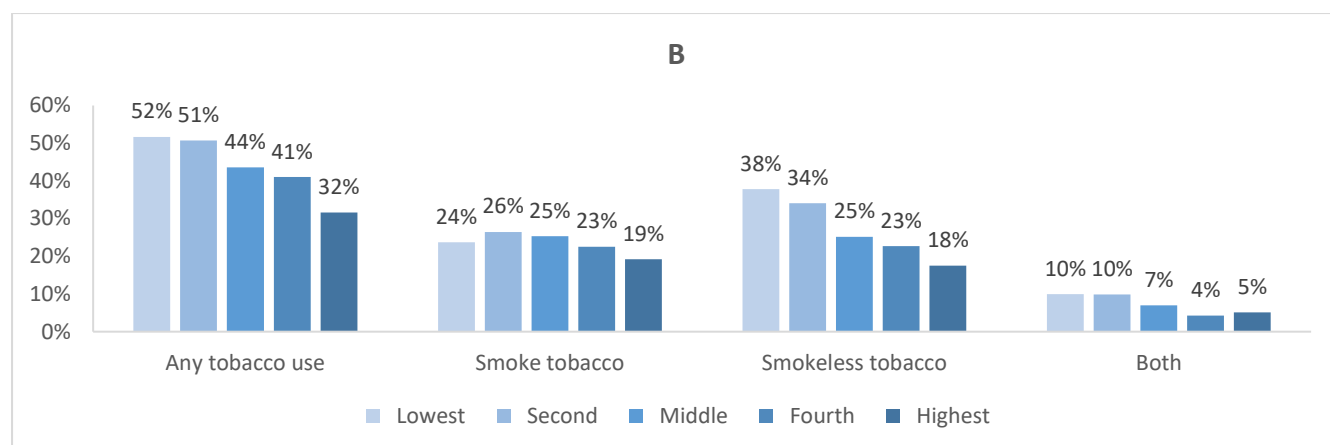
4.2.2 Tobacco use status - current, former, and never

All adults, aged 18-69 years were asked if they were current users of smoked tobacco and of smokeless tobacco products, respectively. Those that answered in the affirmative were then further enquired if they smoked tobacco or used smokeless tobacco products on a daily basis. The adults who were not current users, were asked about their former tobacco use status (separately for smoked and smokeless products) and the frequency of use in the past (daily or non-daily for smoked tobacco).

69.6% adults never smoked tobacco, 7% smoked formerly (5.8%-daily and 1.2%-non-daily) and 23.5% were current smokers (22.3%-daily and 1.2%-non-daily). 69.9% of the adults never used smokeless tobacco, 2.7% used formerly and 27.5% were current users of smokeless tobacco (23.9% daily and 3.6% non-daily).

Figure 4.6 Tobacco use status in the overall population - current, former and never, by smoke and smokeless tobacco product
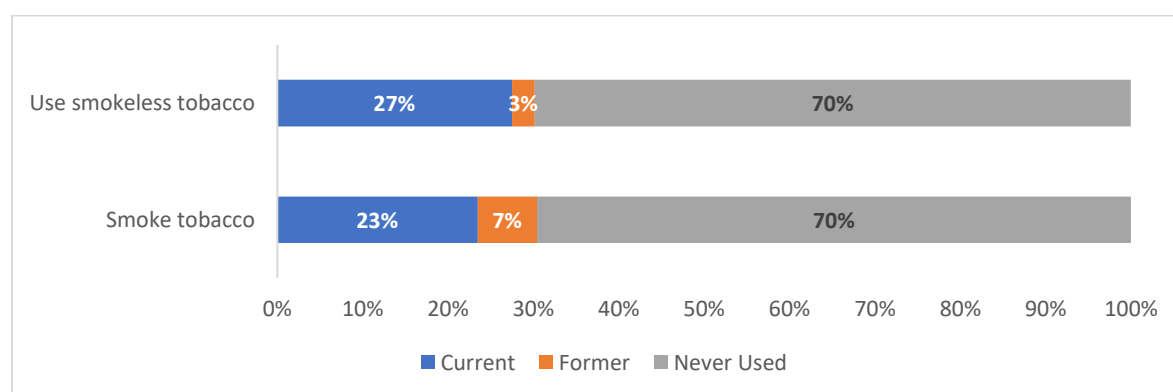
4.2.3 Tobacco smoking status – current, former, and never (**Figure 4.6**)

Patterns by background characteristics

• With an increase in age, the proportion of adults that currently smoked or were former smokers increased - 30% of adults in age group 55-69 years currently smoked tobacco,

whereas 15.7% of adults in age group 18-24 years currently smoked tobacco; the proportion of adults who never smoked decreased with increasing age, 82.2% of adults in the age group 18-24 years had never smoked tobacco, as compared to 51.6% in the older age group of 55-69 years. **Figure 4.7**

- 98% of women never smoked, compared to 40.3% of men. There was no significant difference in the proportion of adults smoking tobacco in urban and rural areas and also, no significant variations across different divisions.

- With increasing levels of education and wealth, there was a decline in the proportion of adults who currently smoked daily or formerly smoked (daily and non-daily), correspondingly the percentage of adults who never smoked increased with an increase in levels of education and wealth. **Figure 4.8**

Figure 4.7 Differentials in prevalence of current and former smoking, amongst all adults age 18-69 years - by age, Bangladesh STEP Survey, 2018
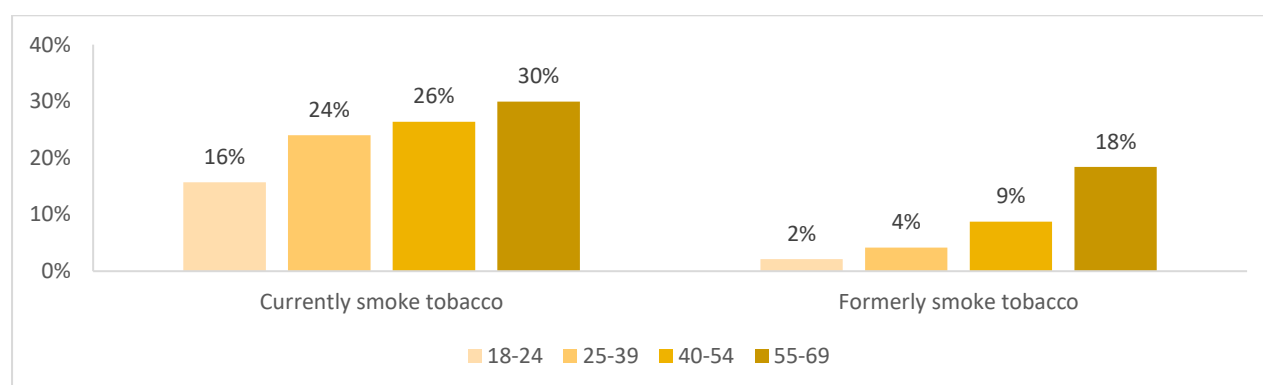
Figure 4.8 Differentials in prevalence of current and former smoking, amongst all adults age 18-69 years– by levels of education (A) and by wealth (B), Bangladesh STEP Survey 2018

B
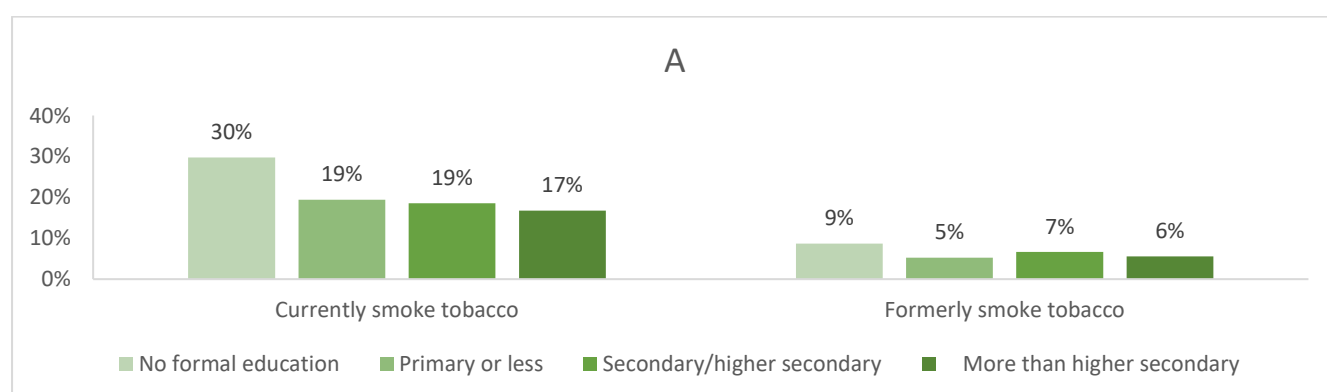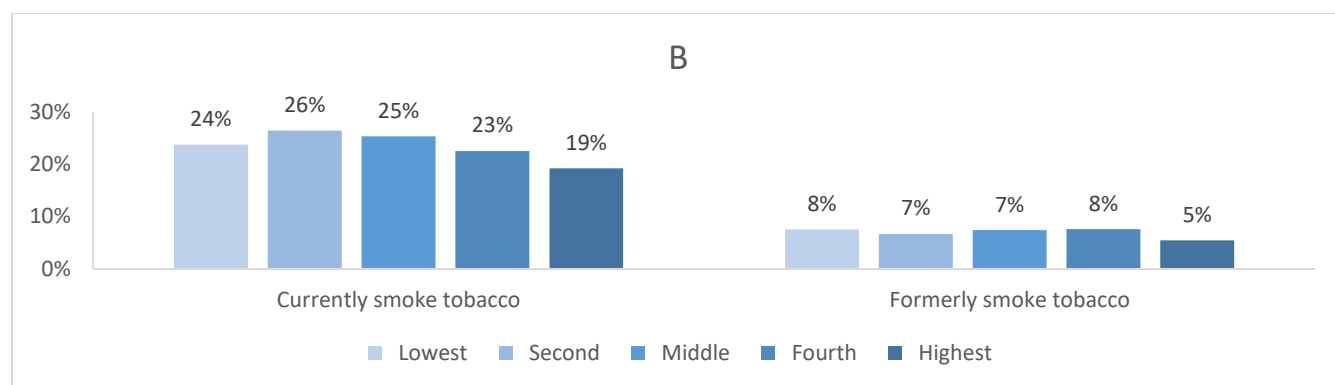
4.2.4 Smokeless tobacco use status – current former and never. (**Figure 4.6**)

Patterns by background characteristics

- With increasing age, the percentage of smokeless tobacco users increased, with lowest proportion of users being in the age group age group of 18-24 years, 9.9% and highest being 49.7% (43.2% daily and 6.6% non-daily) in the older age group of 55-69 years. **Figure 4.9**

- The current use of smokeless tobacco wasn't very different for women and men (28.1% versus 26.9%) and was higher in rural areas (29.1%) compared to urban areas (21.8%).

- The proportion of adults who used smokeless tobacco was lowest in Dhaka (21.2%). However, in divisions like Mymensingh, Barishal it was much higher than the national average of 27.5%; the highest proportion of adults using smokeless tobacco products resided in Sylhet (43.1%). **Figure 4.10**

- With an increase in levels of education, the proportion of adults who used smokeless tobacco declined, 41.8%% of adults with no or less than primary education used smokeless tobacco (37% daily), whereas only 9.9% of adults (8.2% daily) with more than secondary education, used it regularly.

- **Figure 4.11**. Similar, yet less pronounced patterns were observed for former use of smokeless tobacco amongst adults with an increase in level of education.

- The proportion of adults, using smokeless tobacco, declined with an increase in household wealth. 37.8% of adults, in the lowest wealth quintile, used smokeless tobacco products on daily and non-daily basis, however only 17.5% of adults, in the highest wealth quintile were smokeless tobacco users.

Figure 4.9 Differentials in current and former use of smokeless tobacco, amongst all adults age 18-69 years - by age, Bangladesh STEP survey 2018
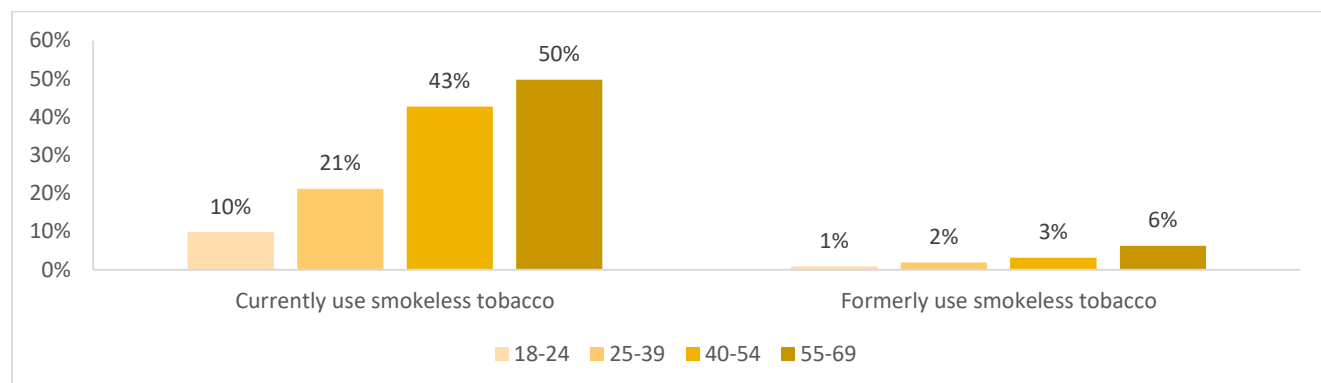
Figure 4.10 Variation in current use of smokeless tobacco amongst all adults, aged 18-69 years, by division, Bangladesh STEPs survey, 2018
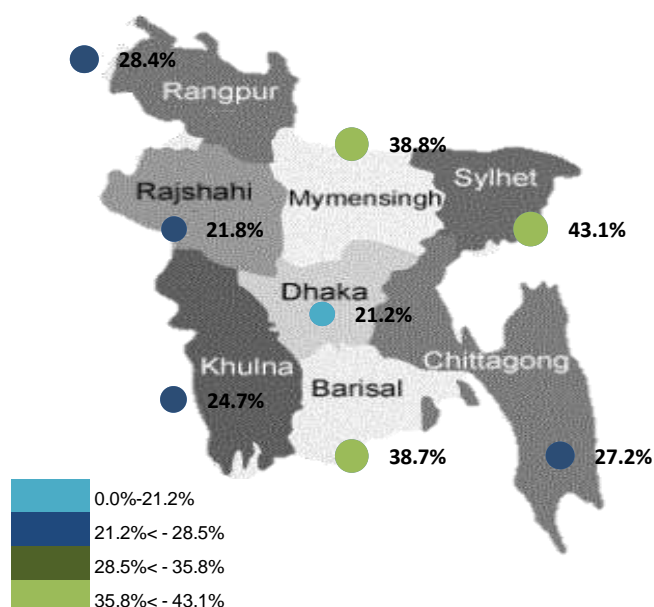
Figure 4.11 Differentials in current and former use of smokeless tobacco, amongst all adults age 18-69 years– by levels of education (A) and by wealth (B), Bangladesh STEP Survey 2018
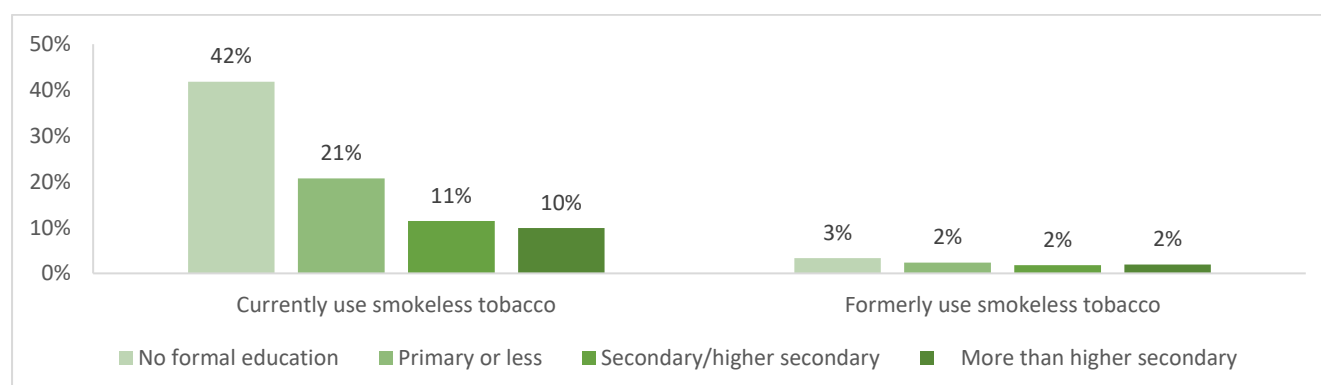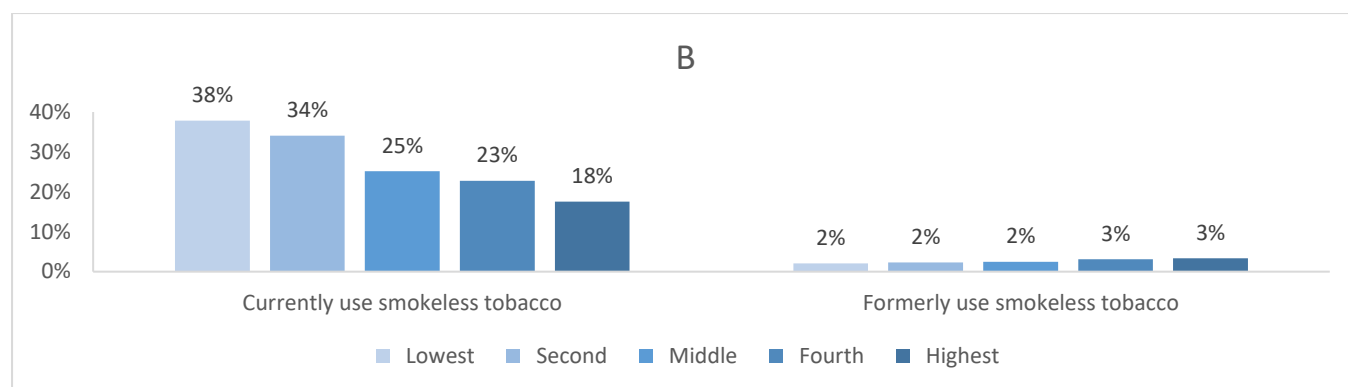
4.2 Types of Tobacco products use

STEPs Survey collected the data on different types of tobacco products used (smoke and smokeless) on a daily or a weekly basis. The product mix was analyzed both for all adults and amongst the current tobacco users. See **Table 4.3.1 and 4.3.2**.

4.3.1 Tobacco products smoked

Information was elicited on daily/weekly use of cigarettes (manufactured and hand rolled), pipes, cigars, *bidis*, and *hookah/ dhaba, shisha*. In the overall population, 23.3% of adults smoked cigarettes, 7.6% smoked *bidis*, and less than 1% smoked products like pipes, cigars, *hookah/ dhaba* and *shisha*. (0.8% smoked pipes/ cigars/ cigarillos and 0.3% smoked hookah/ *dhaba/ shisha*). Amongst the current users, cigarettes and bidis were the most commonly used smoked tobacco products reported by 99.3% and 32.5% of current tobacco smokers, respectively. **Figure 4.12**

Figure 4.12 Use of different tobacco smoking products amongst all adults (A) and current smokers (B), aged 18-69 years, Bangladesh STEP Survey, 2018

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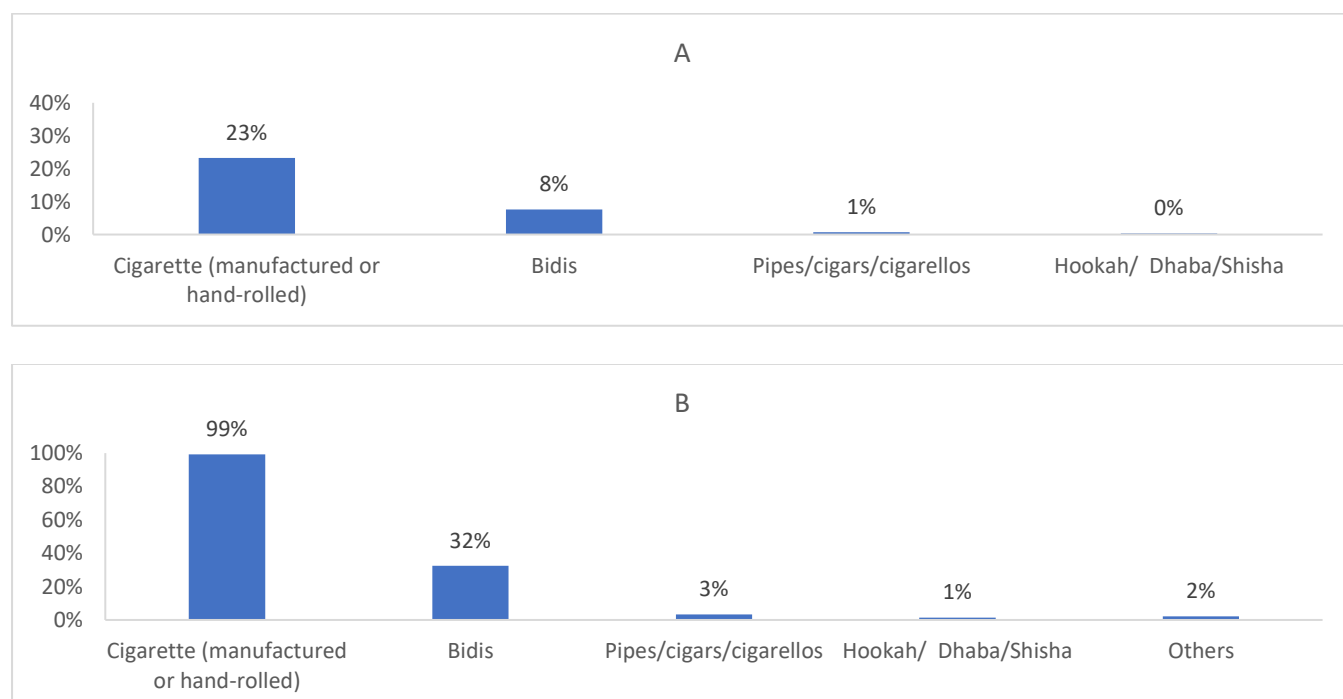
Patterns by background characteristics

- Across the population, the usage of cigarettes and bidis and other products increased with an increase in age.

- However, amongst the current smokers, cigarettes were the most commonly smoked tobacco product reported by almost ~99% of the smokers, across all ages. Usage of bidis increased with increasing age – 57.6% of adults in the age group 55-69 years smoked bidis, whereas 13.3% of smokers in the age group 18-24 years used it. Usage of hookah was also much higher in older age group (4.1% among 55-69 years old) compared to in the younger age group (1.1% among 18-24 years old). **Figure 4.13**

Figure 4.13 Differentials in use of different smoking tobacco products, amongst all adults (A) and current tobacco smokers B), aged 18-69 years - by age, Bangladesh STEP Survey, 2018
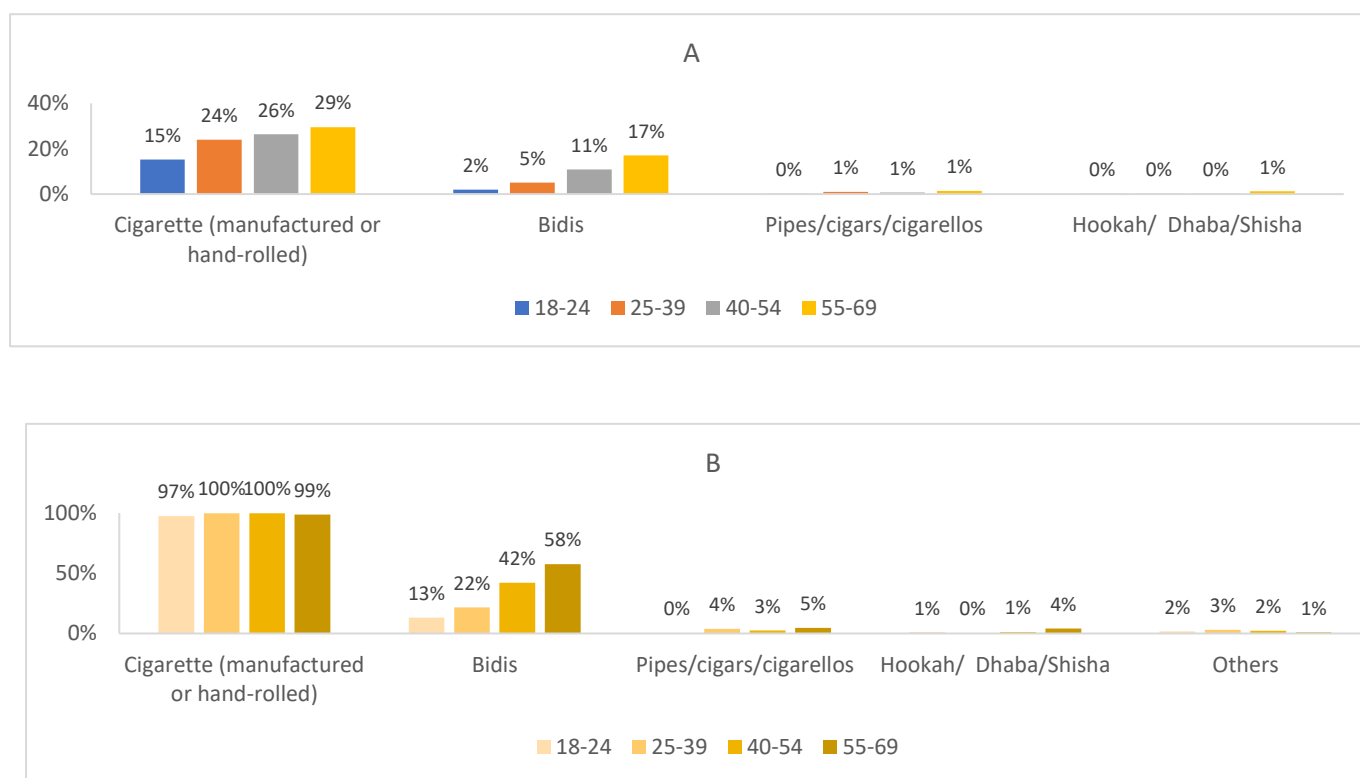
Note 1: The total across different products may not add to 100% due to dual use

- In the overall population only 1% of women reported using cigarettes and bidis, compared to 46.2% and 14.5% of men, respectively.

- Amongst the smokers, while cigarettes were the most popular smoking tobacco products used by both men and women smokers (99.2% and 100% respectively), 89.9% of women smokers used bidis compared to only 30.5% of men smokers. **Figure 4.14 B**

Figure 4.14 Differentials in use of different smoking tobacco products among all adults (A) and current tobacco smokers (B), aged 18-69 years - by sex, Bangladesh STEPS survey 2018
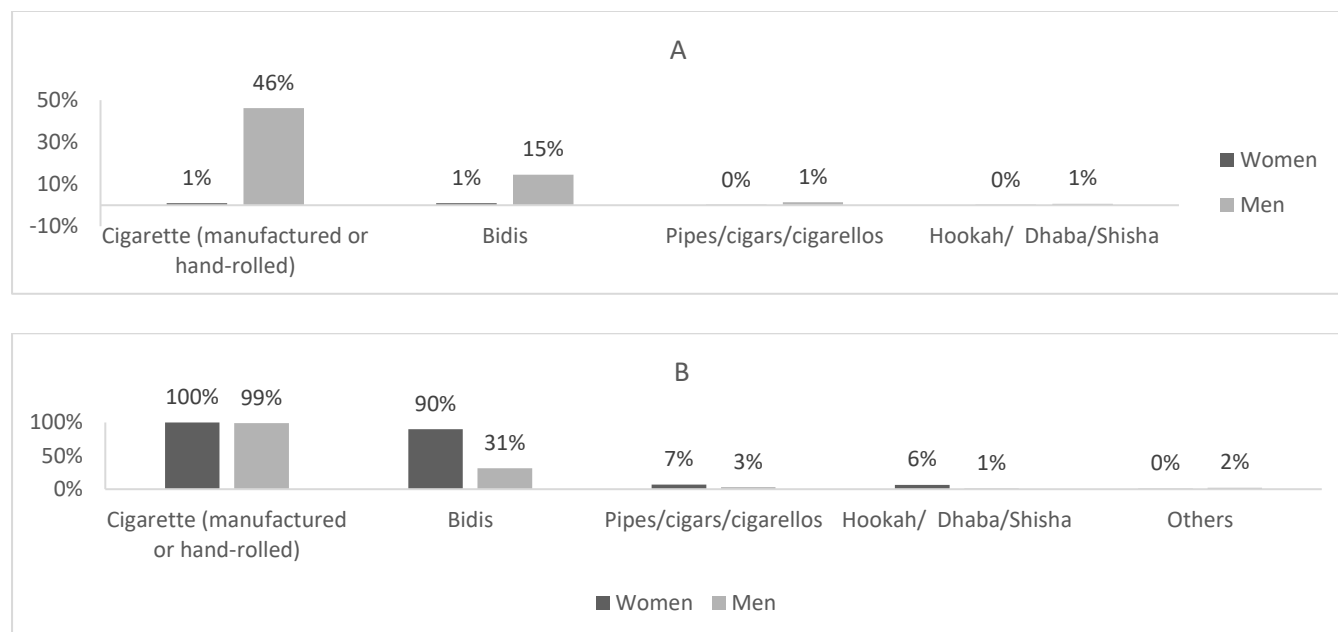
Note 2: The total across different products may not add to 100% due to dual use

- There was no significant difference in usage of cigarettes by residence areas for the overall population and amongst smokers. However, 8.8% of the population reported using bidis in rural areas, compared to only 3.4% of the population in urban areas.
  - Amongst the current smokers, 37.2% of smokers in rural areas used bidis, compared to 15.2% of smokers in urban area.
- In the overall population, with increasing levels of education and household wealth, there was a decline in the use of cigarettes and bidis.
- Amongst the current smokers, while cigarettes were the most commonly used product (>97% of smokers) across all wealth quintiles and levels of education, the use of bidis, pipes, hookahs declined with increasing levels of education and wealth. **Figure 4. 15**

Figure 4.15 Differentials in use of different smoking tobacco products, amongst current tobacco smokers, age 18-69 years, by levels of education (A) and wealth (B), Bangladesh STEPS Survey, 2018
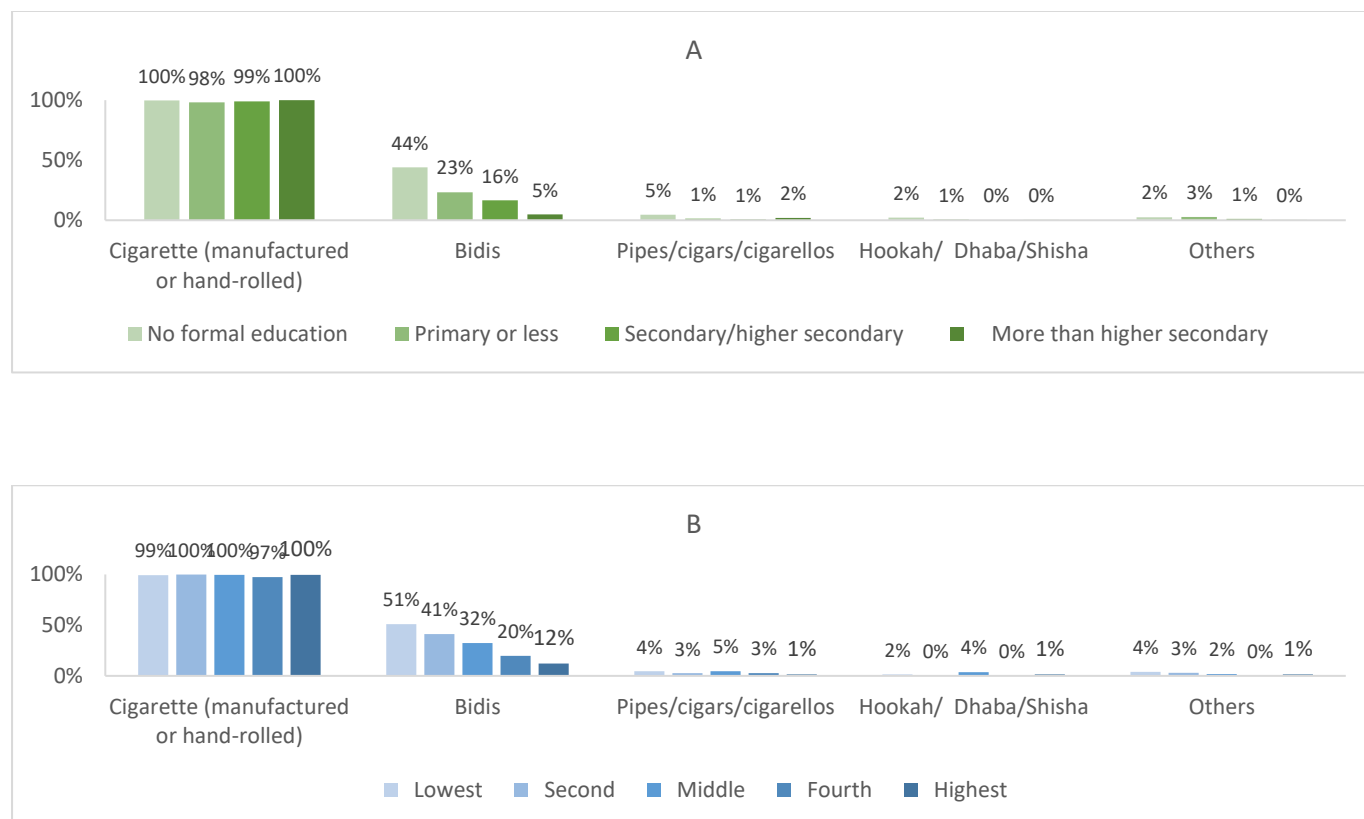
4.3.2 Smokeless Tobacco products

Information was elicited on use of betel quid with *zarda*, (*zarda* only or *zarda* with *supari*), betel quid with *sadapata*, *pan masala* with tobacco, *gul* and other (*sadapata* chewing, *khoinee*, and *nossi*). In the overall population, 20.2% adults use betel quid with *zarda* (bqz), 7.8% reported using betel quid with *sadapata* (bqs), 2,5% reported using pan masala with tobacco, 3.8% reported using gul and about 3.2% reported using other smokeless tobacco products)*khoinee, sadapata* chewing and *nossi*). Amongst the current users of smokeless tobacco,73.4% reported using bqz, followed by 28.2% of the users consuming bqs, 13.7% using *gul* and 9.2% using pan masala with tobacco. **Figure 4.16**

Figure 4.16 Use of different smokeless tobacco products amongst all adults (A) and current users of smokeless tobacco (B), aged 18-69 years, Bangladesh STEP Survey, 2018
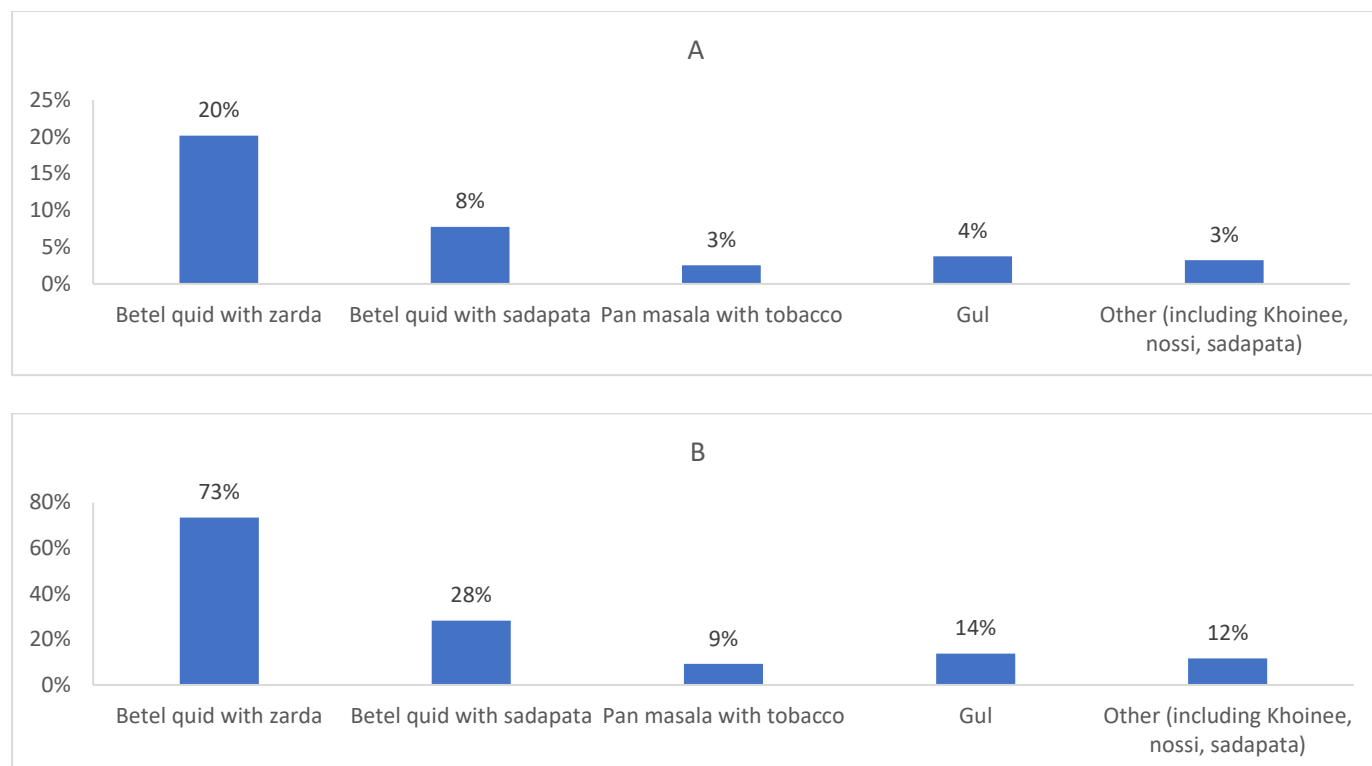
Patterns by background characteristics

- Across the population, the usage of bqz and bqs, pan masala with tobacco, *gul* and other products (including *khoinee, nossi* and *sadapata* chewing) increased with an increase in age. **Figure 4.17 A**

- However, amongst the current users of smokeless tobacco, the use of bqz decreased with an increase in age - 85.3% of adults, in age group 18-24 years, reported using bqz, whereas 66.8% of adults, in the age group 55-69 years reported using the product. No significant differentials by age existed for use of pan masala with tobacco and gul. For remaining products, the differentials by age followed the same patterns amongst current users as they did for all the population. **Figure 4.17 B**

- In the overall population, men reported a higher user of bqz as compared to women (22.7% versus 17.8%), however, 11% of women reported using bqs as compared to 4.5% of men. The same pattern emerged when considering the current users of smokeless tobacco - 84.3% of men used bqz, compared to 63.3% of women and 39% of women used bqs compared to only 16.7% of men. **Figure 4.18 A & B.**

- Both, amongst the overall population and amongst current users, adults in rural areas reported a higher use of bqz, bqs and other smokeless tobacco products, compared to urban areas.

Figure 4.17 Differentials in use of different smokeless tobacco products, amongst all adults (A) and current smokeless tobacco users (B), age 18-69 years - by age, Bangladesh STEP Survey, 2018
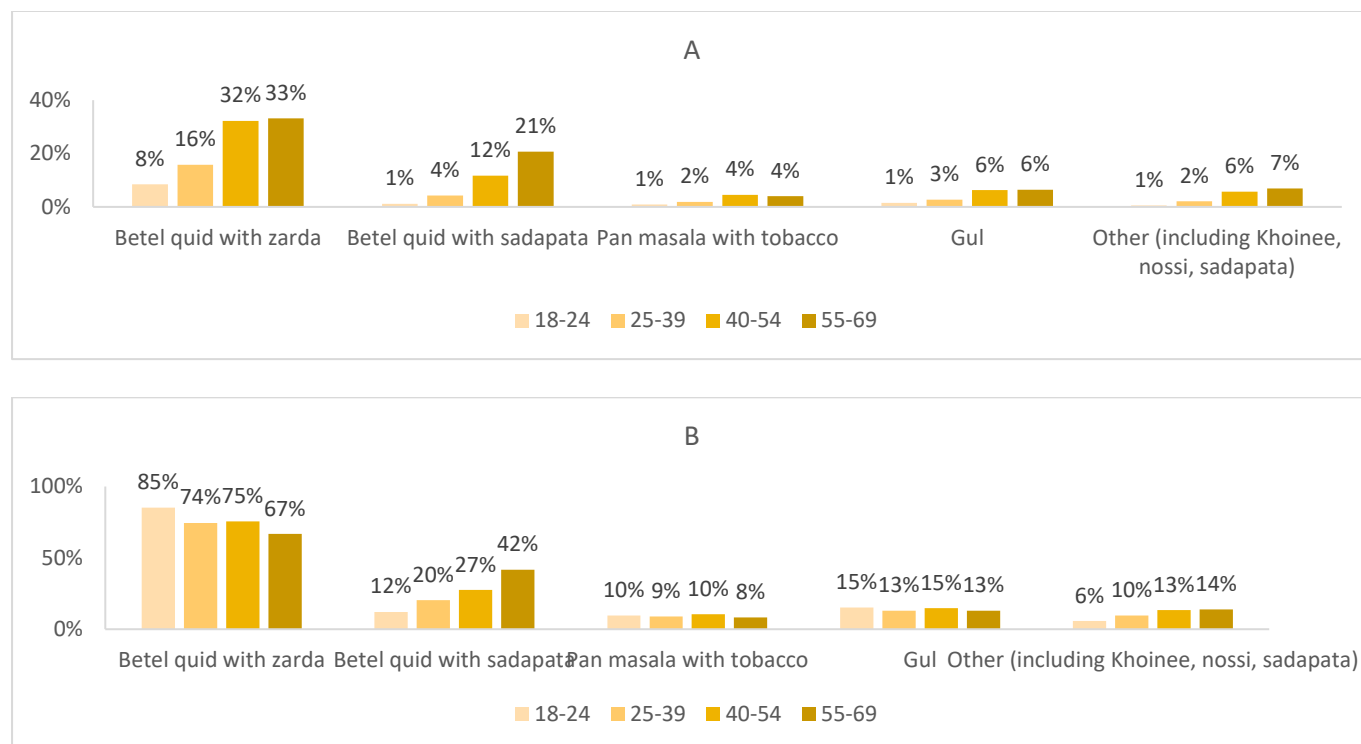
Figure 4.18 Differentials in use of different smokeless tobacco products among all adults (A) and among current tobacco smokeless product users (B), aged 18-69 years - by sex, Bangladesh STEPS survey 2018
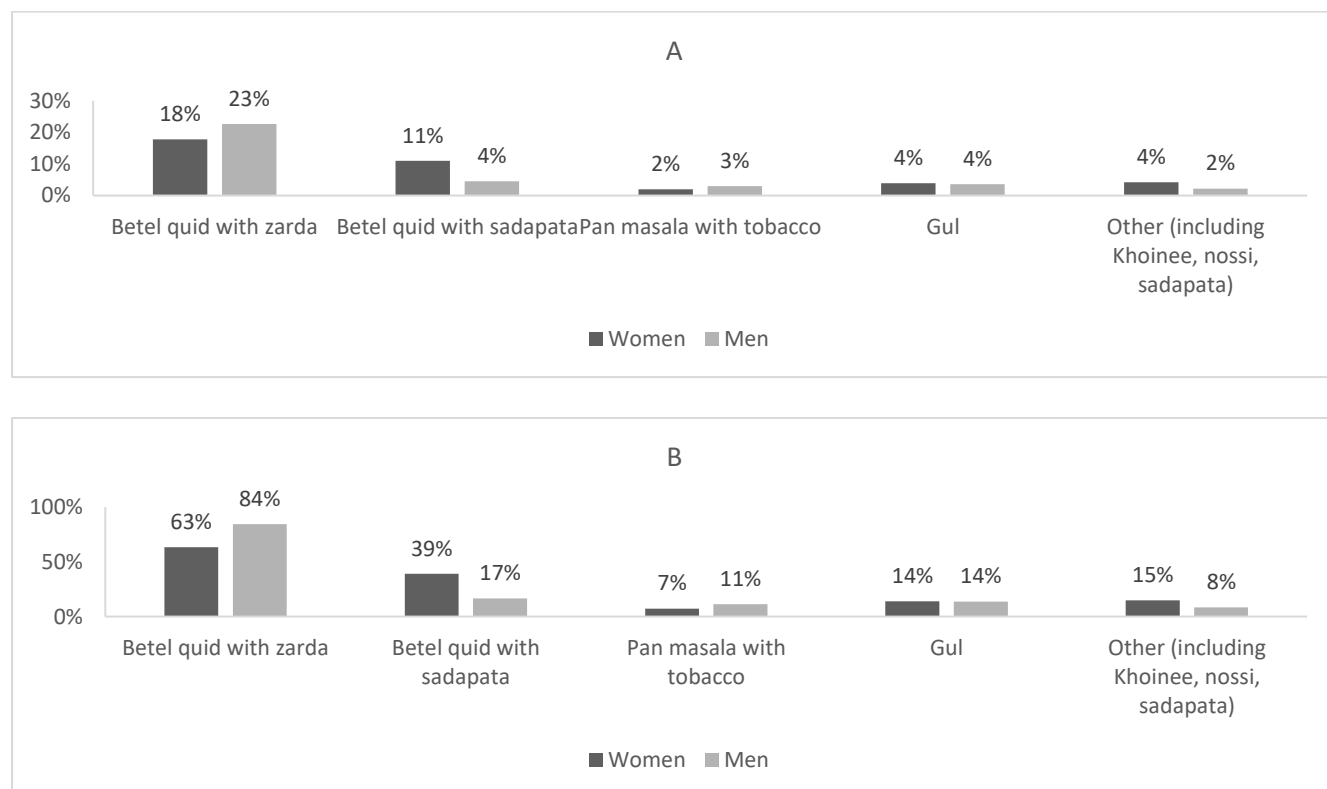
- In the overall population, with an increase in levels of education and wealth, the use of all smokeless tobacco products declined, in particular, the decline was more pronounced for bqs and even more so for bqz.

- Amongst the current users, with an increase in levels of education, the use of bwz increased, with the usage being lowest amongst adults with no or less than primary education (70.7%) and highest amongst people with secondary or more than secondary education (>80%). **Figure 4. 19 A**

- There were no clear differentials in use of smokeless tobacco products and increase in household wealth, other than for *khoinee, nossi* and *sadapata*, which declined with increase in wealth. **Figure 4. 19 B**

Figure 4. 19 Differentials in use of different smokeless tobacco products, amongst current smokeless tobacco users, aged 18-69 years, by levels of education (A) and wealth (B), Bangladesh STEP Survey, 2018
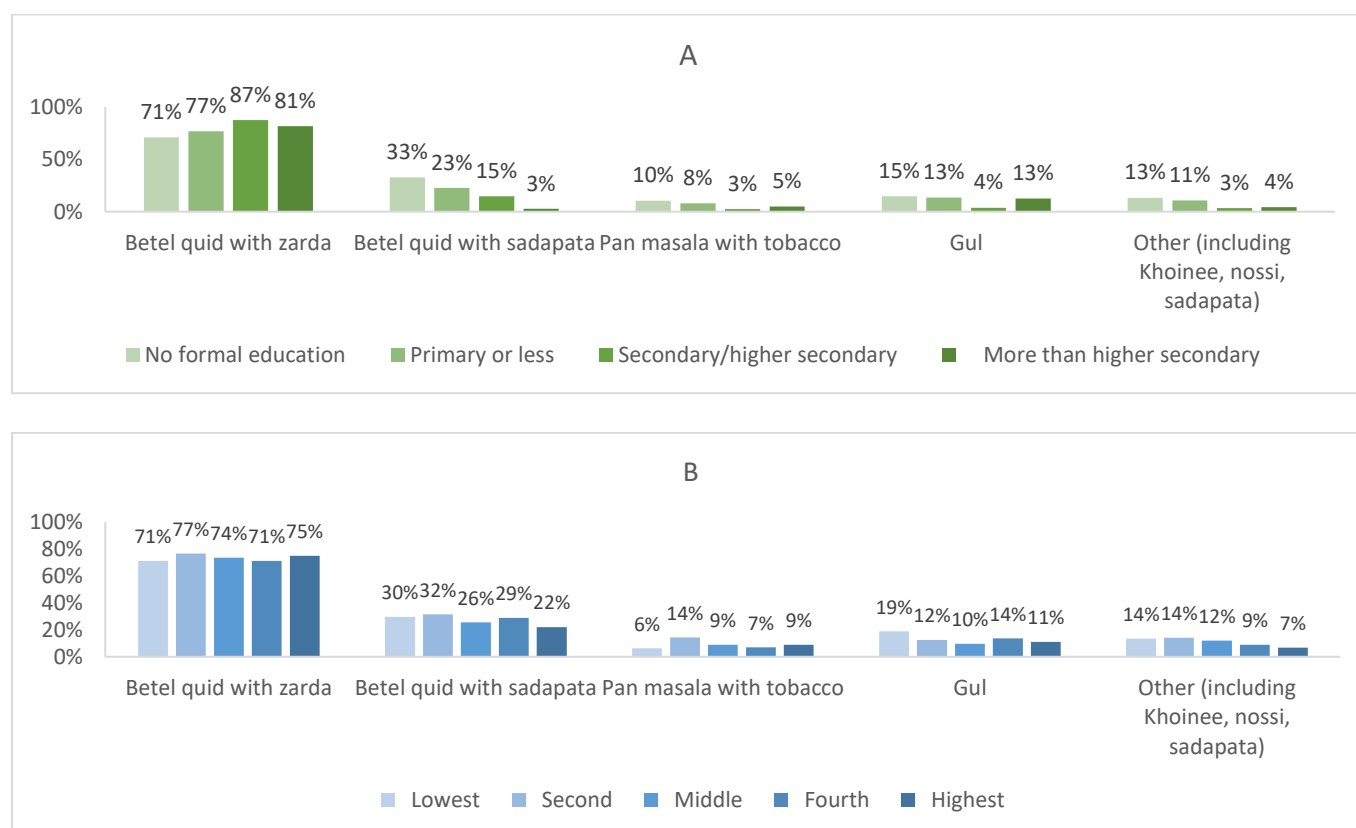
4.3 Age at initiation of tobacco use

Reducing initiation in adolescents is critical to reducing the prevalence of tobacco, since youngsters are particularly vulnerable to nicotine addiction and tobacco adverse effects[18]. In LMIC, about 90% of smokers begin to consume tobacco before the age of 18 years and

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[18] Marcon A, Pesce G, Calciano L, Bellisario V, Dharmage SC, Garcia-Aymerich J, Gislasson T, Heinrich J, Holm M, Janson C, Jarvis D. Trends in smoking initiation in Europe over 40 years: A retrospective cohort study. PloS one. 2018 Aug 22;13(8):e0201881

because of the strongly addictive nature of tobacco use, smoking during adolescence tends to track into adulthood[19].

In addition to long-term consequences of tobacco use in terms of increased risk of different non-communicable diseases, smoking at a young age also increases the risk of many diseases among adolescents including respiratory illness, asthma, and reduced pulmonary function[19]. Article 16 of FCTC requires parties to prohibit the sales of tobacco products to or by persons under the age set by domestic law, national law or 18 years, as well as other measures limiting the access of underage persons to tobacco products.

In STEP Survey, all adults, 18-69 years that reported currently smoking any tobacco product were asked about the age at which they started smoking. The average age at initiation of smoking tobacco in Bangladesh was 17.9 years (17.9 years for men and 24.5 years for women). The median age, or the age by which 50% of current smokers started smoking was 17 years (17 years for men and 20 years for women).

Patterns by background characteristics

- With an increase in age, the average age at initiation of smoking increased, with 16.5 years being average age amongst adults, aged 18-24 years, and 18.5 years for adults in the age group 55-69. **Figure 4.20 A.**

- Average age at initiation of smoking for women was 25 years, compared to 18 years for men.

- There weren't significant differences in age at initiation of smoking for adults residing in rural or urban areas or with an increase in level of household wealth.

- However, with an increase in levels of education, there was a slight increase in the average age at initiation of smoking for adults. Amongst the existing smokers, those with primary or higher level of education started to smoke at or after turning 18 years of age. **Figure *4.21***

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[19] Xi B, Liang Y, Liu Y, Yan Y, Zhao M, Ma C, Bovet P. Tobacco use and second-hand smoke exposure in young adolescents aged 12–15 years: data from 68 low-income and middle-income countries. The Lancet Global Health. 2016 Nov 1;4(11):e795-805

Figure 4.20 Differential in mean age at initiation of smoking among adult age 18-69 years, who currently smoke any tobacco products - by age (A) and by sex (B), Bangladesh STEP Survey, 2018
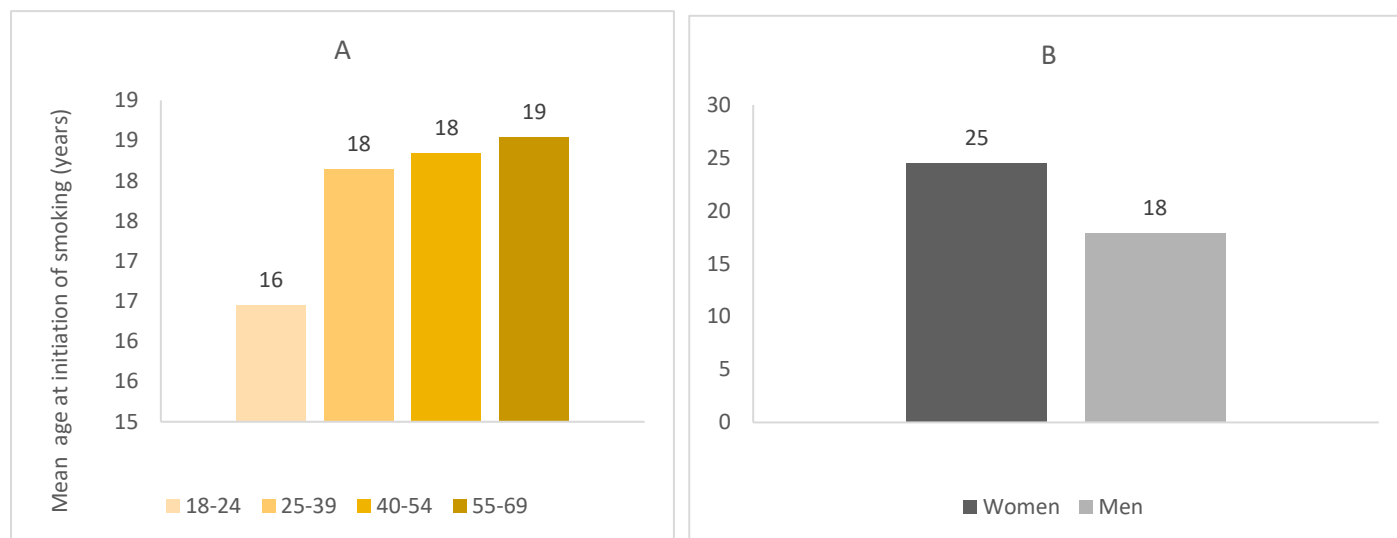
Figure 4.21 Differential in median age at initiation of smoking among adult age 18-69 years, who currently smoke any tobacco products, by levels of education (A) and wealth (B), Bangladesh STEP Survey, 2018
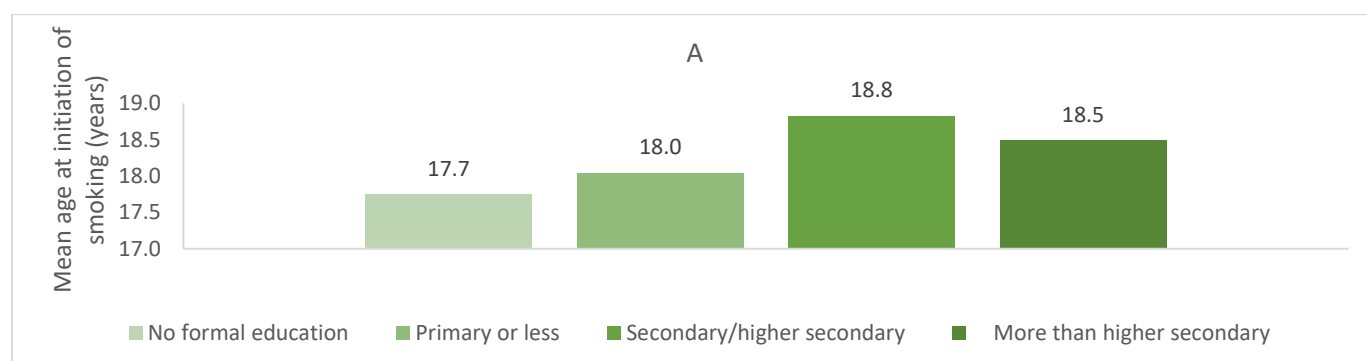
4.4 Tobacco cessation

Article 14 of FCTC concerns the provision of support for reducing tobacco dependence and cessation, including counselling, psychological support, nicotine replacement, and education programmes. To assist the population in quitting smoking, the most effective combination of interventions is face-to-face behavioral support together with combination nicotine replacement therapy (NRT).[20] Nonetheless, a brief advice from a health-care worker, telephone helplines, automated text messaging, printed self-help materials are recommended health-care interventions to promote and assist smoking cessation.[20] Among the current users of tobacco, the survey asked if they tried to stop smoking in the past 12

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[20] West R, Raw M, McNeill A, Stead L, Aveyard P, Bitton J, Stapleton J, McRobbie H, Pokhrel S, Lester-George A, Borland R. Health-care interventions to promote and assist tobacco cessation: a review of efficacy, effectiveness and affordability for use in national guideline development. Addiction. 2015 Sep;110(9):1388-403

months, and if yes, during any visit to a doctor or health worker, in the past 12 months, were they advised to quit smoking tobacco.

Among the current users of tobacco - 46% of smokers had tried to stop smoking and 60.5% of the adults were advised to quit smoking if they visited a doctor or health worker.

Patterns by background characteristics

- The percentage of current tobacco smokers, who tried to quit, increased with increasing age. However, with an increase in age, a decreasing proportion of current tobacco smokers received advise to quit smoking, the lowest being 40.2% of current tobacco smokers in the age group 55-69 years and the highest being 80.3% of smokers in age group 18-24 years. **Figure 4.22**

Figure 4.22 Differentials in tobacco cessation (attempt to stop and advise received to quit), by age, Bangladesh STEP Survey 2018
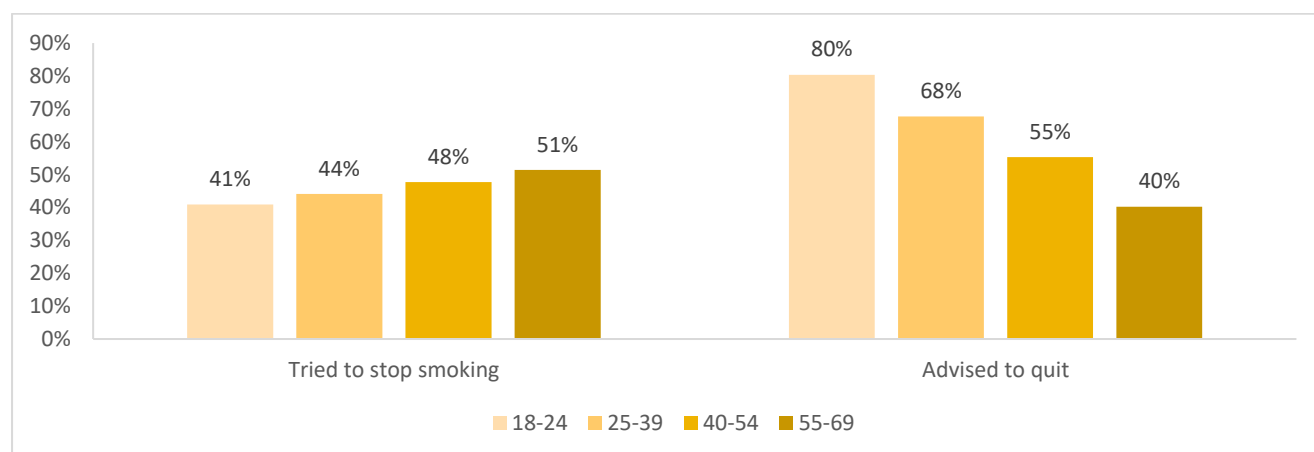
- The percentage of current tobacco smokers, who tried to quit, increased with increasing levels of education and wealth. **Figure 4.23 A.** The proportion of current smokers, who were advised to quit smoking during any medical check-up increased with increase in levels of education. 58.1% of current smokers with no or less than primary level of education were advised to quit, the proportion going up to 66.8% for current smokers with more than higher secondary level of education. Similar differentials were observed with an increase in wealth. **Figure 4.23 B**

Figure 4.23 Differentials in tobacco cessation (attempt to stop and advise received to quit), by levels of education (A) and wealth (B), Bangladesh STEP Survey 2018
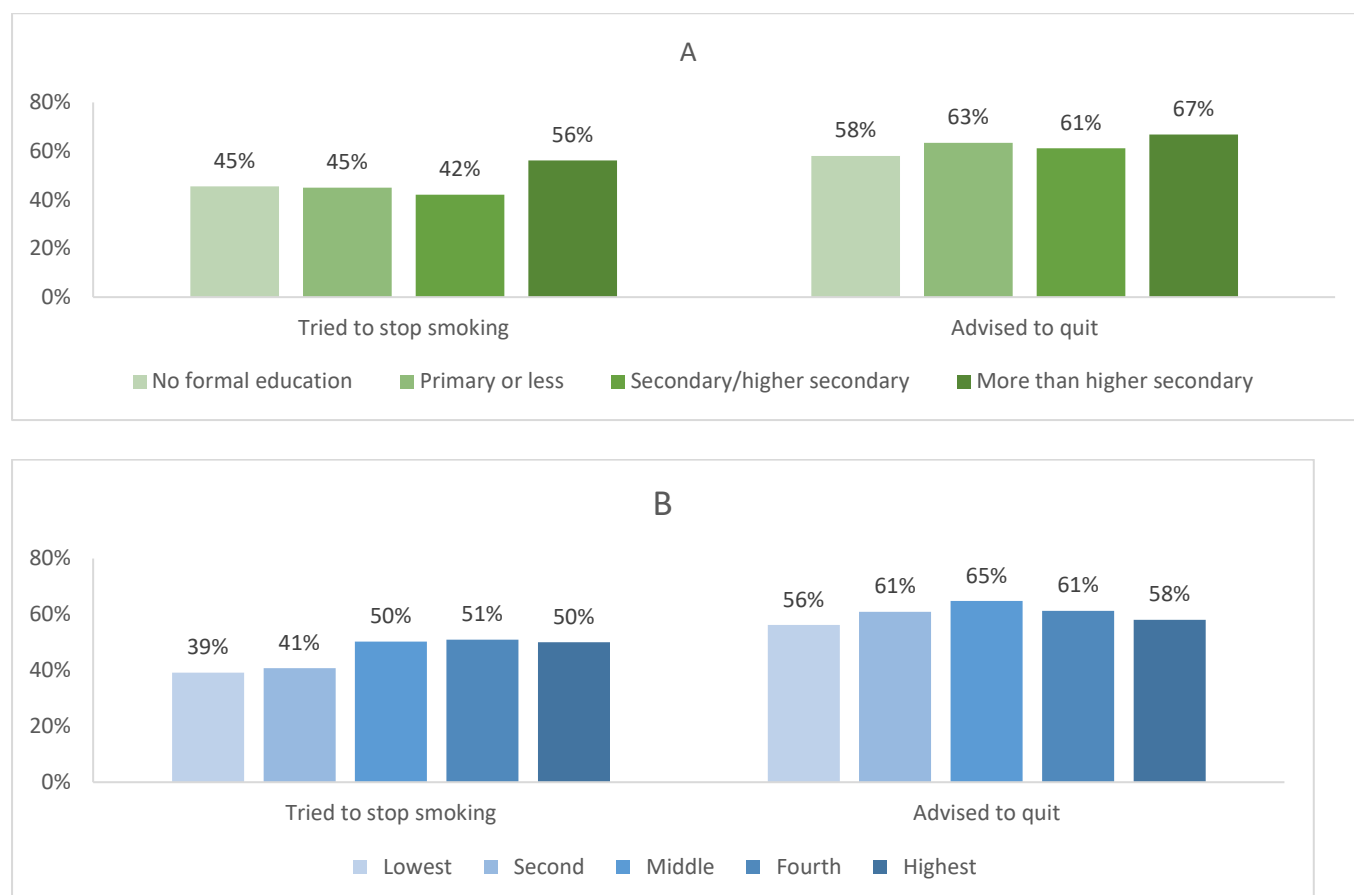
4.5 Electronic cigarettes

Electronic cigarettes include any product that uses batteries or other methods to produce a vapor which contains nicotine. They have various other names such as e-cigarette, vape-pen, e-shisha, e-pipes. All adults were asked if they had heard of e-cigarette, and if they had, they were asked if they have ever used it or were using it at the time regularly. 9.3% of all adults (18-69 years) reported that they have heard of e-cigarette and 6.7% amongst them were using the product.

Patterns by background characteristics

- Awareness and usage of e-cigarettes declined with an increase in age. While 16% of 18-24 years old had heard about e-cigarettes, only 3.1% of 55-69 years had heard about them. Similar pattern was observed with use of e-cigarettes. **Figure 4.24 A**
- Awareness and usage were much higher amongst men (14.7%, 8.5%), compared to women (4%, 0%). Awareness about cigarettes was much higher in urban areas (14.3%) as compared to rural areas (7.8%). **Figure 4.24 B**

Figure 4.24 Differentials in awareness and usage of electronic cigarettes, by age (A) and sex (B), Bangladesh STEP survey, 2018

A

18-24   25-39   40-54   55-69

B

Women   Men
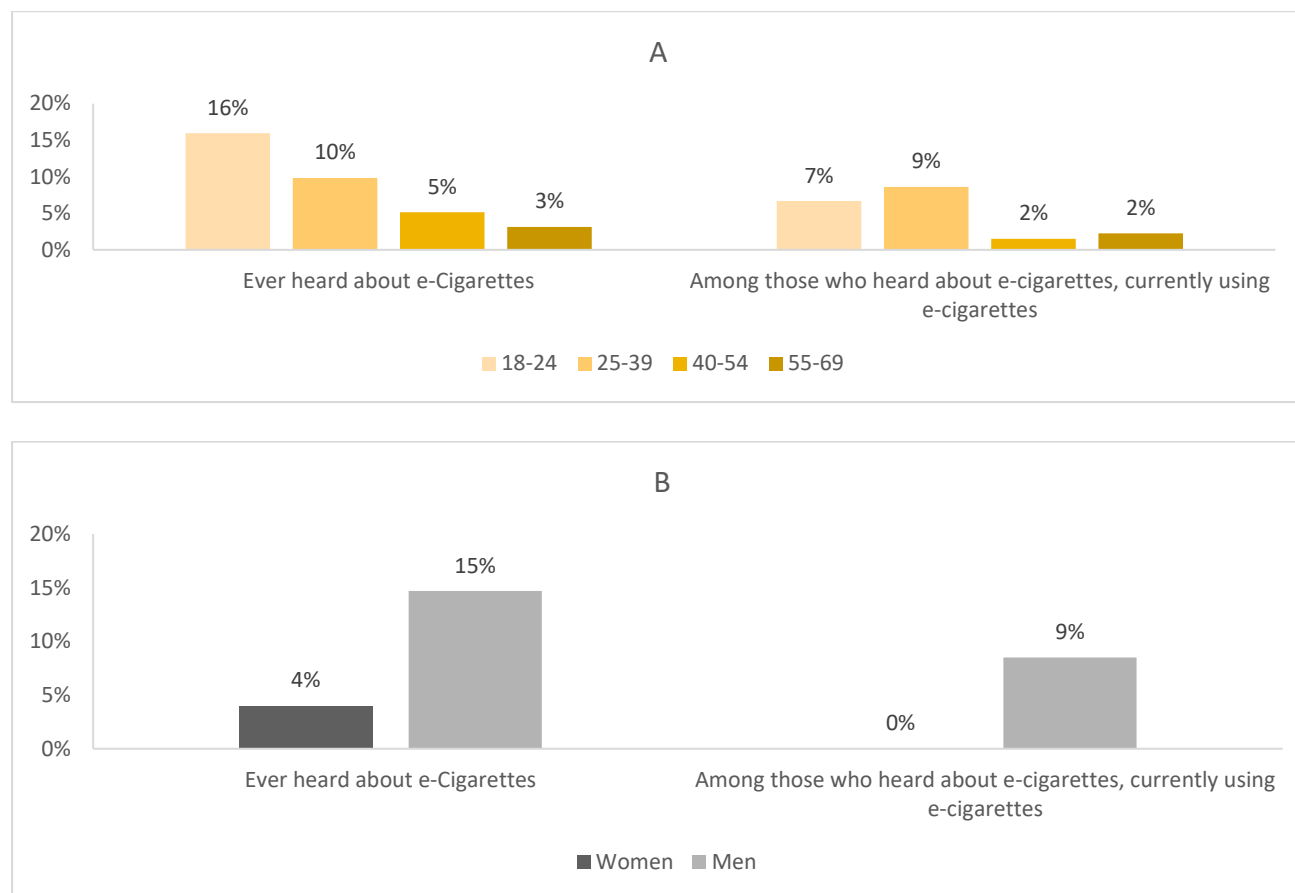
- While there was an increase in the awareness about e-cigarettes with an increase in levels of education, there wasn't a significant differential in its usage with higher levels of education
- With an increase in wealth, the awareness and usage of e-cigarettes increased as well – 17.9% of all adults belonging to the highest wealth quintiles had heard of e-cigarettes, and of them, 10.9% were using the product. While, 4.3% of the adults belonging to the lowest wealth quintile had ever heard about e-cigarettes and only 1.2% of them were using the product. See **Figure 4.25 B**

Figure 4.25 Differentials in awareness and usage of electronic cigarettes, by levels of education (A) and wealth (B), Bangladesh STEP Survey, 2018
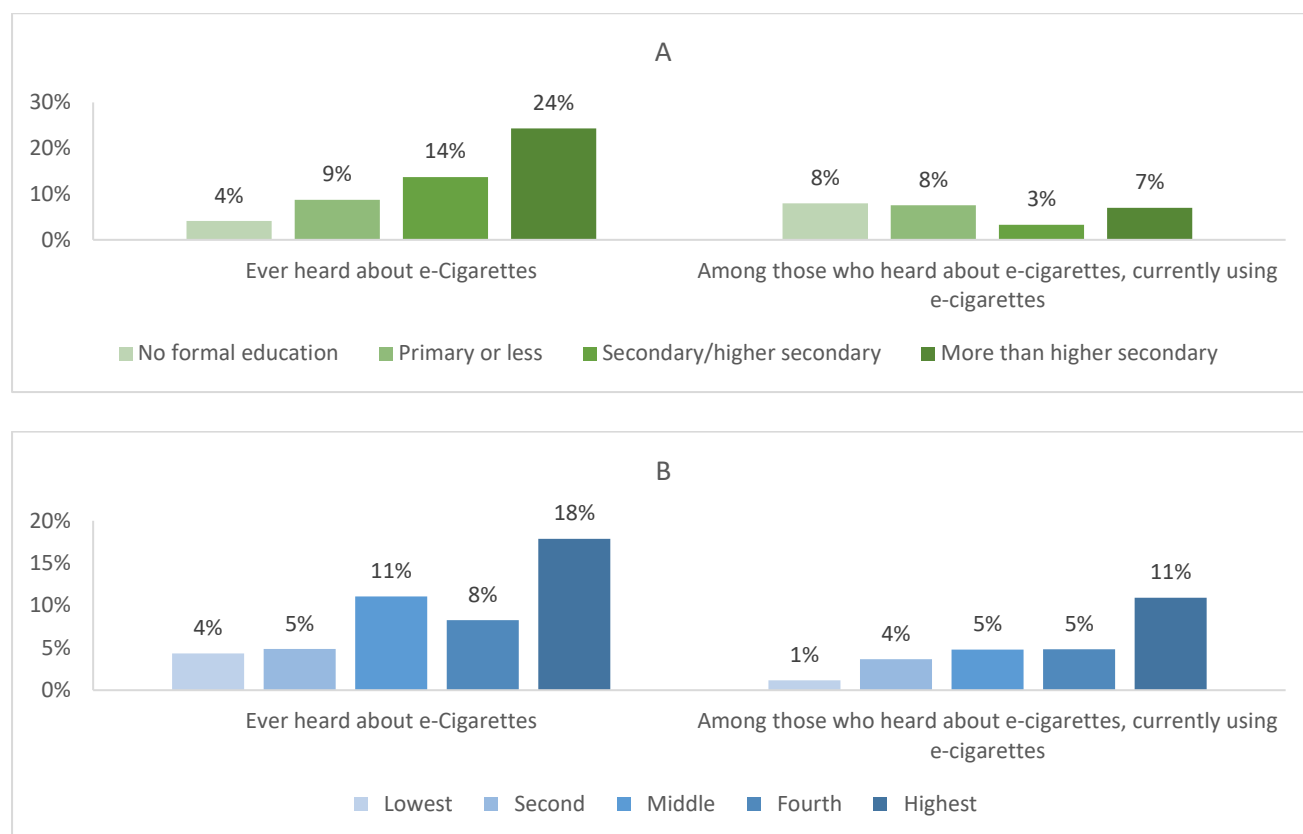
List of tables

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Table 4.1 Tobacco use: All Respondents

Percentage of adults age 18-69 years who currently use any tobacco product, currently smoke any tobacco product, currently use any smokeless tobacco product and currently using both smoking and smokeless tobacco products by background characteristics, WHO STEP Survey for NCD Risk Factors, Bangladesh 2018

Background characteristics	Currently using any of the products…				
	tobacco	smoking tobacco	smokeless tobacco	both smoking and smokeless tobacco	n
Age					
18-24	22.3	15.7	9.9	3.3	1026
25-39	38.7	24.0	21.2	6.5	3489
40-54	59.1	26.4	42.7	10.0	2503
55-69	68.4	30.0	49.7	11.3	1167
Sex					
Women	28.3	1.0	28.1	0.8	4381
Men	59.6	46.6	26.9	13.9	3804
Residence					
Rural	45.2	23.7	29.1	7.7	4183
Urban	38.8	22.6	21.8	5.5	4002
Division					
Barishal	48.5	20.0	38.7	10.2	986
Chattogram	42.4	21.4	27.2	6.2	1053
Dhaka	39.0	22.8	21.2	5.0	997
Khulna	41.1	23.3	24.7	6.8	1040
Mymensingh	56.5	27.1	38.8	9.4	1021
Rajshahi	39.3	24.3	21.8	6.8	1066
Rangpur	45.1	24.0	28.4	7.3	1009
Sylhet	56.5	28.4	43.1	15.1	1013
Education*					
None/less than primary	60.2	29.7	41.8	11.3	2476
Primary	35.6	19.4	20.7	4.5	3735
Secondary	26.9	18.6	11.4	3.1	1397
More than secondary	22.8	16.8	9.9	3.9	556
Wealth quintile					
Lowest	51.6	23.8	37.8	9.9	1639
Second	50.7	26.5	34.1	9.9	1670
Middle	43.6	25.3	25.2	6.9	1451
Fourth	41.0	22.6	22.7	4.3	1506
Highest	31.6	19.2	17.5	5.1	1919
Total (18-39)	32.5	20.9	17.0	5.3	4515
Total (40-69)	63.3	28.0	45.9	10.6	3670
Total (25-69)	50.5	25.9	33.0	8.5	7159
Total (18-69)	**43.7**	**23.5**	**27.5**	**7.2**	**8185**

* 21 respondents excluded who refused to answer highest level of education completed

Table 4.2.1 Tobacco smoking status (current, former, never)

Percentage of adults age 18-69 years who currently smoke tobacco, formerly smoked tobacco, daily or non-daily; percentage smoked among all respondents, among current smokers and among former smokers by background characteristics, WHO STEP Survey for NCD Risk Factors, Bangladesh 2018

Background characteristics	Among all respondents					Number of respondents	Among current smokers		Number of respondents	Among former smokers		Number of respondents
	Currently smoke tobacco		Formerly smoked tobacco		Never smoked tobacco							
	Daily	Non-daily	Daily	Non-daily			Daily	Non-daily		Daily	Non-daily	
Age												
18-24	13.6	2.1	1.3	0.8	82.2	1026	86.8	13.2	153	62.2	37.9	22
25-39	23.1	0.9	2.6	1.6	71.8	3489	96.2	3.8	782	62.0	38.0	156
40-54	25.9	0.5	7.6	1.2	64.9	2503	98.1	1.9	638	86.7	13.3	211
55-69	28.8	1.1	17.8	0.6	51.6	1167	96.2	3.8	350	96.6	3.4	234
Sex												
Women	0.9	0.1	0.7	0.3	98.0	4381	86.1	13.9	37	72.5	27.5	30
Men	44.4	2.2	11.0	2.1	40.3	3804	95.3	4.7	1886	84.3	15.7	593
Residence												
Rural	22.7	1.1	5.8	1.1	69.4	4183	95.4	4.6	1006	84.5	15.5	312
Urban	21.2	1.4	5.6	1.4	70.4	4002	93.8	6.2	917	79.7	20.3	311
Division												
Barishal	18.5	1.6	7.8	2.7	69.5	986	92.2	7.8	188	74.5	25.5	102
Chattogram	19.9	1.5	6.4	1.2	71.0	1053	92.8	7.2	237	84.2	15.8	87
Dhaka Rural	22.0	0.8	5.5	0.9	70.8	997	96.6	3.4	234	86.1	13.9	70
Khulna	22.4	0.9	6.5	0.9	69.3	1040	96.3	3.7	223	87.4	12.6	80
Mymensingh	26.2	0.9	3.6	0.6	68.7	1021	96.8	3.2	277	85.6	14.4	58
Rajshahi	23.0	1.3	5.5	0.7	69.5	1066	94.6	5.4	233	87.9	12.1	71
Rangpur	22.6	1.4	6.6	2.0	67.5	1009	94.2	5.8	240	77.0	23.0	88
Sylhet	27.3	1.1	4.5	1.4	65.6	1013	96.0	4.0	291	76.4	23.6	67
Education												
None/less than primary	28.8	1.0	8.0	0.6	61.6	2476	96.76	3.238	734	92.7	7.3	224
Primary	18.3	1.2	4.0	1.2	75.3	3735	94.06	5.937	823	76.9	23.1	241
Secondary	17.6	0.9	4.5	2.1	74.8	1397	94.94	5.064	276	68.0	32.1	110
More than secondary	14.7	2.0	3.7	1.9	77.7	556	87.89	12.11	89	66.3	33.7	48
Wealth quintile												
Lowest	22.9	0.9	6.7	0.8	68.7	1639	96.4	3.6	381	89.7	10.3	111
Second	25.6	0.9	5.6	1.1	66.8	1670	96.5	3.5	441	83.2	16.8	120
Middle	24.2	1.1	6.1	1.3	67.2	1451	95.6	4.4	381	82.4	17.6	124
Fourth	20.6	1.9	6.7	0.9	69.8	1506	91.5	8.5	374	87.8	12.2	130
Highest	18.3	0.9	3.9	1.6	75.3	1919	95.1	4.9	346	70.3	29.7	138
Total (18-39)	19.5	1.4	2.1	1.3	75.7	4515	93.5	6.5	935	62.0	38.0	178
Total (40-69)	27.2	0.8	12.3	0.9	58.8	3670	97.1	2.9	988	93.1	6.9	445
Total (25-69)	25.1	0.9	7.2	1.3	65.6	7159	96.7	3.3	1770	85.1	14.9	601
Total (18-69)	**22.3**	**1.2**	**5.8**	**1.2**	**69.6**	**8185**	**95.1**	**4.9**	**1923**	**83.4**	**16.6**	**623**

Table 4.2.2 Smokeless tobacco use: current, former, never

Percentage of adults age 18-69 years who currently use smokeless tobacco products daily or non-daily; percentage former user and never user of smokeless tobacco; among all respondents and current users by background characteristics, WHO STEP Survey for NCD Risk Factors, Bangladesh 2018

Background characteristics	Among all respondents					Among current users		Number of respondents
	Currently use smokeless tobacco		Formerly use smokeless tobacco	Never used smokeless tobacco	Number of respondents			
	Daily	Non-daily				Daily	Non-daily	
Age								
18-24	6.9	3.0	0.9	89.2	1026	70.0	30.1	119
25-39	18.2	3.0	1.9	76.8	3489	85.8	14.2	902
40-54	39.5	3.2	3.2	54.1	2503	92.4	7.6	1053
55-69	43.2	6.6	6.3	44.0	1167	86.8	13.2	548
Sex								
Women	25.4	2.7	2.2	69.7	4381	90.3	9.7	1412
Men	22.3	4.6	3.2	69.9	3804	82.9	17.1	1210
Residence								
Rural	25.4	3.7	2.8	68.1	4183	87.2	12.8	1456
Division								
Barishal	34.6	4.1	1.7	59.7	986	89.5	10.5	394
Chattogram	22.2	4.9	1.3	71.6	1053	81.9	18.1	291
Dhaka Rural	17.9	3.3	2.5	76.4	997	84.5	15.5	257
Khulna	21.4	3.3	6.1	69.2	1040	86.6	13.4	261
Mymensingh	33.7	5.1	2.1	59.1	1021	86.9	13.1	423
Rajshahi	18.6	3.2	3.3	74.9	1066	85.3	14.7	226
Rangpur	26.2	2.2	2.2	69.4	1009	92.4	7.6	326
Sylhet	40.6	2.5	2.5	54.4	1013	94.3	5.7	444
Education								
None/less than primary	37.0	4.8	3.3	54.9	2476	88.6	11.4	1148
Primary	17.7	3.0	2.4	76.9	3735	85.6	14.4	1159
Secondary	8.3	3.1	1.8	86.8	1397	72.8	27.2	226
More than secondary	8.2	1.7	1.9	88.2	556	82.5	17.5	72
Wealth quintile								
Lowest	33.6	4.3	2.0	60.1	1639	88.7	11.3	687
Second	30.9	3.2	2.3	63.6	1670	90.7	9.3	637
Middle	20.6	4.6	2.5	72.3	1451	81.9	18.1	478
Fourth	18.9	3.8	3.1	74.2	1506	83.1	16.9	417
Highest	15.2	2.4	3.3	79.1	1919	86.6	13.4	403
Total (18-39)	14.0	3.0	1.6	81.5	4515	82.3	17.7	1021
Total (40-69)	41.2	4.8	4.6	49.5	3670	89.7	10.4	1601
Total (25-69)	29.2	3.8	3.2	63.8	7159	88.4	11.7	2503
Total (18-69)	**23.9**	**3.6**	**2.7**	**69.9**	**8185**	**86.8**	**13.2**	**2622**

Table 4.3.1 Use of different smoking tobacco products: Among all respondents and current smokers

Percentage of adult age 18-69 years who currently use different smoking tobacco products among all respondents and among current smokers by background characteristics, WHO STEP Survey for NCD Risk Factors, Bangladesh 2018

Background characteristics	Among all respondents						Among current smokers					
	Cigarette (manufactured or hand-rolled)	*Bidis*	Pipes/cigars/ cigarellos	Hookah/ Dhaba/Shisha	Any smoking products	Number of respondents	Cigarette (manufactured or hand-rolled)	*Bidis*	Pipes/cigars/ cigarellos	Hookah/ Dhaba/Shisha	Others	Number of respondents
Age												
18-24	15.3	1.9	0.1	0.2	15.3	1026	97.4	13.3	0.5	1.1	1.8	153
25-39	24.0	5.0	0.9	0.1	24.0	3489	99.9	21.5	3.9	0.3	2.9	782
40-54	26.3	10.9	0.7	0.3	26.4	2503	99.9	42.2	2.5	1.2	2.3	638
55-69	29.5	17.1	1.4	1.2	29.8	1167	98.8	57.6	4.7	4.1	1.0	350
Sex												
Women	1.0	0.9	0.1	0.1	1.0	4381	100.0	89.9	6.9	6.5	0.5	37
Men	46.2	14.5	1.5	0.6	46.3	3804	99.2	31.2	3.1	1.3	2.2	1886
Residence												
Rural	23.5	8.8	0.6	0.4	23.6	4183	99.2	37.2	2.6	1.7	2.3	1006
Urban	22.4	3.4	1.3	0.1	22.5	4002	99.5	15.2	5.6	0.4	1.9	917
Division												
Barishal	20.0	11.0	0.6	0.4	20.0	986	100.0	55.1	3.2	1.8	0.6	188
Chattogram	21.3	5.4	1.1	0.9	21.4	1053	99.7	25.4	5.3	4.2	1.3	237
Dhaka Rural	22.3	4.3	1.2	0.1	22.4	997	97.8	19.1	5.1	0.5	5.7	234
Khulna	23.2	6.4	0.1	0.1	23.2	1040	99.5	27.6	0.6	0.4	0.3	223
Mymensingh	27.1	17.0	0.6	0.3	27.1	1021	100.0	62.6	2.3	1.2	2.9	277
Rajshahi	24.2	8.6	0.7	0.1	24.2	1066	99.5	35.5	3.0	0.5	0.0	233
Rangpur	24.0	7.8	0.3	0.0	24.0	1009	99.8	32.3	1.2	0.1	0.6	240
Sylhet	28.1	11.5	0.2	0.8	28.4	1013	100.0	40.5	0.6	2.9	2.3	291
Education												
None/less than primary	29.8	15.1	1.2	0.4	30.0	2476	99.7	44.0	4.7	2.3	2.5	1058
Primary	22.2	5.9	0.7	0.5	22.2	3735	98.1	23.4	1.4	0.7	2.7	499
Secondary	17.7	2.3	0.3	0.0	17.7	1397	99.1	16.5	0.6	0.0	1.2	184
More than secondary	17.3	0.7	0.0	0.0	17.3	556	100.0	4.9	2.0	0.1	0.1	181
Wealth quintile												
Lowest	23.6	12.1	1.1	0.4	23.8	1639	99.4	51.1	4.5	1.6	4.0	381
Second	26.4	10.9	0.7	0.1	26.5	1670	99.9	41.3	2.6	0.5	3.0	441
Middle	25.3	8.2	1.2	0.9	25.3	1451	99.8	32.3	4.6	3.6	1.9	381
Fourth	21.9	4.4	0.6	0.0	22.0	1506	97.5	19.6	2.6	0.0	0.5	374
Highest	19.1	2.4	0.3	0.3	19.1	1919	99.6	12.3	1.5	1.5	1.3	346
Total (18-39)	20.7	4.0	0.6	0.1	20.7	4515	99.2	19.2	2.9	0.6	2.6	935
Total (40-69)	27.8	14.0	1.0	0.7	27.9	3670	99.4	49.8	3.6	2.6	1.6	988
Total (25-69)	25.8	9.4	1.0	0.4	25.9	7159	99.6	36.1	3.7	1.5	2.3	1770
Total (18-69)	**23.3**	**7.6**	**0.8**	**0.3**	**23.3**	**8185**	**99.3**	**32.5**	**3.2**	**1.5**	**2.2**	**1923**

Table 4.3.2 Use of different smokeless tobacco products: all respondents and current users

Percentage of people age 18-69 who currently use different smokeless tobacco products -among all respondents and among current smokeless tobacco users by background characteristics, WHO STEP Survey for NCD Risk Factors, Bangladesh 2018

Background characteristics	Among all respondents							Among current users						
	Betel quid with zarda	Betel quid with sadapata	Pan masala with tobacco	Gul	Other (including Khoinee, nossi, sadapata)	Any smokeless tobacco product	Number of respondents	Betel quid with zarda	Betel quid with sadapata	Pan masala with tobacco	Gul	Other (including Khoinee, nossi, sadapata)	Any smokeless product	Number of respondents
Age														
18-24	8.4	1.2	0.9	1.5	0.6	9.1	1026	85.3	12.2	9.5	15.2	5.7	91.9	119
25-39	15.8	4.3	1.9	2.8	2.1	19.9	3489	74.5	20.4	8.8	13.0	9.7	93.6	902
40-54	32.2	11.7	4.5	6.3	5.7	41.1	2503	75.5	27.4	10.4	14.8	13.4	96.2	1053
55-69	33.2	20.7	4.1	6.4	6.9	48.4	1167	66.8	41.6	8.1	12.9	13.8	97.4	548
Sex														
Women	17.8	11.0	2.0	3.9	4.2	26.8	4381	63.3	39.0	7.3	13.9	14.9	95.5	1412
Men	22.7	4.5	3.0	3.6	2.2	25.6	3804	84.3	16.7	11.2	13.6	8.3	95.3	1210
Residence														
Rural	21.3	8.9	2.7	3.9	3.6	27.9	4183	72.9	30.4	9.2	13.3	12.4	95.9	1456
Urban	16.5	4.0	2.0	3.4	1.9	20.3	4002	75.6	18.2	9.0	15.5	8.7	93.1	1166
Division														
Barishal	30.4	21.2	10.2	0.8	8.7	37.0	986	78.6	54.9	26.4	2.1	22.4	95.5	394
Chattogram	20.5	11.9	3.9	0.7	2.8	26.7	1053	75.5	43.8	14.4	2.6	10.3	98.5	291
Dhaka Rural	16.2	3.0	0.2	1.7	4.0	18.9	997	76.6	14.2	1.1	7.9	18.7	89.4	257
Khulna	14.2	6.9	1.5	6.5	0.8	22.6	1040	57.4	27.9	6.2	26.5	3.3	91.8	261
Mymensingh	28.9	8.0	2.3	5.8	4.9	36.7	1021	74.4	20.7	5.9	15.1	12.6	94.7	423
Rajshahi	18.2	3.3	1.9	5.7	1.3	21.5	1066	83.4	15.3	8.7	26.3	6.0	98.4	226
Rangpur	19.5	4.0	1.9	11.4	1.8	28.0	1009	68.8	14.2	6.6	40.3	6.3	98.7	326
Sylhet	29.6	17.0	4.5	0.7	5.1	42.4	1013	68.7	39.5	10.4	1.6	11.9	98.3	444
Education														
None/less than primary	29.6	13.7	4.4	6.1	5.5	40.2	2476	70.7	32.9	10.5	14.7	13.2	96.3	1619
Primary	15.9	4.7	1.6	2.8	2.2	19.5	3735	76.8	22.6	7.9	13.5	10.6	94.2	688
Secondary	10.0	1.7	0.3	0.4	0.4	10.5	1397	87.3	14.8	2.6	3.7	3.4	91.9	148
More than secondary	8.1	0.3	0.5	1.2	0.4	9.1	556	81.5	2.7	5.0	12.6	4.3	92.3	150
Wealth quintile														
Lowest	26.9	11.2	2.4	7.1	5.1	35.8	1639	71.2	29.5	6.3	18.8	13.5	94.8	687
Second	26.1	10.8	4.9	4.3	4.8	33.5	1670	76.6	31.5	14.3	12.5	14.1	98.3	637
Middle	18.5	6.4	2.2	2.4	3.0	23.9	1451	73.5	25.5	8.9	9.6	11.9	94.9	478
Fourth	16.1	6.6	1.6	3.1	2.0	21.8	1506	71.0	28.9	6.9	13.7	8.9	96.0	417
Highest	13.1	3.9	1.5	1.9	1.2	15.9	1919	74.9	22.0	8.8	11.0	6.7	90.9	403
Total (18-39)	13.0	3.2	1.5	2.3	1.5	15.8	4515	76.9	18.6	9.0	13.5	8.8	93.2	1021
Total (40-69)	32.7	15.8	4.3	6.4	6.2	44.5	3670	71.2	34.5	9.3	13.9	13.6	96.8	1601
Total (25-69)	23.9	9.8	3.0	4.5	4.1	31.6	7159	72.3	29.7	9.1	13.6	12.3	95.7	2503
Total (18-69)	**20.2**	**7.8**	**2.5**	**3.8**	**3.2**	**26.2**	**8185**	**73.4**	**28.2**	**9.2**	**13.7**	**11.7**	**95.4**	**2622**

Table 4.4 Age at initiation of smoking: all respondents

Mean and median age at initiation of smoking among adult age 18-69 years who currently smoke any tobacco products by background characteristics, WHO STEP Survey for NCD Risk Factors, Bangladesh 2018

Background characteristics	Mean age at initiation of smoking	Median age at initiation of smoking	Number of respondents
Age			
18-24	16.45	16	153
25-39	18.14	17	782
40-54	18.34	17	638
55-69	18.54	16	350
Sex			
Women	24.50	20	37
Men	17.90	17	1886
Residence			
Rural	18.10	17	1006
Urban	17.80	17	917
Division			
Barishal	17.78	18	188
Chattogram	18.33	17	237
Dhaka Rural	17.96	18	234
Khulna	17.07	16	223
Mymensingh	16.70	16	277
Rajshahi	18.57	18	233
Rangpur	19.91	18	240
Sylhet	17.03	15	291
Education			
None/less than primary	17.75	16	734
Primary	18.04	17	823
Secondary	18.83	18	276
More than secondary	18.50	18	89
Wealth quintile			
Lowest	17.80	16	381
Second	18.01	16	441
Middle	18.21	17	381
Fourth	17.91	17	374
Highest	18.05	18	346
Total (18-39)	17.67	17	935
Total (40-69)	18.43	17	988
Total (25-69)	18.29	17	1770
Total (18-69)	**18.0**	**17**	**1923**

Table 4.5 Tobacco cessation

Percentage of adults age 18-69 years who tried to stop smoking in the past 12 months and who were advised to quit smoking during a visit to a health worker in the past 12 months by background characteristics, WHO STEP Survey for NCD Risk Factors, Bangladesh 2018

Background characteristics	Tried to stop smoking	Number of respondents	Advised to quit smoking	Number of respondents
Age				
18-24	40.9	53	80.3	95
25-39	44.1	348	67.7	551
40-54	47.8	305	55.3	472
55-69	51.4	163	40.2	264
Sex				
Women	44.4	37	65.8	29
Men	46.0	1886	60.3	1353
Residence				
Rural	45.6	1006	60.1	731
Urban	47.4	917	61.6	651
Division				
Barishal	36.0	188	72.1	145
Chattogram	44.0	237	58.8	151
Dhaka Rural	53.2	234	56.7	191
Khulna	53.8	223	67.8	188
Mymensingh	55.5	277	76.1	250
Rajshahi	41.5	233	49.6	132
Rangpur	29.6	240	54.2	174
Sylhet	40.2	291	51.8	151
Education				
None/less than primary	45.5	1058	58.1	755
Primary	45.0	499	63.4	361
Secondary	42.2	184	61.2	131
More than secondary	56.1	181	66.8	134
Wealth quintile				
Lowest	39.1	381	56.2	260
Second	40.8	441	60.9	318
Middle	50.3	381	64.8	279
Fourth	50.9	374	61.3	283
Highest	50.0	346	58.1	242
Total (18-39)	43.2	935	71.0	646
Total (40-69)	49.6	988	47.8	736
Total (25-69)	46.9	1770	57.1	1287
Total (18-69)	**46.0**	**1923**	**60.5**	**1382**

Table 4.6 Electronic cigarettes: all respondents

Percentage of adults age 18–69 years who heard about electronics cigarettes, ever used, currently using or correctly identified an e-cig by background characteristics, WHO STEP Survey for NCD Risk Factors, Bangladesh 2018

Background characteristics	Ever heard about e-Cigarettes users	Number of respondents	Among those who heard about e-cigarettes		
			Ever used e-cigarettes	Currently using e-cigarettes	Correctly identified an e-cig
Age					
18-24	16.0	1026	15.9	6.7	78.7
25-39	9.8	3482	13.0	8.6	92.3
40-54	5.1	2498	8.9	1.5	86.2
55-69	3.1	1164	2.7	2.3	93.0
Sex					
Women	4.0	4367	0.0	0.0	60.9
Men	14.7	3803	16.8	8.5	93.1
Residence					
Rural	7.8	4171	9.5	4.9	83.3
Urban	14.3	3999	20.1	10.1	90.3
Division					
Barishal	6.1	986	3.3	0.0	87.8
Chattogram	8.6	1053	5.7	3.5	90.0
Dhaka Rural	13.0	997	18.0	8.2	92.9
Khulna	4.9	1038	8.4	0.4	79.3
Mymensingh	10.7	1020	2.9	1.4	75.1
Rajshahi	9.5	1066	20.3	8.6	72.3
Rangpur	6.1	1006	17.7	15.6	73.7
Sylhet	10.2	1004	15.9	12.6	94.3
Education					
None/less than primary	4.1	3670	8.9	8.0	84.8
Primary	8.7	2530	20.7	7.5	87.2
Secondary	13.7	888	6.3	3.3	75.1
More than secondary	24.3	1064	13.0	7.0	91.8
Wealth quintile					
Lowest	4.3	1633	4.0	1.2	86.6
Second	4.9	1669	3.4	3.6	72.3
Middle	11.1	1448	14.8	4.8	78.4
Fourth	8.3	1504	11.3	4.8	94.0
Highest	17.9	1916	17.9	10.9	90.0
Total (18-39)	12.1	4508	14.4	7.7	85.4
Total (40-69)	4.2	3662	6.8	1.8	88.3
Total (25-69)	7.2	7144	11.3	6.7	91.2
Total (18-69)	**9.3**	**8170**	**13.2**	**6.7**	**85.9**

Chapter 5 Alcohol

Key findings

Alcohol Consumption

- In 2018, the prevalence of current alcohol consumption (people who consumed alcohol in the past 12 months) amongst all the adults was 4.4%. In addition, 1.5% of all adults were current drinkers (consumed alcohol in the past 30 days). 91.4% of adults were life-time abstainers and 4.4% were former drinks.

Heavy Episodic Drinking

- In the total population 0.8% of adults engaged in HED and amongst the current drinkers (past 30 days), 52.5% adults engaged in HED[21].

Unrecorded alcohol use

- In the total population, 0.3% of adults consumed unrecorded alcohol and amongst the current drinkers[22], 17.5% consumed unrecorded alcohol. Amongst the current drinkers, the proportion of unrecorded alcohol consumed as a fraction of overall alcohol was only 0.15%.

Introduction

In 2016, the harmful use of alcohol resulted in some 3 million deaths (5.3% of all deaths) worldwide and 5.1% of all DALYs in that year. Harmful use of alcohol caused some 1.7 million deaths from noncommunicable diseases in 2016, including some 1.2 million deaths from digestive and cardiovascular diseases (0.6 million for each condition) and 0.4 million deaths from cancers. Globally an estimated 0.9 million injury deaths were attributable to alcohol, including around 370 000 deaths due to road injuries, 150 000 due to self-harm and around 90 000 due to interpersonal violence. Of the road traffic injuries, 187 000 alcohol-attributable deaths were among people other than drivers. In the World Health Organization (WHO) South-East Asia Region, home to 1.9 billion people (29% of world's population), 1 in 20 deaths were attributed to alcohol consumption[23].

In 2018, WHO launched a SAFER initiative to reduce death, disease and injuries caused by the harmful use of alcohol using high-impact, evidence-based, cost-effective interventions.

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[21] Even though the prevalence of HED in general population is low, often, the adults who engage in HED are at high risk of dependency.

[22] For section 5.3, current drinkers are people who consumed alcohol in the past 30 days, unless specified otherwise.

[23]Global status report on alcohol and health 2018. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO

The SAFER action package

- **S** Strengthen restrictions on alcohol availability
- **A** Advance and enforce drink driving counter measures
- **F** Facilitate access to screening, brief interventions and treatment
- **E** Enforce bans or comprehensive restrictions on alcohol advertising, sponsorship, and promotion
- **R** Raise prices on alcohol through excise taxes and pricing policies

Current relevant policies and programs in Bangladesh for alcohol[24]

- Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases (2018–2025)[10]

- Bangladesh has had the intoxicant control act since the 1990s. The current policies entail a total ban on alcohol advertisement, promotions and sponsorships. There is provision for detection and penalties for marketing infringements. To restrict physical availability the country uses tools like licensing at different levels of alcohol market ((imports, production, distribution, retail sales), restriction on the days/hours of sale, and places and events where alcohol can be sold. Additionally, there is a ban on alcohol consumption in public places, and a total prohibition of alcohol sales and consumption (hence there is no legal minimum purchase age regulation).[19] Moreover, it has drunk-driving countermeasures such as specifying blood alcohol concentration limit (zero tolerance) for general population and drivers, random breath testing and penalties for drink driving. It also levies excise taxes on alcohol to reduce the affordability of alcoholic beverages.

- SDG Goal 3.5 aims for a relative reduction of 10% in per capita alcohol consumption by 2025. The same goal has been part of nine global NCD indicators as well and has been adopted in the Bangladesh's multisectoral action plan as well.

This chapter focuses on indicators related to patterns of alcohol consumption, incidence of heavy episodic drinking, including consumption of unrecorded alcohol. The survey used the whole core module related to alcohol included in WHO STEPs questionnaire version 3.2.[13] This information will help Bangladesh assess trends and progress towards alcohol control targets specified in its multisectoral action plan as well as evaluation of current policies and programs in place to reduce population alcohol consumption. These will also guide future policy and programs to reduce alcohol intake at population level.

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[24] World Health Organization. 2019. Making South-East Asia SAFER from alcohol-related harm: Current status and way forward.

5.1 Alcohol consumption – life-time abstainers, former drinks, and current drinks[25]

The prevalence of alcohol consumption has been calculated by asking all the adults if they have ever consumed alcohol (beer, wine, spirits, *tari, cholai, ram, bangla, chuani, keru*, vodka, gin, whisky) and if they have consumed in the past 12 months and in the past 30 days. In 2018, the prevalence of current alcohol consumption (people who consumed alcohol in the past 12 months) amongst all the adults was 4.4% and that of life-time abstainers was 91.4%. 4.4% were former drinkers. 1.5% of all adults reported consuming alcohol in the past 30 days.

Figure 5.26 Proportion of all adults (18-69 years) that consumed alcohol (former, current – consumption in past 12 months and 30 days), Bangladesh STEP Survey 2018
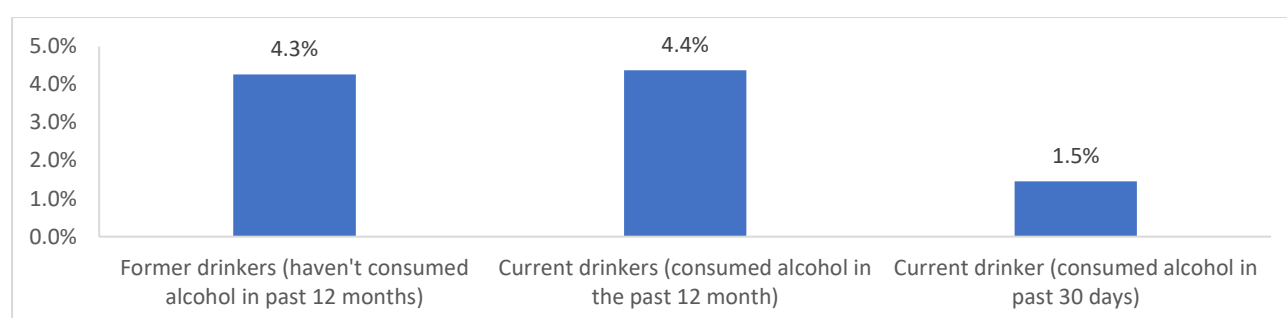
Patterns by background characteristics

- With an increase in age, the proportion of current drinkers (those who consumed in the past 12 months and 30 days) declined. 7.7% adults in the age group 18-24 years were current drinkers[26], and this proportion declined with an increase in age, going down to 0.6% for adults in 55-69 years of age. Correspondingly, the proportion of life time abstainers increased with an increase in age (not shown in graph[27]). See **Figure 5.27**

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[25] Alcohol use referenced includes current drinks who consumed alcohol in the past 12 months, unless otherwise stated)

[26] (consumed alcohol in the past 12 months. For the purpose of section 5.1 current drinkers would refer to people who consumed alcohol in the past 12 months, unless otherwise stated)

[27] See Table 5.1

Figure 5.27 Differentials in proportion of current and former drinkers, amongst all adults age 18-69 years - by age, Bangladesh STEP Survey, 2018
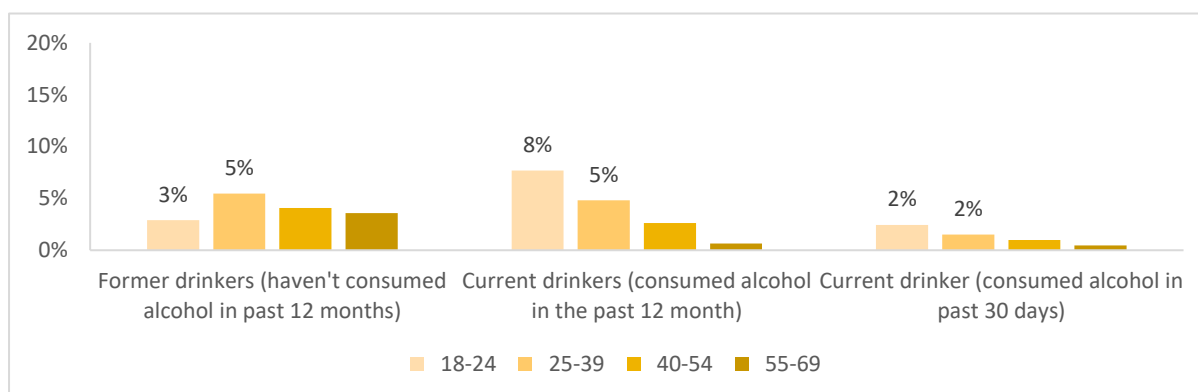
- Men were significantly more likely to consume alcohol than women. 0.2% of women were current drinkers[28], compared to 8.7% of men.
- Urban areas had a higher current use of alcohol in the past 12 months as compared to rural areas (6.5% versus 3.8%).
- Dhaka and Rajshahi had the highest prevalence of current alcohol consumption in the country (6% for both), compared to the national average of 4.4%. Barishal had the highest prevalence of current alcohol consumption, 1.1%. See
- **Figure *5.28***

Figure 5.28 Variations in proportion of current drinkers, amongst all adults age 18-69 years - by division, Bangladesh STEP Survey, 2018
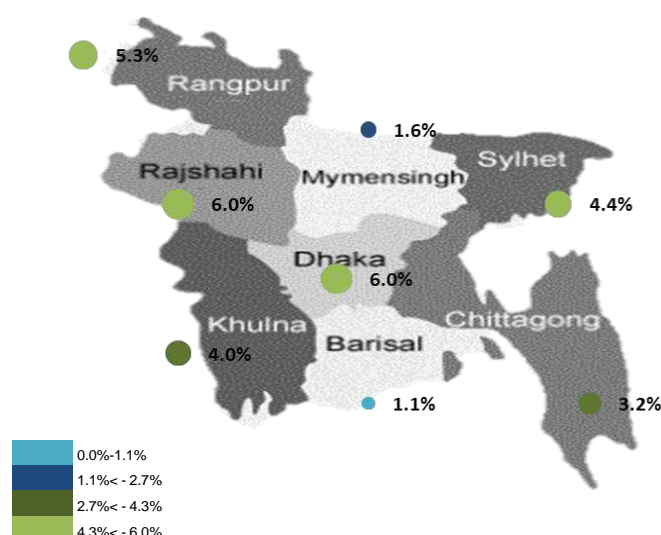
- Proportion of current drinkers increased with an increase in the level of education and increased with household wealth. The highest proportion of current drinkers (6.2%) had

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[28] Consumed alcohol in the past 12 months.

more than secondary level of education and 6.6%, belonged to the highest wealth quintile.

- Correpondingly though, the proportion of former drinkers also increased with an increase in levels of education and wealth. see

- **Figure *5.29* A & B.**

Figure 5.29 Differentials in proportion of former and current drinkers, amongst all adults age 18-69 years - by levels of education (A) and wealth (B), Bangladesh STEP Survey, 2018
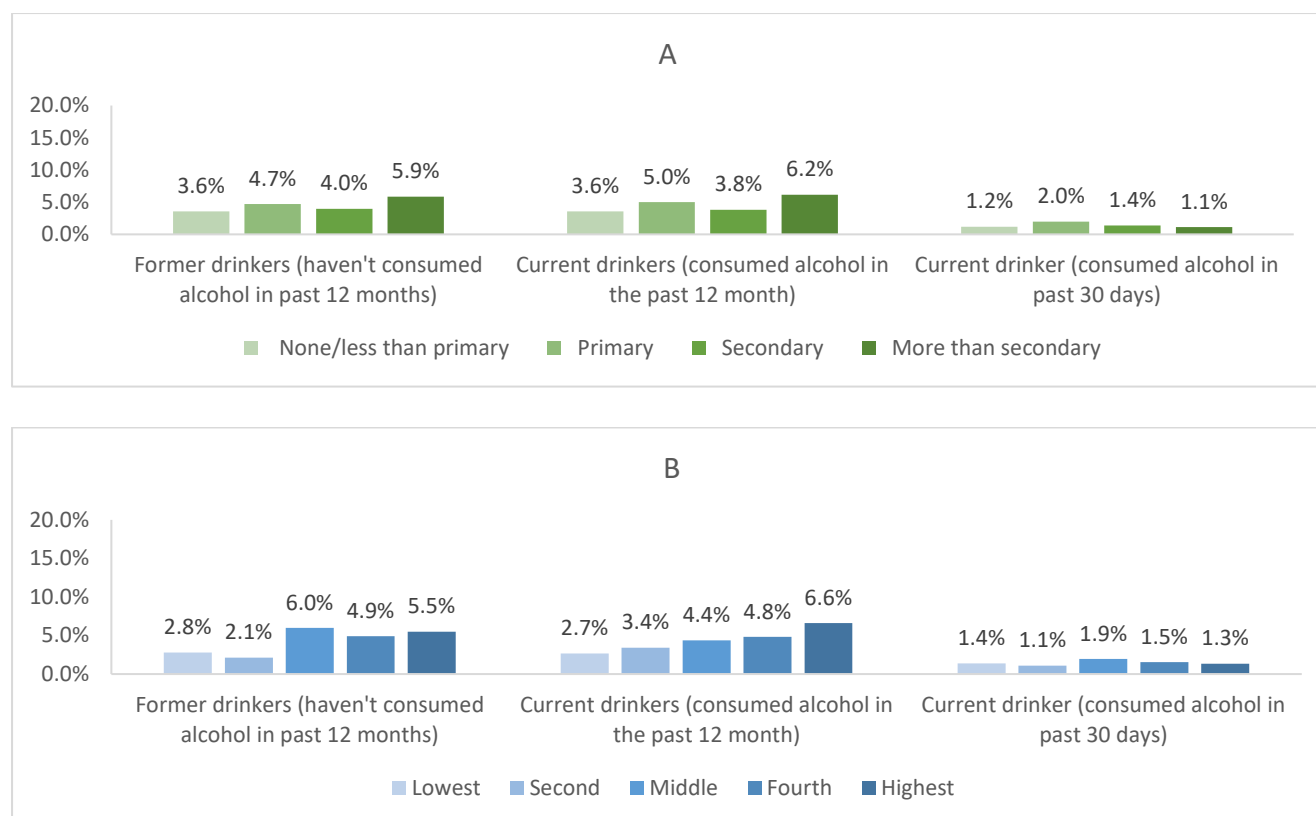
5.2 Heavy episodic drinking

Heavy episodic drinking (HED) is defined as consumption of 60 or more grams of pure alcohol (6+ standard drinks in most countries) on at least one single occasion in the 30 days prior to survey[29]. The indicator is presented in the overall population (among all adults irrespective of their drinking status) as well as among current drinkers only (those who consumed any alcohol within the past 30 days). In the total population 0.8% of adults engaged in HED and amongst the current drinkers, 52.5% adults engaged in HED[30].

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[29] For section 5.2, current drinkers would refer to people who consumed alcohol in the past 30 days, unless otherwise specified. The denominator for the proportions of adults would be total population and current drinkers who consumed alcohol in the past 30 days.

[30] Even though the prevalence of HED in general population is low, often, the adults who engage in HED are at high risk of dependency.

Patterns by background characteristics

- The incidence of HED drinking decreased with increasing age in the total population. However, there was no significant pattern in HED amongst current drinkers. In the total population, 1.6% of adults in the age group 18-24 years indulged in HED, which declined to 0.2% among 55-69-year olds. Amongst current drinkers, the variation in incidence of HED ranged from 46.5% to 63.6%.

Figure 5.30 Differentials in incidence of HED, amongst all adults (A) and amongst current drinkers (B), aged 18-69 years - by age, Bangladesh STEP Survey, 2018
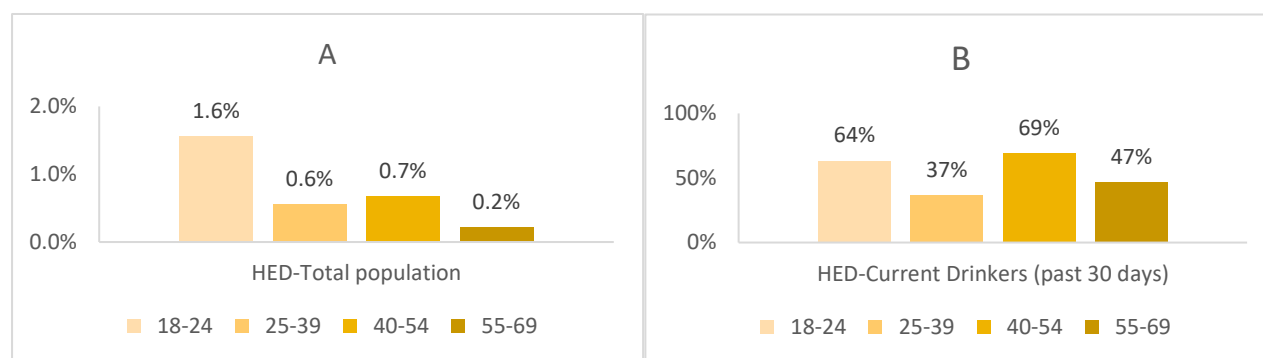
- A higher proportion of men engaged in HED than women. 1.5% of men (in total population) engaged in HED compared to 0.02% of women. However, amongst the current drinkers, 55.1% of women engaged in HED, compared to 52.2% of men.

- Amongst the current drinkers, HED was higher in rural areas compared to urban areas (55.1% versus 44.7%). There wasn't any difference in prevalence of HED in urban and rural areas, for the entire population.

- Barring Rajshahi (1.2%) and Sylhet (2.3%), the incidence of HED in all the other divisions was less than 1% for the total population[31]. However, amongst the current drinkers, there were massive variations in incidence of HED across divisions. The highest being in Mymensingh (100%), Sylhet (86.8%) and Barishal (92%).[32] **Figure 5.31**

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[31] See Table 5.2
[32] HED in total population See Table 5.2

Figure 5.31 Variations in incidence of HED amongst current drinkers, aged 18-69 years - by division, Bangladesh STEP Survey, 2018
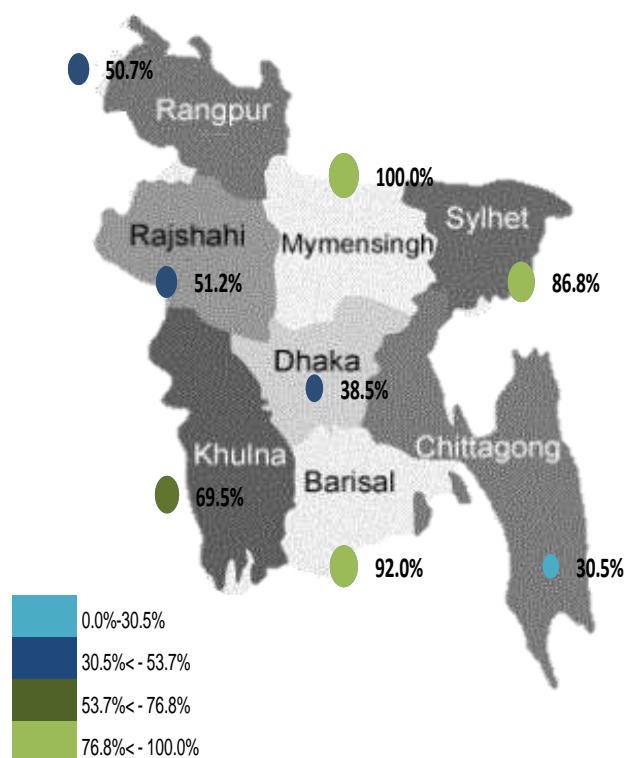
- While the engagement in HED drinking had no significant patterns with increase in levels of education and wealth in the total population, the incidence of HED did follow a slight u-shaped. There is no consistent trend of HED with household wealth.

- Amongst the current drinkers, there was a clear increase in incidence of HED with an increase in education. The incidence of HED followed a similar slight u-shaped pattern with an increase in wealth. **Figure 5.32**

Figure 5.32 Differentials in incidence of HED, amongst all adults (A) and amongst current drinkers (B), aged 18-69 years - by levels of education (IA and IB) and wealth (IIA and IIB), Bangladesh STEP Survey, 2018
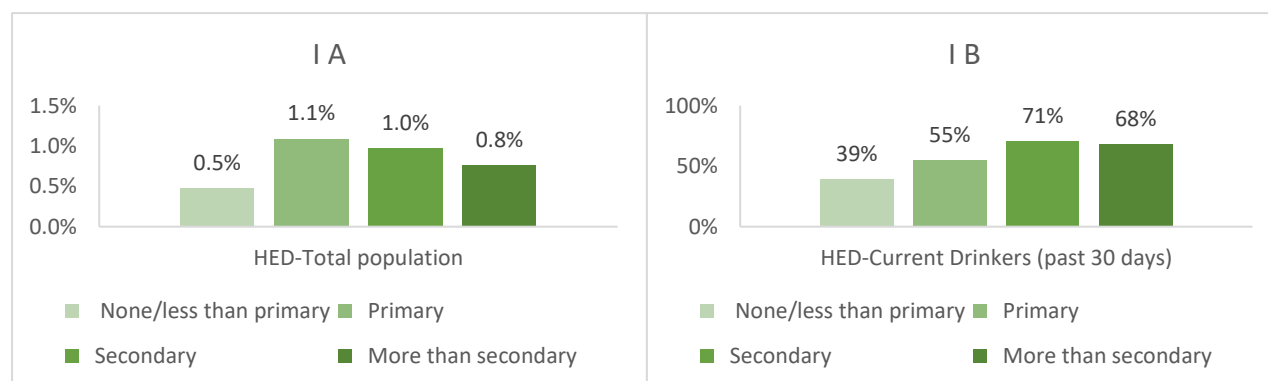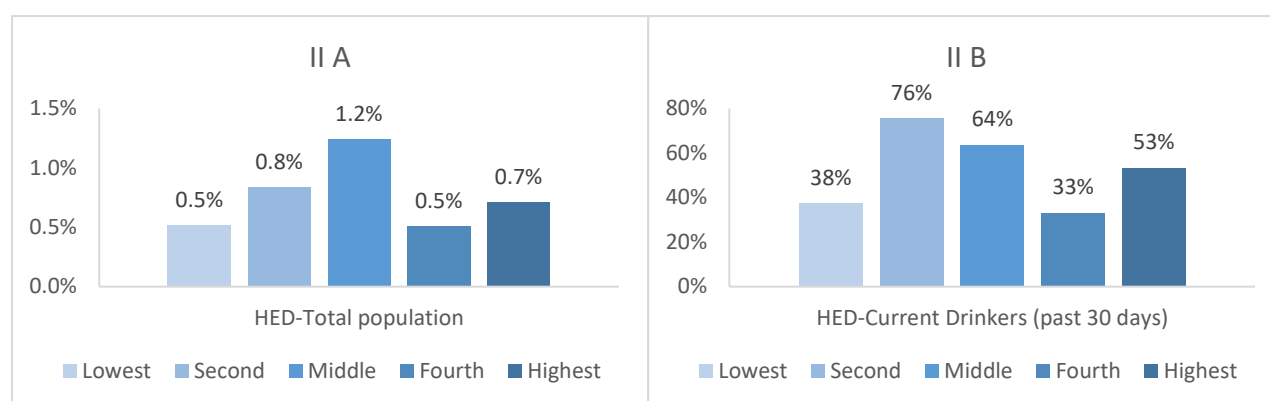
5.3 Unrecorded Alcohol use

Unrecorded alcohol refers to alcohol that is not taxed in the country where it is consumed because it is usually produced, distributed and sold outside the formal channels under government control. Unrecorded alcohol consumption in a country includes consumption of home-made or informally produced alcohol (legal or illegal), smuggled alcohol, alcohol intended for industrial or medical uses and alcohol obtained through cross-border shopping (which is recorded under a different jurisdiction). Sometimes, these alcoholic beverages are traditional drinks that are produced and consumed in the community or in homes. Home-made or informally produced alcoholic beverages are mostly fermented products made from sorghum, millet, maize, rice, wheat or fruits. All adults who ever consumed alcohol were asked if they consumed unrecorded alcohol (homebrewed, untaxed, cross-border or alcohol not intended for drinking) in the past 7 days and the number of standard drinks of unrecorded alcohol. In the total population, 0.3% of adults consumed unrecorded alcohol.

Patterns by background characteristics

- In the total population, the consumption of unrecorded alcohol was less than 0.5% across all age groups, and followed a u-shaped pattern. Amongst the current drinkers, the proportion of adults consuming unrecorded alcohol increased with an increase in age. Mean percentage of unrecorded alcohol consumed as a fraction of total alcohol consumption amongst current drinkers follows the same trend[33]. **Figure 5.33.**

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[33] See Table 5.3

Figure 5.33 Differentials in consumption of unrecorded alcohol, amongst all adults (A) and amongst current drinkers (B), aged 18-69 years - by age, Bangladesh STEP Survey, 2018
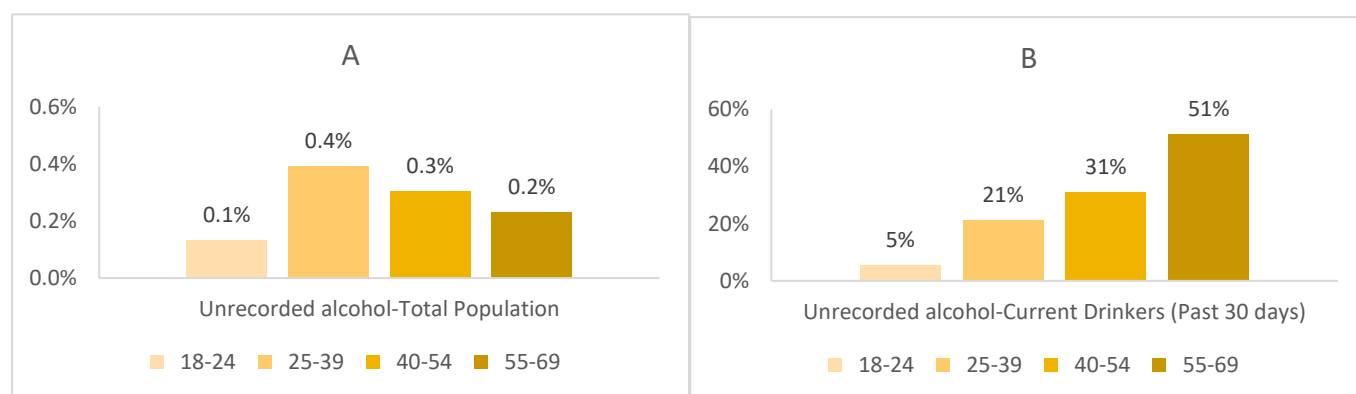
- 0.6% of men consumed unrecorded alcohol in the total population and 17.7% of men consumed it amongst the current drinkers. No women reported any consumption of unrecorded alcohol.

- There weren't significant differentials in consumption of unrecorded alcohol in urban-rural areas– both in the total population and amongst current drinkers.

- In the total population, the consumption of unrecorded alcohol was less than 0.5% across all levels of education and wealth, and followed a slightly skewed u-shaped pattern.

- Amongst the current drinkers, with increasing levels of education, there was a decrease in consumption of unrecorded alcohol. 25.1% of adults with no or less than primary education were the highest consumers of unrecorded alcohol, whereas only 6.9% and 9.2% of current drinkers, with secondary or more than secondary education reported consuming unrecorded alcohol.

- There was no significant pattern in consumption of unrecorded alcohol and increase in wealth.

Figure 5.34 Differentials in consumption of unrecorded alcohol, amongst all adults (A) and amongst current drinkers (B), aged 18-69 years - by levels of education (IA and IB) and wealth (IIA and IIB), Bangladesh STEP Survey, 2018
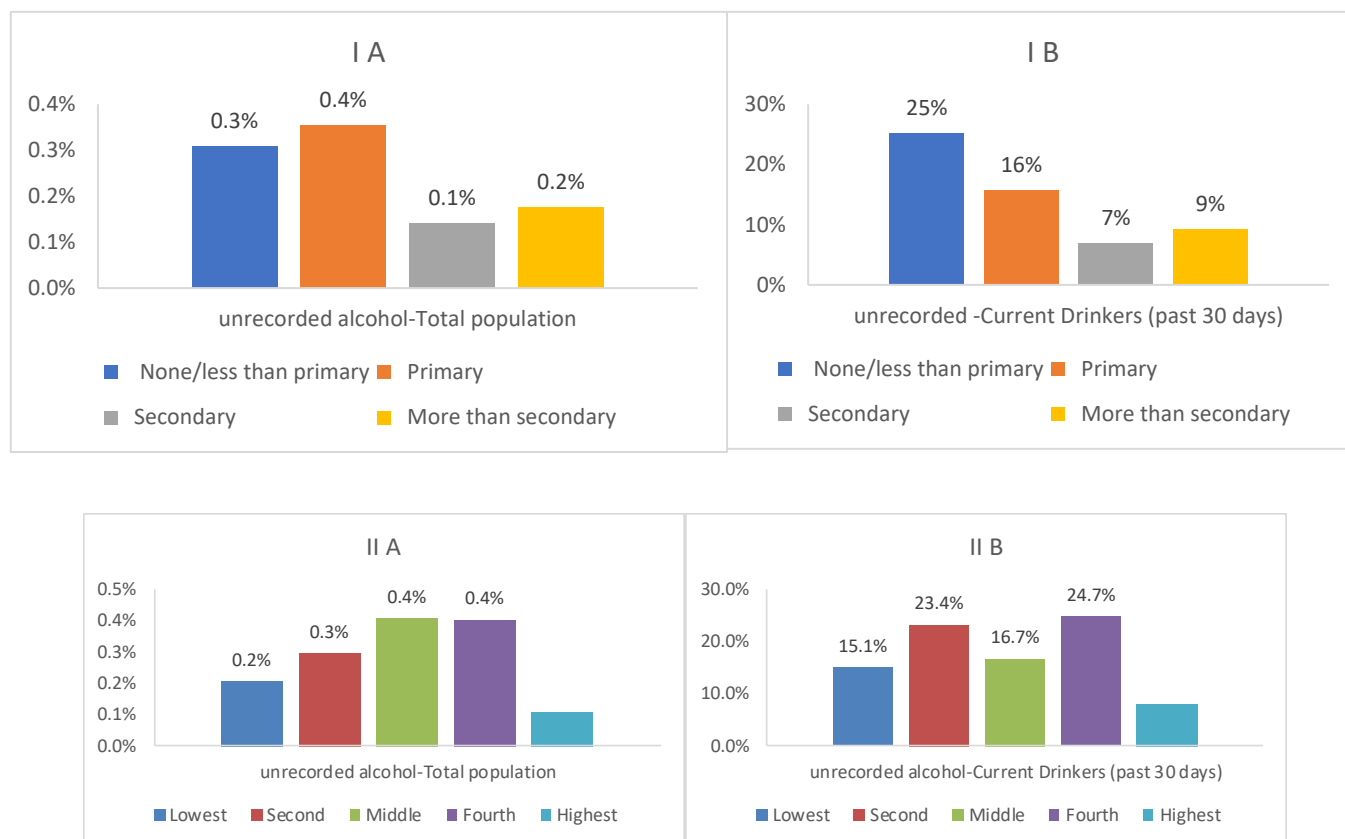
For more information on diet, see the following tables:

Table 5.1 Alcohol consumption: all participants: Percentage of people age 18-69 who are life abstainers, former drinkers and current drinkers; by background characteristics

Table Alcohol 5.2 Heavy episodic drinking: in total population and among current drinkers

Table Alcohol 5.3 Consumption of unrecorded alcohol

Table 5.1 alcohol consumption: all participants

Percentage of people age 18-69 who are life abstainers, former drinkers and current drinkers; by background characteristics, [Bangladesh, 2018]

Background characteristic	Life-time abstainers (Never consumed alcohol)	Former drinkers (haven't consumed alcohol in past 12 months)	Current drinkers (consumed alcohol in the past 12 month)	Consumed alcohol in past 12 months			Current drinker (consumed alcohol in past 30 days)	No. of People
				Daily or almost daily	1-4 days/ week	1-3 days/months or < than a month		
Age								
18-24	89.4	2.9	7.7	0.0	0.388	7.296	2.4	1026
25-39	89.7	5.5	4.8	0.4	0.520	3.890	1.5	3489
40-54	93.3	4.1	2.6	0.1	0.252	2.297	1.0	2503
55-69	95.8	3.6	0.6	0.0	0.207	0.385	0.4	1167
Sex								
Women	99.6	0.2	0.2	0.0	0.020	0.139	0.0	4381
Men	82.9	8.4	8.7	0.4	0.758	7.587	2.9	3804
Residence								
Rural	92.5	3.7	3.8	0.2	0.411	3.164	1.4	4183
Urban	87.4	6.1	6.5	0.2	0.287	6.032	1.8	4002
Division								
Barishal	96.4	2.5	1.1	0.0	0.000	1.063	0.3	986
Chattogram	93.9	2.9	3.2	0.5	0.538	2.185	1.5	1053
Dhaka Rural	86.0	8.1	6.0	0.0	0.187	5.796	1.3	997
Khulna	92.2	3.8	4.0	0.0	0.000	4.013	1.3	1040
Mymensingh	96.5	1.9	1.6	0.0	0.161	1.432	0.6	1021
Rajshahi	90.9	3.2	6.0	0.3	0.427	5.285	2.3	1066
Rangpur	91.7	3.0	5.3	0.3	0.577	4.408	1.5	1009
Sylhet	92.0	3.7	4.4	0.2	1.554	2.621	2.7	1013
Education								
None/less than primary	92.8	3.6	3.6	0.4	0.3154	2.888	1.2	3678
Primary	90.3	4.7	5.0	0.1	0.5357	4.424	2.0	2533
Secondary	92.2	4.0	3.8	0.0	0.3104	3.511	1.4	888
More than secondary	88.0	5.9	6.2	0.0	0.32	5.846	1.1	1065
Wealth quintile								
Lowest	94.5	2.8	2.7	0.7	0.171	1.845	1.4	1639
Second	94.5	2.1	3.4	0.1	0.267	3.039	1.1	1670
Middle	89.7	6.0	4.4	0.1	0.479	3.817	1.9	1451
Fourth	90.3	4.9	4.8	0.0	0.444	4.356	1.5	1506
Highest	87.9	5.5	6.6	0.0	0.558	5.997	1.3	1919
Total (18-39)	89.6	4.5	5.9	0.2	0.470	5.171	1.9	4515
Total (40-69)	94.4	3.9	1.7	0.1	0.231	1.422	0.7	3670
Total (25-69)	92.0	4.7	3.3	0.2	0.382	2.710	1.1	7159
Total 18-69	**91.4**	**4.3**	**4.4**	**0.2**	**0.4**	**3.8**	**1.5**	**8185**

Table alcohol.5.2 Heavy episodic drinking: total

Percentage of population aged 18-69 years who engaged in heavy episodic drinking (drank 6 or more standard drinks in a single occasion) in the past 30 days, by background characteristics, [Bangladesh, 2018]

Background characteristic	In total population		Among current drinkers	
Age				
18-24	1.6	1026	63.6	20
25-39	0.6	3489	36.5	50
40-54	0.7	2503	69.2	27
55-69	0.2	1167	46.9	9
Sex				
Women	0.0	4381	55.1	3
Men	1.5	3804	52.2	103
Residence				
Rural	0.8	4183	55.1	43
Urban	0.8	4002	44.7	63
Division				
Barishal	0.2	986	92.0	2
Chattogram	0.4	1053	30.5	18
Dhaka Rural	0.5	997	38.5	11
Khulna	0.9	1040	69.5	12
Mymensingh	0.6	1021	100.0	7
Rajshahi	1.2	1066	51.2	15
Rangpur	0.7	1009	50.7	17
Sylhet	2.3	1013	86.8	24
Education				
None/less than primary	0.5	3678	39.2	42
Primary	1.1	2533	54.5	41
Secondary	1.0	888	70.9	15
More than secondary	0.8	1065	67.9	8
Wealth quintile				
Lowest	0.5	1639	37.5	19
Second	0.8	1670	75.6	16
Middle	1.2	1451	63.7	22
Fourth	0.5	1506	33.1	26
Highest	0.7	1919	53.4	23
Total (18-39)	0.9	4515	49.8	70
Total (40-69)	0.5	3670	63.0	36
Total (25-69)	0.5	7159	44.64	86
Total 18-69	**0.8**	**8185**	**52.2**	**106**

Table Alcohol 5.3 Consumption of unrecorded alcohol

Percentage of population aged 18-69 years who reporting consuming unrecorded alcohol* in the past 7 days in the past 30 days, by background characteristics, [Bangladesh, 2018]

Background characteristic	In total population		Percentage of current drinkers who drank unrecorded alcohol in the past 7 days		
	All %	n	All %	N	Mean percentage of total unrecorded alcohol out of total alcohol drank in the last 7 days
Age					
18-24	0.1	1026	5.3	20	0.1
25-39	0.4	3489	21.1	45	0.2
40-54	0.3	2503	30.8	26	0.2
55-69	0.2	1167	51.3	9	0.2
Sex					
Women	0.0	4381	0.0	3	0.0
Men	0.6	3804	17.7	97	0.2
Residence					
Rural	0.3	4183	18.4	42	0.2
Urban	0.4	4002	15.2	58	0.1
Division					
Barishal	0.0	986	8.0	2	0.0
Chattogram	0.1	1053	8.5	18	0.0
Dhaka Rural	0.2	997	14.4	11	0.1
Khulna	0.6	1040	33.9	9	0.3
Mymensingh	0.1	1021	13.6	7	0.1
Rajshahi	0.1	1066	4.0	14	0.0
Rangpur	0.5	1009	35.4	16	0.4
Sylhet	1.0	1013	38.1	23	0.3
Education					
None/less than primary	0.3	3678	25.1	41	0.2
Primary	0.4	2533	15.7	39	0.1
Secondary	0.1	888	6.9	13	0.1
More than secondary	0.2	1065	9.2	7	0.1
Wealth quintile					
Lowest	0.2	1639	15.1	19	0.2
Second	0.3	1670	23.4	15	0.2
Middle	0.4	1451	16.7	19	0.1
Fourth	0.4	1506	24.7	24	0.2
Highest	0.1	1919	8.2	23	0.1
Total (18-39)	0.3	4515	13.1	65	0.1
Total (40-69)	0.3	3670	36.6	35	0.2
Total (25-69)	0.3	7159	26.1	27	0.2
Total 18-69	0.3	8185	17.5	100	0.15

Current drinkers who consumed alcohol in the past 30 days

Chapter 6 Diet

Key findings

Consumption of fruits and vegetables and knowledge:

o Average servings of fruits and vegetables consumed per day: 2.6 servings (0.4 servings of fruit and 2.3 servings of vegetables per day).

o Prevalence of insufficient fruits and vegetables intake (< 5 servings a day): 89.6% in adults (89.3% women, 90.0% men).

Knowledge on recommended intake for fruits and vegetables:

o *Knowledge on recommended intake: Only 11.3% of adults reported the correct servings for recommended fruits and vegetables intake per day (12.5% women; 10.1% men).*

Fats and oils used for cooking:

o *Cooking oil/fats: Soybean oil (89.4%) is the most commonly used cooking oil for food preparation followed mustard oil (8.9%) and palm oil (1.2%).*

Consumption of outside-of-home meals and snacks:

o Meals eaten at a restaurant or takeaway per week: 1.2 times

o Snacks eaten per day: 0.8 times

Introduction

An unhealthy diet is one of the 5 main risk factors for NCDs and the promotion of a healthy diet is one of the recommended components for policies and programs in the Global Action Plan against NCDs[34]. WHO recommends mean population intake of least 5 servings (400g) of fruits and vegetables as part of a healthy balanced diet which provides a rich mix of nutrients and bioactive substances for the prevention of diet-related non-communicable diseases[35].

This chapter summarizes average fruits and vegetables consumption levels to reflect national average intake as well as populational knowledge on dietary recommendations on servings of fruits and vegetables to be consumed. Additionally, information on oils and fats used for meal preparation and average number of meals per day eaten that were not prepared at home were also summarized. The indicators presented will help Bangladesh

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[34] World Health Organization. The Updated Appendix of 3 of the Global Action Plan for the Prevention and Control of NCDs 2013-2020. World Health Organization. Global action plan for the prevention and control of NCDs 2013-2020. Geneva.
[35] Joint WHO/FAO Consultation on Diet, Nutrition and the Prevention of Chronic Diseases (2002: Geneva, Switzerland) Diet, nutrition and the prevention of chronic diseases: report of a joint WHO/FAO expert consultation, Geneva, 28 January – 1 February 2002.

assess current trends in dietary patterns and guide policy and programs targeting the improvement of population dietary intake. Salt intake is summarized in Chapter-6.

Summary of current national policy and programs[10]:

- Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases 2018-2025

- The Food Safety Act 2013 of Bangladesh provides basis to ensure safe food products including content labeling. Promote nutritional labeling, according to but not limited to international standards, in particular the Codex Alimentarius, for all pre-packaged foods including those for which nutrition or health claims are made.

- Disseminate the Bangladesh national dietary recommendations in mass media and through other channels.

- Conduct public campaigns through mass media and social media to inform consumers about a healthy diet that is high in fruits and vegetables and low in saturated fats, sugars and salt.

- Implement national salt reduction campaigns in mass media, schools and institutions.

- Support consumer protection groups in Bangladesh to advocate and discourage marketing of unhealthy foods and non-alcoholic beverages to children.

- Increase collaboration between salt/sodium reduction programmes and salt iodization programmes for increased public health gains and higher programme efficiency.

- Place a higher tax on sugar-sweetened beverages.

- Conduct counter advertisement to regulate marketing of unhealthy foods.

- Ban advertising, promotion and sponsorship of unhealthy diet.

6.1 Consumption of fruits and vegetables

Information on consumption levels of fruits and vegetables amongst adults was elicited by asking number of days fruits and vegetables are consumed and usual number of servings consumed each of these days.

Average daily consumption of fruits and vegetables was 2.6 servings amongst adults. Average daily fruit consumption was 0.4 servings compared with average daily vegetable consumption of 2.3 servings. The prevalence of inadequate intake of fruits and vegetables per day (i.e. less than 5 servings a day) was 89.6% (**Table 6.1 and Table 6.2**).

Patterns by background characteristics (Table 6.1 and Table 6.2):

Figure 6.1 Fruits and vegetables intake by education amongst adults aged 18-69, Bangladesh STEPs Survey 2018
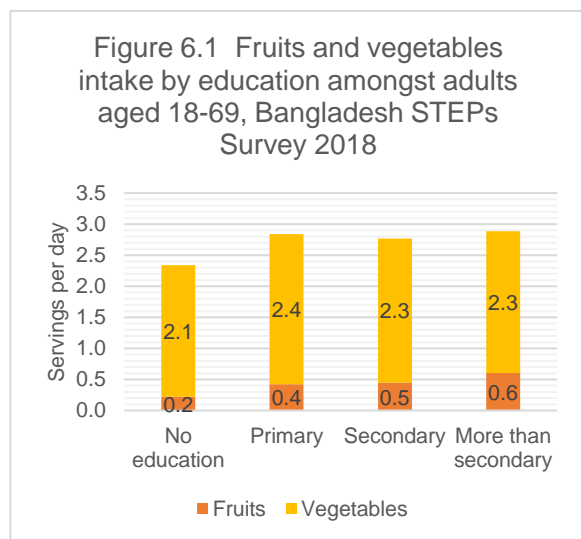
- Younger adults, urban residents, and those who are more educated (**Figure 6.1**) and wealthier (**Figure 6.2**) have higher average fruit consumption than their counterparts.

- Vegetable intake did not vary significantly by age, sex, level of education (**Figure 6.1**) or household wealth (**Figure 6.2**).

- Adults aged 25-39 had the lowest prevalence of inadequate fruits and vegetables intake and the highest prevalence was amongst adults aged 55-69.

- Prevalence of inadequate fruits and vegetables intakes are higher amongst adults who are urban residents, with lower education and are less wealthy (**Figure 6.3**)

- Highest prevalence of inadequate consumption of fruits and vegetable was in Rangpur (95.6%), and lowest was in Khulna (72.1%).

6.2 Knowledge on recommended fruits and vegetable intakes

Only 11.3% of adults reported the correct amount of servings for recommended intake of fruits and vegetables. This question is included in the Bangladesh survey for the first time.

Figure 6.2 Fruits and vegetables intake by wealth amongst adults aged 18-69, Bangladesh STEPs Survey 2018

Figure 6.3 Differentials in prevalence of inadequate intakes of fruits and vegetables by residence, education and wealth amongst adults aged 18-69, Bangladesh STEPs Survey 2018
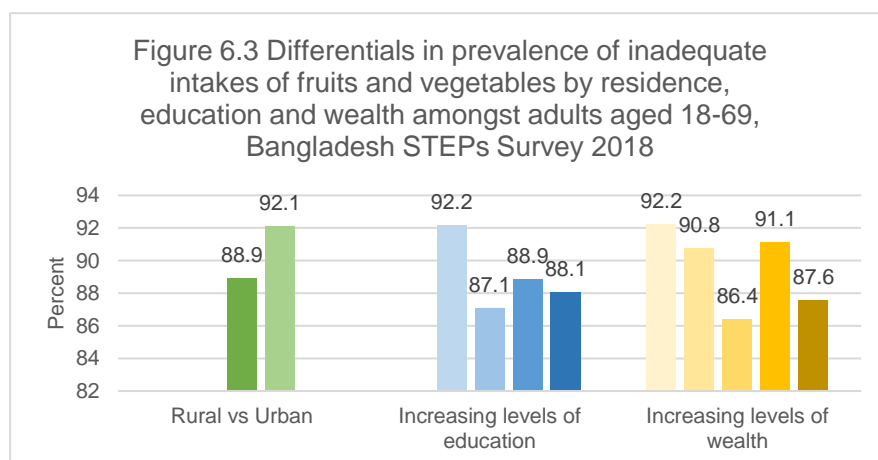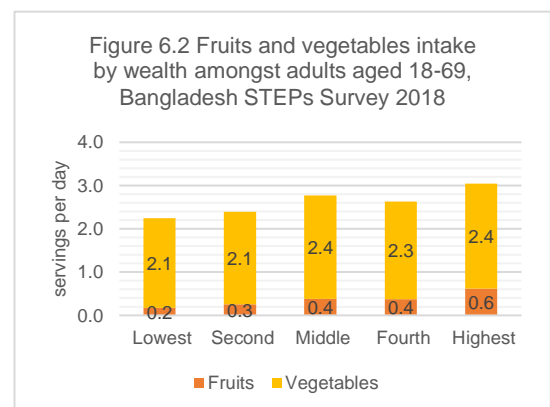
Patterns by background characteristics (Table 6.3):

- The proportion of adults with correct knowledge is low across all age groups.
- Adults who are women, rural residents and more educated (**Figure 6.4**) are more aware of the recommendation.
- Adults with the highest household wealth are most aware of recommendations however large variation exists across other wealth quintiles.
- Awareness is high in Khulna (33.4%), Mymensingh (16.6%) and Sylhet (26.3%), which are also the divisions with the highest prevalence of adequate fruits and vegetables intakes as noted before. (**Figure 6.6**)

6.3 Fats and oils used for cooking and outside-of-home food consumption (Table 6.4)

Most commonly used cooking oil for food preparation is soybean oil (89.4%) followed by mustard oil (8.9%) and palm oil (1.2%).

Patterns by background characteristics (Table 5.4):

- Use of soybean oil increases with increased wealth and education level, while the opposite occurs with mustard oil (**Figure 6.5 and Figure 6.6**).

Figure 6.4 Awareness of recommendations for fruits and vegetables intake by education amongst adults aged 18-69, Bangaldesh STEPS Survey 2018

Figure 6.5 Use of cooking oils by wealth amongst adults aged 18-69, Bangladesh STEPs Survey 2018

Figure 6.6 Use of cooking oils by education amongst adults aged 18-69, Bangladesh STEPs Survey 2018
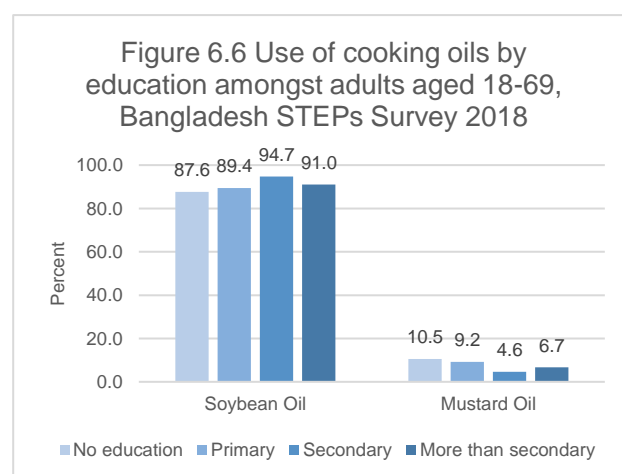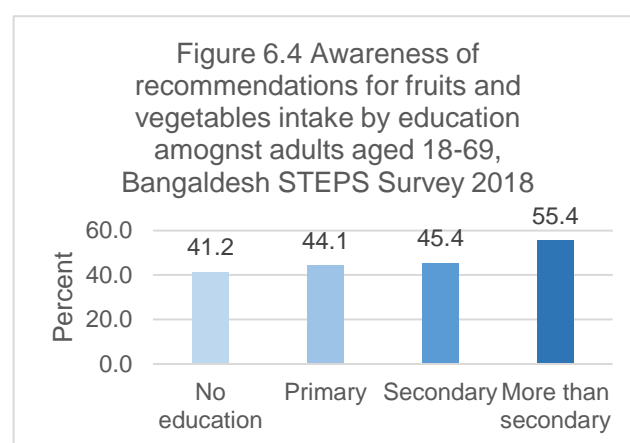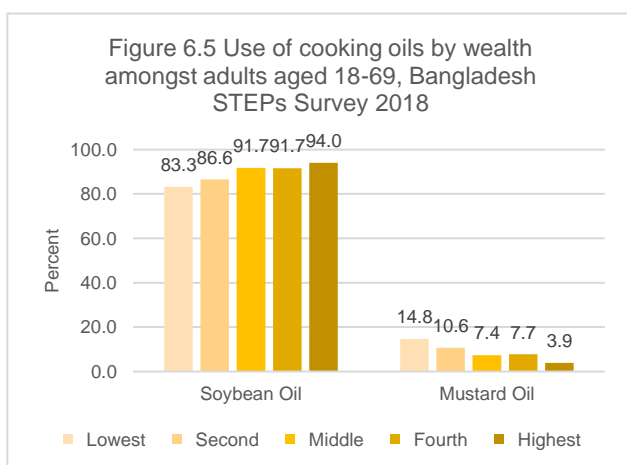
6.4 Consumption of outside-of-home meals and snacks (Table 6.5)

Adults eat on average 1.2 times per week meals from a restaurant or takeaway and eat snacks such as *singara, samucha, puri*, chips and *chanachur* 0.8 times per day.

Patterns by background characteristics (Table 6.5):

- Adults who are men, younger and urban residents consume meals from outside-of-home significantly and snacks more often than their counterpart.
- Consumption of outside-of-home meals did not differ by education or household wealth.
- Consumption of snacks increased with increased household wealth

List of Tables:

For more information on diet, see the following tables:

Table Diet 6.1 Mean Servings of fruit and vegetable consumption.

Table Diet 6.2 Prevalence of adequate consumption of fruits and vegetable

Table Diet 6.3 Knowledge on adequate fruits and vegetable recommendations

Table Diet 6.4 Types of oil or fat most often used for meal preparation

Table Diet 6.5 Frequency of eating meals not prepared at a home

Table Diet.6.1 Mean Servings of fruit and vegetable consumption: Total

Mean number of servings of fruit and vegetable intake per day of adults aged 18-69, according to background characteristics [Bangladesh 2018]

Background characteristic	Mean servings of fruit intake per day:				Mean servings of vegetable intake per day:				Mean servings of fruit and vegetable intake per day*:			
	Mean	95% CI		Number of adults	Mean	95% CI		Number of adults	Mean	95% CI		Number of adults
Age												
18-24	0.4	0.4	0.5	1016	2.3	2.1	2.5	1020	2.7	2.5	2.9	1026
25-39	0.4	0.3	0.4	3396	2.4	2.2	2.5	3456	2.7	2.6	2.9	3483
40-54	0.3	0.3	0.3	2413	2.2	2.1	2.3	2485	2.5	2.3	2.6	2499
55-69	0.3	0.2	0.3	1106	2.1	1.9	2.2	1151	2.3	2.1	2.5	1161
Sex												
Women	0.4	0.3	0.4	4336	2.4	2.2	2.5	4342	2.7	2.6	2.8	4379
Men	0.4	0.3	0.4	3595	2.2	2.0	2.3	3779	2.5	2.3	2.7	3790
Residence												
Rural	0.3	0.3	0.4	4034	2.4	2.2	2.5	4148	2.7	2.5	2.8	4173
Urban	0.5	0.4	0.5	3897	1.9	1.8	2.1	3973	2.4	2.2	2.5	3996
Division												
Barishal	0.3	0.3	0.4	976	1.7	1.5	1.9	983	2.0	1.7	2.3	986
Chattogram	0.3	0.2	0.3	1037	2.0	1.7	2.2	1052	2.3	2.0	2.5	1052
Dhaka Rural	0.4	0.3	0.5	992	2.0	1.8	2.2	996	2.4	2.2	2.6	997
Khulna	0.6	0.5	0.7	1025	3.4	2.9	3.9	1005	3.9	3.4	4.4	1039
Mymensingh	0.3	0.2	0.3	969	2.6	2.3	3.0	1016	2.9	2.5	3.3	1017
Rajdhani	0.3	0.3	0.4	1038	2.2	2.0	2.4	1053	2.5	2.2	2.8	1060
Rangpur	0.3	0.2	0.3	939	1.8	1.6	1.9	1005	2.0	1.8	2.2	1006
Sylhet	0.3	0.2	0.3	955	3.2	2.8	3.7	1011	3.5	3.0	3.9	1012
Education												
No education	0.2	0.2	0.2	3517	2.1	2.0	2.3	3639	2.3	2.2	2.5	3668
Primary	0.4	0.4	0.5	2473	2.4	2.3	2.6	2517	2.8	2.7	3.0	2530
Secondary	0.5	0.4	0.5	874	2.3	2.1	2.5	883	2.7	2.5	3.0	886
More than secondary	0.6	0.5	0.7	1047	2.3	2.1	2.5	1061	2.9	2.7	3.1	1064
Wealth quintile												
Lowest	0.2	0.1	0.2	1565	2.1	2.0	2.3	1612	2.3	2.1	2.5	1631
Second	0.3	0.2	0.3	1606	2.1	2.0	2.3	1657	2.4	2.2	2.5	1668
Middle	0.4	0.3	0.4	1400	2.4	2.3	2.7	1443	2.9	2.7	3.1	1450
Fourth	0.4	0.3	0.4	1471	2.3	2.1	2.4	1497	2.6	2.4	2.8	1501
Highest	0.6	0.6	0.7	1889	2.4	2.1	2.5	1912	2.9	2.7	3.1	1919
Total (18-39)	0.4	0.4	0.4	4412	2.3	2.2	2.4	4485	2.7	2.6	2.8	4509
Total (40-69)	0.3	0.3	0.3	3519	2.1	2.0	2.3	3636	2.4	2.3	2.5	3660
Total (25-69)	0.3	0.3	0.4	6915	2.3	2.1	2.4	7101	2.6	2.5	2.7	7143
Total (18-69)	0.4	0.3	0.4	7931	2.3	2.2	2.4	8121	2.6	2.5	2.7	8169

*Respondents who's response was missing or who's response was "don't know" to one of either fruit or vegetable intake questions were assumed to be 0 and summed to produce mean fruits and vegetables intake. Respondents who's response was either missing or who's response was "don't know" to both fruits and vegetables intake questions were excluded from the total sample.

Table Diet.6.2 Prevalence of adequate consumption of fruits and vegetable*

Background characteristic	Total			Women			Men		
	<5 servings/day	>= 5 servings/day	Number of respondents (N)	<5 servings/day	>= 5 servings/day	Number of women (N)	<5 servings/day	> =5 servings/day	Number of men (N)
Age									
18-24	90.5	9.5	1026	89.7	10.3	621	91.4	8.6	405
25-39	87.3	12.7	3483	86.6	13.4	2017	88.0	12.1	1466
40-54	91.1	8.9	2499	91.6	8.4	1284	90.6	9.4	1215
55-69	92.3	7.7	1161	93.1	7.0	457	91.7	8.3	704
Sex									
Women	89.3	10.7	4379	N/A	N/A	N/A	N/A	N/A	N/A
Men	90.0	10.1	3790	N/A	N/A	N/A	N/A	N/A	N/A
Residence									
Rural	88.9	11.1	4173	88.7	11.3	2263	89.1	10.9	1910
Urban	92.1	7.9	3996	91.5	8.5	2116	92.7	7.3	1880
Division									
Barishal	94.9	5.1	986	93.1	6.9	540	96.9	3.1	446
Chattogram	94.9	5.1	1052	98.3	1.7	552	90.8	9.2	500
Dhaka	94.0	6.0	997	94.1	5.9	520	93.9	6.1	477
Khulna	72.1	27.9	1039	80.8	19.3	559	63.8	36.2	480
Mymensingh	83.0	17.1	1017	69.9	30.1	552	98.5	1.5	465
Rajdhani	92.8	7.2	1060	91.0	9.1	569	94.4	5.6	491
Rangpur	95.6	4.4	1006	93.6	6.4	542	97.6	2.4	464
Sylhet	76.5	23.5	1012	71.3	28.7	545	82.2	17.8	467
Education									
No education	92.2	7.8	3668	92.8	7.2	1958	91.5	8.5	1710
Primary	87.1	12.9	2530	86.9	13.1	1525	87.3	12.7	1005
Secondary	88.9	11.1	886	89.3	10.7	434	88.4	11.6	452
More than secondary	88.1	11.9	1064	82.1	17.9	441	91.4	8.6	623
Wealth quintile									
Lowest	92.2	7.8	1631	91.0	9.1	977	93.9	6.1	654
Second	90.8	9.2	1668	91.3	8.7	911	90.2	9.8	757
Middle	86.4	13.6	1450	85.5	14.5	725	87.1	12.9	725
Fourth	91.1	8.9	1501	90.2	9.8	718	92.0	8.0	783
Highest	87.6	12.4	1919	88.0	12.0	1048	87.1	12.9	871
Total (18-39)	88.5	11.5	4509	87.8	12.2	2638	89.2	10.8	1871
Total (40-69)	91.7	8.3	3660	92.2	7.8	1741	91.1	8.9	1919
Total (25-69)	89.4	10.6	7143	89.2	10.8	3758	89.5	10.5	3385
Total (18-69)	89.6	10.4	8169	89.3	10.7	4379	90.0	10.1	3790

*Respondents who's response was missing or who's response was "don't know" to one of either fruit or vegetable intake questions were assumed to be 0 and summed to produce mean fruits and vegetables intake. Respondents who's response was either missing or who's response was "don't know" to both fruits and vegetables intake questions were excluded from the total sample.

Table Diet.6.3 Knowledge on adequate fruits and vegetable recommendations

Percent of men and women aged 18-69 who are aware of adequate fruits and vegetables intake recommendations, according to background characteristics [Bangladesh, 2018]

Background characteristic	Total				Women				Men			
	<5 servings / day)	>= 5 servings/ day	Don't know	Number of adults (N)	<5 servings / day)	>= 5 servings/ day	Don't know	Number of women (N)	<5 servings / day)	>= 5 servings/ day	Don't know	Number of men (N)
Age												
18-24	47.3	11.9	40.8	1026	50.6	12.9	36.5	621	43.2	10.7	46.1	405
25-39	45.2	11.7	43.1	3489	50.1	14.1	35.8	2019	40.1	9.3	50.7	1470
40-54	44.4	11.5	44.1	2503	51.0	11.5	37.5	1284	37.7	11.6	50.7	1219
55-69	38.0	9.2	52.8	1167	42.8	8.5	48.7	457	34.1	9.7	56.2	710
Sex												
Women	49.4	12.5	38.2	4381	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Men	39.2	10.1	50.7	3804	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Residence												
Rural	44.2	12.2	43.7	4183	49.6	13.5	36.9	2264	38.5	10.8	50.8	1919
Urban	44.9	8.3	46.7	4002	48.5	8.7	42.7	2117	41.5	8.0	50.5	1885
Division												
Barishal	43.8	2.2	54.0	986	28.5	2.5	68.9	540	60.0	1.8	38.2	446
Chattogram	61.0	5.0	34.1	1053	73.8	3.6	22.6	552	45.5	6.6	47.9	501
Dhaka Rural	37.9	7.8	54.3	997	30.3	6.5	63.2	520	45.1	9.2	45.7	477
Khulna	22.7	33.4	43.8	1040	25.6	34.8	39.6	560	20.0	32.1	47.9	480
Mymensingh	56.6	16.6	26.8	1021	43.0	24.9	32.1	552	72.7	6.8	20.5	469
Rajdhani	47.2	7.4	45.4	1066	68.6	4.0	27.3	569	28.3	10.4	61.4	497
Rangpur	43.9	3.2	52.9	1009	71.7	5.6	22.8	543	16.8	0.9	82.3	466
Sylhet	34.2	26.3	39.4	1013	35.9	42.2	21.9	545	32.4	8.9	58.7	468
Education												
No education	41.2	10.2	48.6	3678	47.7	10.6	41.8	1960	34.4	9.9	55.7	1718
Primary	44.1	12.6	43.3	2533	49.3	15.6	35.1	1525	37.2	8.6	54.2	1008
Secondary	45.4	10.0	44.6	888	47.7	9.9	42.4	434	43.3	10.2	46.6	454
More than secondary	55.4	13.4	31.2	1065	61.6	13.4	25.0	441	52.0	13.4	34.7	624
Wealth quintile												
Lowest	42.4	9.7	48.0	1639	50.9	11.9	37.2	978	31.2	6.7	62.2	661
Second	42.4	11.8	45.8	1670	49.6	14.3	36.1	912	34.8	9.2	56.0	758
Middle	46.0	12.5	41.5	1451	54.0	13.6	32.5	725	39.9	11.6	48.5	726
Fourth	43.4	9.3	47.3	1506	46.7	10.8	42.5	718	40.2	7.9	51.9	788
Highest	47.7	13.3	39.0	1919	46.2	11.8	42.0	1048	49.4	15.1	35.6	871
Total (18-39)	46.0	11.8	42.2	4515	50.3	13.6	36.1	2640	41.2	9.8	49.0	1875
Total (40-69)	41.5	10.4	48.1	3670	47.5	10.2	42.3	1741	36.0	10.6	53.4	1929
Total (25-69)	43.4	11.1	45.5	7159	48.9	12.3	38.8	3760	38.0	9.9	52.0	3399
Total (18-69)	44.3	11.3	44.3	8185	49.4	12.5	38.2	4381	39.2	10.1	50.7	3804

Table Diet.6.4 Types of oil or fat most often used for meal preparation

Percent of adults (18-69) who responded to using different types of oils/fat for meal preparation, according to background characteristics [Bangladesh, 2018]

Background characteristic	Percent of adults who responded to using different types of oils/fat for meal preparation:				Total (%)	Number of respondents (N)
	Soybean Oil	Palm Oil	Mustard Oil	Sunflower oil/Rice bran/ Ghee/ Others		
Age						
18-24	91.8	1.0	7.0	0.2	100.0	1026
25-39	89.6	1.0	8.9	0.5	100.0	3489
40-54	87.9	2.0	9.4	0.7	100.0	2503
55-69	87.5	0.9	11.1	0.5	100.0	1167
Sex						
Women	90.2	1.1	8.2	0.5	100.0	4381
Men	88.7	1.4	9.6	0.4	100.0	3804
Residence						
Rural	88.0	1.2	10.5	0.2	100.0	4183
Urban	94.3	1.1	3.4	1.1	100.0	4002
Division						
Barishal	79.5	11.5	8.9	0.1	100.0	986
Chattogram	92.5	0.4	7.0	0.1	100.0	1053
Dhaka Rural	92.3	0.6	6.1	1.0	100.0	997
Khulna	91.7	0.8	7.2	0.3	100.0	1040
Mymensingh	85.2	0.4	14.4	0.0	100.0	1021
Rajshahi	83.7	0.7	15.5	0.1	100.0	1066
Rangpur	87.5	0.7	11.6	0.2	100.0	1009
Sylhet	93.7	0.9	3.8	1.6	100.0	1013
Education						
No education	87.6	1.8	10.5	0.1	100.0	3678
Primary	89.4	1.1	9.2	0.3	100.0	2533
Secondary	94.7	0.3	4.6	0.4	100.0	888
More than secondary	91.0	0.5	6.7	1.8	100.0	1065
Wealth quintile						
Lowest	83.3	1.8	14.8	0.1	100.0	1639
Second	86.6	2.5	10.6	0.2	100.0	1670
Middle	91.7	0.8	7.4	0.1	100.0	1451
Fourth	91.7	0.5	7.7	0.1	100.0	1506
Highest	94.0	0.2	3.9	1.8	100.0	1919
Total (18-39)	90.4	1.0	8.2	0.4	100.0	4515
Total (40-69)	87.7	1.5	10.2	0.6	100.0	3670
Total (25-69)	88.7	1.3	9.5	0.5	100.0	7159
Total (18-69)	89.4	1.2	8.9	0.5	100.0	8185

Table Diet 6.5 Frequency of eating meals not prepared at a home

Mean number of times adults aged 18-69 eat in a restaurant or take away per week; mean number of times eat snacks per day, according to background characteristics [Bangladesh,2018]

Background characteristic	Mean number of times eat in a restaurant or take away per week:			Mean number of times eat snacks* per day			
	Mean	95%CI		Number of respondents (n)	Mean	95%CI		Number of respondents (n)
Age								
18-24	1.3	1.1	1.6	999	1.0	0.9	1.1	1014
25-39	1.4	1.3	1.6	3394	0.9	0.8	1.0	3422
40-54	1.2	1.1	1.4	2397	0.6	0.6	0.7	2416
55-69	0.7	0.5	0.8	1116	0.4	0.3	0.5	1122
Sex								
Women	0.3	0.2	0.4	4339	0.6	0.5	0.7	4343
Men	2.2	2.0	2.4	3567	0.9	0.8	1.0	3631
Residence								
Rural	1.1	1.0	1.2	4025	0.7	0.6	0.8	4084
Urban	1.7	1.5	2.0	3881	1.0	0.9	1.1	3890
Division								
Barishal	0.9	0.7	1.1	983	0.6	0.5	0.8	985
Chattogram	1.6	1.2	2.0	1038	0.8	0.6	0.9	1041
Dhaka	1.0	0.8	1.3	991	0.8	0.6	0.9	993
Khulna	0.7	0.5	0.9	1036	1.1	0.9	1.2	1039
Mymensingh	0.9	0.7	1.1	912	0.6	0.4	0.8	929
Rajshahi	1.5	1.2	1.8	1059	0.5	0.3	0.7	1059
Rangpur	1.7	1.4	2.1	967	1.0	0.8	1.3	972
Sylhet	1.3	1.0	1.6	920	0.8	0.7	0.9	956
Education								
No education	1.3	1.1	1.5	3548	0.6	0.6	0.7	3573
Primary	1.2	1.0	1.4	2450	0.9	0.8	0.9	2469
Secondary	1.2	0.9	1.4	859	0.9	0.8	1.0	877
More than secondary	1.2	0.9	1.4	1029	0.9	0.8	1.0	1034
Wealth quintile								
Lowest	1.0	0.8	1.2	1586	0.6	0.5	0.7	1593
Second	1.3	1.1	1.6	1606	0.7	0.6	0.8	1628
Middle	1.3	1.1	1.5	1390	0.9	0.8	1.0	1407
Fourth	1.3	1.1	1.5	1460	0.7	0.7	0.8	1470
Highest	1.2	1.0	1.5	1864	0.9	0.8	1.0	1876
Total (18-39)	1.4	1.2	1.5	4393	0.9	0.8	1.0	4436
Total (40-69)	1.0	0.8	1.1	3513	0.5	0.5	0.6	3538
Total (25-69)	1.2	1.1	1.3	6907	0.7	0.7	0.8	6960
Total (18-69)	1.2	1.1	1.4	7906	0.8	0.7	0.8	7974

*snacks suggested include: *singara, samucha, puri,* chips, *chanachur, fuchka, chotpoti, jhal muri*, salted biscuits etc.

Chapter 7 Dietary Salt

Key findings

Estimated salt intake

o Estimated average population salt intake based on spot urine testing is 9.0 grams per day (9.0g/d women, 9.0 g/d men)

Behaviors around dietary salt intake

o Adding salt to foods while eating**:** 48.2% of adults (51.5% of women, 44.9% of men) reported adding salt often or always to food right before or while eating.

o Adding salty sauces to foods while eating**:** 1.8% of adults (1.3% of women, 2.3% of men) reported adding salty sauce often or always to food right before or while eating.

o Consumption of processed foods**:** 13.5% of adults (16.0% of women, 10.9% of men) reported consuming processed foods often or always that are high in salt.

Perceptions about levels of salt intake

o Perception of salt intake**:** 61.2% of adults perceived their salt intake to be "just right" and only 13.5% of adults perceived it to be' far too much or too much'.

o Importance of salt reduction**:** 69.6 % of adults (70.0% of women, 69.2% of men) think that lowering salt is very important or somewhat important.

Knowledge on salt intake, recommendations and health consequences

o Knowledge on recommended intake**:** 73.9% of adults (73.6% of women, 74.2% of men) had incorrect knowledge on or did not know of the maximum amount of salt recommended for optimum health.

o Knowledge on health consequences**:** 36.8% of adults (32.6% of women, 41.2% of men) correctly identified the health consequences related to excessive salt or salty sauce intake.

Practices and methods to reduce salt intake

o 10.8% of adults (14.4% of women, 7.1% of men) reported currently doing something to reduce salt intake.

o The most common method reported to reduce salt intake was stopping or reducing added salt (93.3%); avoid eating foods prepared outside of home (66.2%); avoiding or minimizing consumption of processed foods (60.2%).

Introduction

Excessive salt intake is a major risk factor for hypertension, which is a major cause of premature deaths worldwide. WHO recommends consuming less than 2 grams of sodium or 5 grams of salt per day amongst adults to reduce blood pressure and the risk of cardiovascular disease,

stroke and coronary heart disease[36]. Policies to reduce salt intake (food product reformulation; establishing supportive environment in public institutions; communication and mass media campaigns; front-of-pack labelling) at population-level are one of the most cost-effective interventions or 'best buys' to prevent and control non-communicable diseases[37].

A 30% relative reduction in mean population intake of salt/sodium by 2025 relative to 2010 levels is one of the nine voluntary global targets set under WHO global action plan[38]. Bangladesh has also incorporated it as one of the key targets in its 3-year multisectoral action plan for 2018-2025[10] and its predecessor[39].

This chapter focuses on indicators related to dietary sodium intake by estimating average population 24-hour salt intake based on spot urine sodium and creatinine levels; assessing the knowledge, behaviours, perceptions and practice around salt intake. This information will help Bangladesh assess trends and progress towards salt intake targets specified in its multisectoral action plan as well as evaluation of current policies and programs in place to reduce population salt-intake. These will also guide future policy and programs to reduce salt intake at population level.

Current relevant policies and programs in Bangladesh for control of salt intake[4]:
- Food Item Based Dietary Guidelines (in development)
- Food labelling required based under The Food Safety Act 2013
- Regulation of salt content through Bangladesh Standards and Testing Institute (BSTI) and Bangladesh Food Safety Authority (BFSA)

7.1 Mean population 24-hour salt intake

Population mean salt intake can be assessed using 24-h urinary sodium excretion, however STEPs survey has, instead, adopted spot urine sodium as a proxy due to ease of collection of spot urine samples lower cost and higher response rates vis-à-vis 24-hour urine samples, in population-based household surveys. Three main studies investigated the estimation of 24-h urinary sodium excretion from spot urine samples in the literature: Kawasaki[40], INTERSALT[41]

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[36] WHO. Guideline: Sodium intake for adults and children. Geneva, World Health Organization (WHO), 2012.

[37] WHO. The Updated Appendix of 3 of the Global Action Plan for the Prevention and Control of NCDs 2013-2020.

[38] World Health Organization. Global action plan for the prevention and control of NCDs 2013-2020. Geneva.

[39] Strategic Plan for Surveillance and Prevention of Non-Communicable Diseases in Bangladesh 2011-2015. Dhaka: Non-communicable Disease Unit, Directorate General of Health Services.

[40] Kawasaki T, Itoh K, Uezono K, Sasaki H. A simple method for estimating 24 h urinary sodium and potassium excretion from second morning voiding urine specimen in adults. *Clin Exp Pharmacol Physiol*. 1993;20(1):7-14.

[41] Brown IJ, Dyer AR, Chan Q, et al. Estimating 24-Hour Urinary Sodium Excretion From Casual Urinary Sodium Concentrations in Western Populations. *American Journal of Epidemiology*. 2013;177(11):1180-1192. doi:10.1093/aje/kwt066

and Tanaka[42] (Refer to section 2.6 under Survey Methodology). So far, there is no scientific consensus on equation to be used in a given population/context. The estimation in this survey maintained the use of the same equation as in previous survey rounds to facilitate comparison of results and assessment of trends.

Using the Tanaka equation, the mean population salt intake was estimated to be 9.0 g per day amongst all adults (9.0 g/d for women, 9.0 g/d for men) (**Table 7.1**).

Patterns by background characteristics:

- Estimated salt intake generally did not vary by age, sex, education and household wealth quintile.
- Rural populations have higher mean salt intake compared to urban populations (9.0g/day versus 8.9g/day).
- Highest average salt intake was observed in Barishal division of 9.3g/day and lowest average (8.6 g/day) was observed in Sylhet (**Figure 7.1**).

7.2 Behaviour around dietary salt intake:

48.2% of adults reported adding salt often or always while only 1.8% adults reported so for adding salty sauces (**Table 7.2**). This shows that salty sauces are not an important source of salt intake in Bangladesh.

13.5% of adults report often or always consuming processed foods high in salt (16.0% women, 10.9% men) (**Table 7.4**).

An average of 1.1 teaspoon of extra salt is added to food based on self-reporting by adults (1.1 tsp women, 1.1 tsp men) (**Table 7.8**)

Figure 7.1 Differentials in estimated meaan salt intake by division amongst adults 18-69 years, Bangladesh STEPS Survey 2018
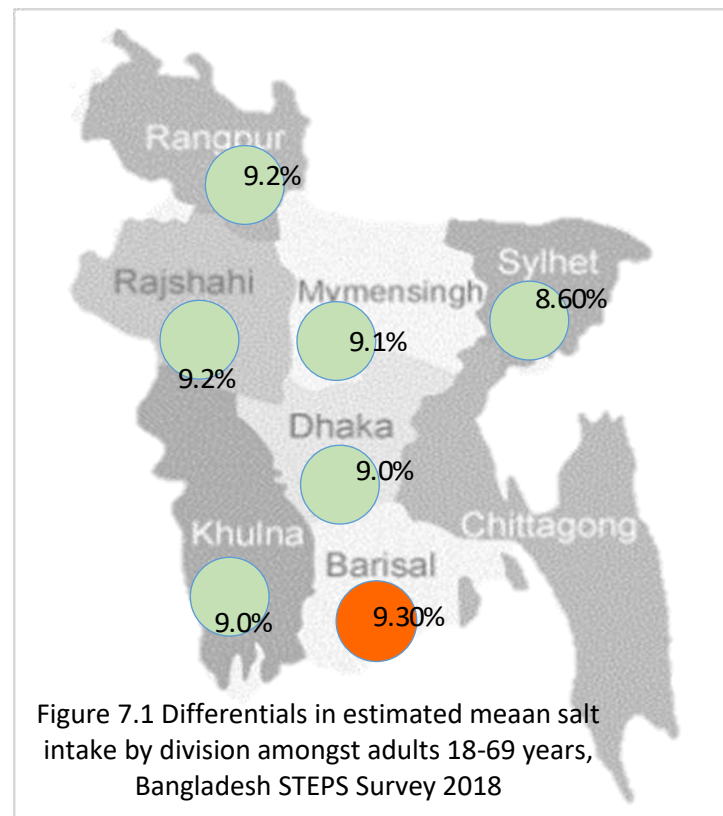
[42] Tanaka T, Okamura T, Miura K, et al. A simple method to estimate populational 24-h urinary sodium and potassium excretion using a casual urine specimen. *J Hum Hypertens*. 2002;16(2):97-103. doi:10.1038/sj.jhh.1001307

Patterns for adding salt and salty sauces by background characteristic (Table 7.2):

- A higher percentage of women 51.5% reported adding salt often or always compared to 44.9% of men. Though a reverse trend was seen for consumption of salty sauce (2.3% men vs 1.3% of women).

- Older adults, rural population, people from lower education levels and lower wealth quintile (**Figure 7.2 and Figure 7.3**) reported adding salt more frequently than their counterparts. The reverse relationship is seen for adding salty sauces.
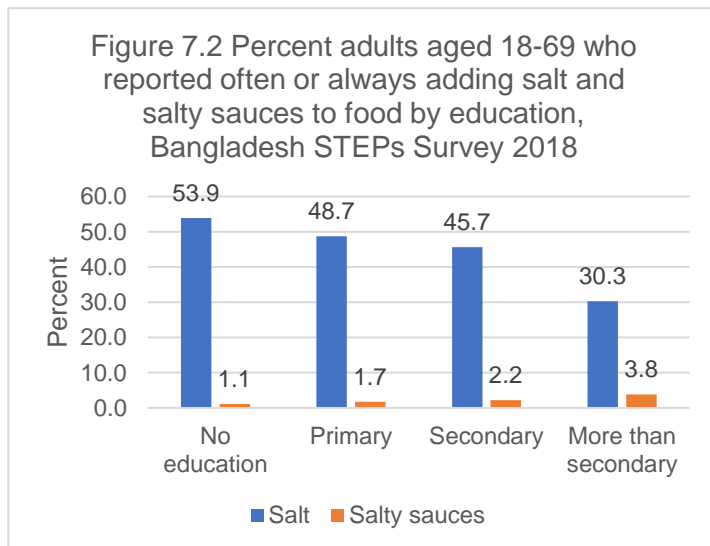
- Barishal (78.5%), and Rangpur (28.1%) had the highest and lowest proportion of adults, respectively, that reported adding salt often or always while eating.

Patterns for consumption of processed foods by background characteristic (Table 7.4):

- The percentage of adults who often or always consume processed foods increases with younger age, urban living, higher education and higher household wealth (**Figure 7.4, 7.5, 7.6**).

Figure 7.2 Percent adults aged 18-69 who reported often or always adding salt and salty sauces to food by education, Bangladesh STEPs Survey 2018

Education	Salt	Salty sauces
No education	53.9	1.1
Primary	48.7	1.7
Secondary	45.7	2.2
More than secondary	30.3	3.8

Figure 7.3 Percent adults aged 18-69 who reported often or always adding salt and salty sauces to food by wealth, Bangladesh STEPs Survey 2018

Wealth	Salt	Salty sauces
Lowest	51.0	0.5
Second	53.0	1.3
Middle	48.9	2.0
Fourth	48.2	1.9
Highest	40.0	3.3

Figure 7.4 Differentials in percent adults aged 18-69 who report always or often consuming processed food by age group, Bangladesh STEPs Survey 2018
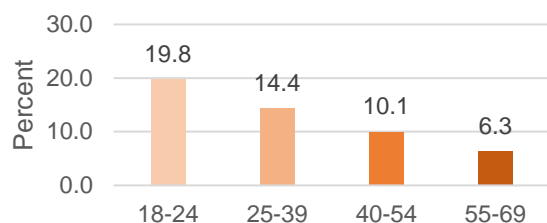
Figure 7.5 Differentials in percent adults aged 18-69 who often or always consume processed foods by education, Bangladesh STEPs Survey 2018
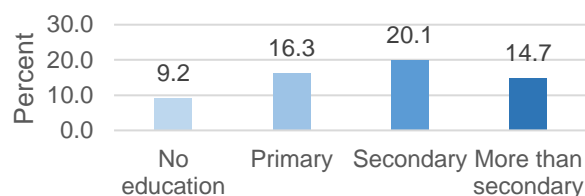
Figure 7.6 Differentials in percent adults aged 18-69 who reported always or often consuming processed food by wealth, Bangladesh STEPs Survey 2018
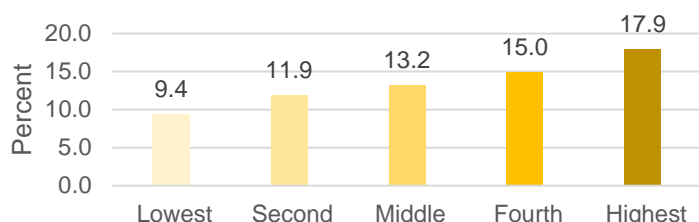
7.3. Perceptions about levels of salt intake

In contrast to relatively high estimated population mean salt intake reported earlier, majority of adults (61.2%) think they consume 'just the right amount of salt', with only 13.5% reporting consuming 'far too much or too much' salt. 60.3% reported never consuming salty sauces Therefore, only a small percentage (0.7%) of adults perceived salty sauces intake to be `far too much or too much and 27.6% of adults perceived it to be ` far too little or too little' (**Table 7.3**). However, when asked about the importance of lowering dietary salt, 69.6% of adults find it 'very important or somewhat important' (**Table 7.5**).

Patterns by background characteristics (Table 7.3 and Table 7.5):

- Perception of salt intake does not vary much by age, sex and household wealth.
- More urban residents and men perceived their salt intake to be `just right' compared to their counterparts.
- Rangpur (76.2%), Khulna (68.9%) and Rajshahi (68.1%) have notably higher percentage of adults who perceive their salt intake to be `just right'.
- Percentage of adults who perceive salt intake to be 'just right' increases as education level increases.
- Younger adults and urban residents were more likely to report lowering salt to be important.
- Barishal has the highest percentage of adults, who find importance in lowering salt (82.6%), followed by Sylhet (78.9%).

- Increased levels of education and wealth quintile lead to a higher tendency to report importance on lowering dietary salt intake (**Figure 7.7**).

7.4 Knowledge on salt intake, recommendations and health consequences

Figure 6.7 Differntials in percent of adults aged 18-69 reporting lowering salt to be very important or important by wealth and education , Bangladesh STEPs Survey 2018
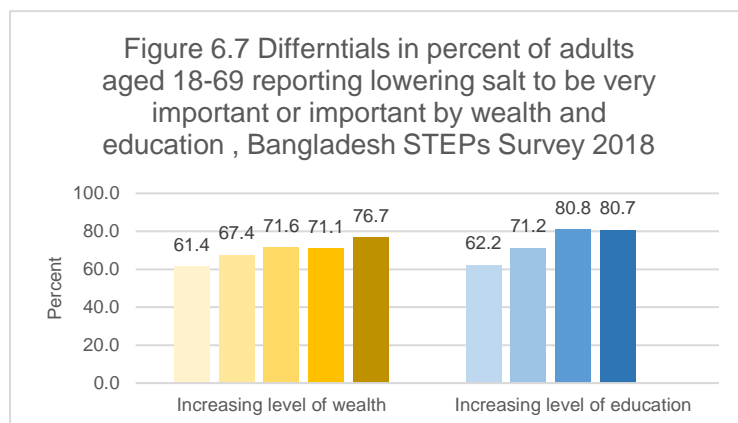
Only 26.1% of adults correctly stated the of maximum amount of salt recommended per day for optimum health (**Table 7.5**). More than half of all adults (55.0%) reported not knowing the specific health consequences related to excessive salt intake and only 36.8% of adults correctly identified relevant health consequences (**Table 7.6**).

Patterns by background characteristics (Table 7.5 and Table 7.6):

- More men are aware of relevant health consequences due to excessive salt intake than women, but do not differ in knowledge on recommended dietary salt intakes.
- A higher percentage of younger adults and urban residents have knowledge on recommended salt intakes and relevant health consequences than their counterparts.
- Barishal has the highest percentage of adults with correct knowledge on salt recommendations and relevant health consequences (36.7% and 40.2%).

Figure 7.8 Differential in correct knowledge on dietary salt recommendations and relevant health consequences amongst adults aged 18-69 by education, Bangladesh STEPs Survey 2018
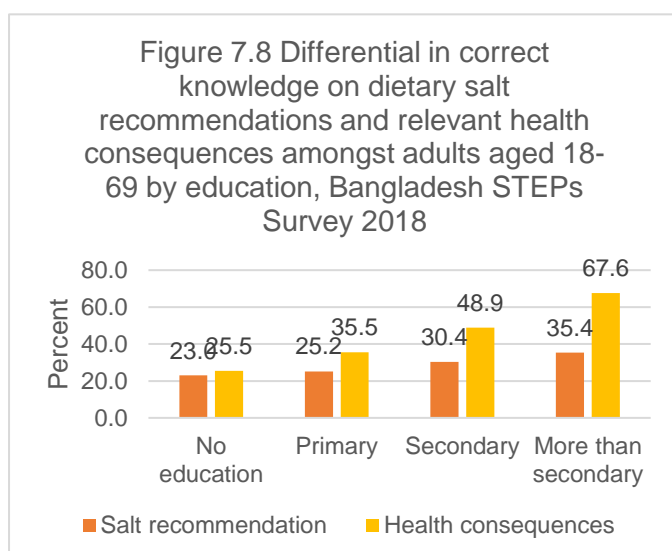
- Percent of adults with correct knowledge on dietary salt recommendations and relevant health consequences increased with increasing levels of education and household wealth (**Figure 7.8 and Figure 7.9**).

7.5 Practices and methods to reduce salt intake

Only 10.8% of adults reported currently doing something to control salt intake. Amongst those

Figure 7.9 Differentials in correnct knowledge on dietary salt recommendations and relevant health consequences amongst adults aged 18-69 by wealth, Bangladesh STEPs Survey 2018
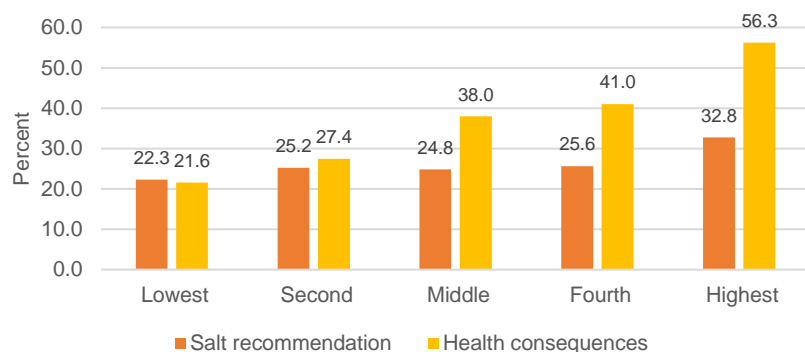
who are currently doing something to control their salt intake, the most common methods were: stopping or reducing added salt (93.3%) ; avoiding eating foods prepared outside of home (66.2%); avoiding and minimizing consumption of processed foods (60.2%) (**Table 7.7**).

Patterns by background characteristics (Table 7.7):

- Women were twice more likely to report currently doing something to control their salt intake compared to men (14.4% vs7.1%).
- The age group 40-54 had the highest percentage of adults who are currently doing something to control their salt intake (11.2%) and lowest amongst 55-69-year age-group (9.8%).

Figure 7.10 Percent adults aged 18-69 who are currently doing something to reduce salt by division, Bangladesh STEPs Survey 2018
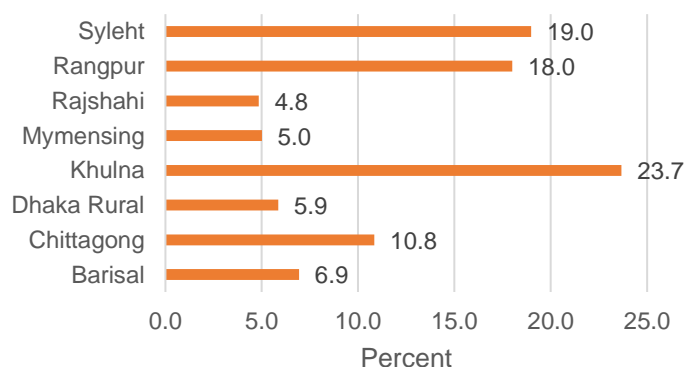
Notable difference in salt controlling behavior exist across divisions. Khulna had the highest percentage (23.7%) of adults currently trying to reduce salt and Mymensingh the lowest (5.0%). Stopping and reducing added salt is consistently the most common method across all divisions. (**Figure 7.10**)

- The percentage of adults reporting salt reducing behaviors increase with as education and household wealth increases. (**Figure 7.11**)

Figure 7.11 Differentials in percent adults aged 18-69 currently doing something to control salt by education and wealth, Bangladesh STEPs Survey 2018
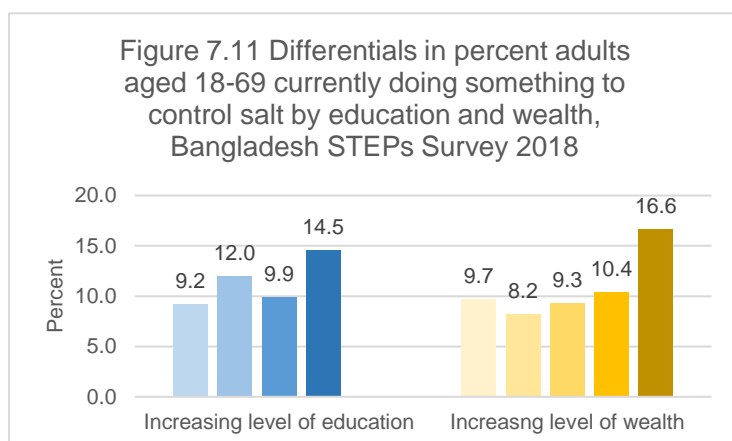
For more information on dietary salt intake, see the following tables:

Table Salt. 7.1 Estimated average population salt intake

Table Salt. 7.2 Practice of adding salt and salty sauces to food while eating

Table Salt. 7.3 Perceived intake of salt and salty sauce

Table Salt .7.4 Consumption of processed food high in salt

Table Salt. 7.5 Attitude and knowledge on salt intake and recommendations

Table Salt. 7.6 Knowledge on salt intake and health consequences

Table Salt. 7.7 Currently controlling salt intake and methods

Table Salt. 7.8 Self-reported amount of added salt to foods

Table Salt. 7.1 Estimated average population salt intake

Estimated average population salt intake amongst adults aged 18-69 based on spot urinary sodium, according to background characteristics [Bangladesh, 2018]

Background characteristic	Average daily salt intake (g/day)			
	Mean	95% CI		Number of respondents (N)
Age				
18-24	9.1	8.9	9.3	765
25-39	9.0	8.9	9.1	2901
40-54	9.0	8.9	9.1	2186
55-69	8.9	8.8	9.1	1042
Sex				
Women	9.0	8.9	9.2	3665
Men	9.0	8.9	9.1	3229
Residence				
Rural	9.0	8.9	9.1	3670
Urban	8.9	8.7	9.0	3224
Division				
Barishal	9.3	9.1	9.5	829
Chattogram	8.9	8.6	9.1	815
Dhaka Rural	9.0	8.8	9.1	752
Khulna	9.0	8.8	9.2	940
Mymensingh	9.0	8.8	9.2	902
Rajshahi	9.2	8.9	9.4	959
Rangpur	9.2	9.0	9.5	883
Sylhet	8.6	8.4	8.8	814
Education				
No education	8.9	8.8	9.0	3221
Primary	9.2	9.0	9.3	2133
Secondary	9.0	8.7	9.2	697
More than secondary	9.1	8.9	9.3	827
Wealth quintile				
Lowest	8.9	8.8	9.1	1442
Second	9.1	8.9	9.2	1463
Middle	9.1	9.0	9.3	1233
Fourth	8.9	8.7	9.1	1254
Highest	9.0	8.8	9.2	1502
Total (18-39)	9.0	8.9	9.1	3,666
Total (40-69)	9.0	8.9	9.1	3,228
Total (25-69)	9.0	8.9	9.1	6,129
Total (18-69)	9.0	8.9	9.1	6,894

*Estimations derived from Tanaka equation:

$$PrUCr24h = 14.89 \times Weight(kg) + 16.14 \times Height(cm) - 2.04 \times Age(year) - 2244.45$$

$$21.98 \times \left(\frac{Naspot\left(\frac{mmol}{L}\right)}{Crspot\left(\frac{mg}{dL}\right) * 10} \times PrUXr24h\left(\frac{mg}{day}\right)\right)^{0.392}$$

Table Salt.7.2 Practice of adding salt and salty sauces to food while eating

Percent distribution of adults aged 18-69 by frequency of adding salt or salty sauces to food while eating, according to background characteristics [Bangladesh, 2018]

Background characteristic	Percent of adults who add salt to food while eating				Percent of adults who add salty sauces to food while eating				Percent of adults who always or often add either salt or salty sauces to food while eating	
	Often / always	Some-times	Rarely / never	Number of respondents	Often / always	Some-times	Rarely / never	Number of respondents	Often / always	Number of respondents
Age										
18-24	46.8	13.7	39.5	1026	2.4	24.8	72.8	1026	48.2	1026
25-39	46.5	10.8	42.7	3486	2.2	20.4	77.4	3484	47.4	3489
40-54	51.1	11.5	37.5	2503	1.6	15.7	82.7	2493	51.8	2503
55-69	51.3	14.3	34.4	1167	0.4	13.0	86.6	1160	51.5	1167
Sex										
Women	51.5	12.3	36.1	4380	1.3	15.4	83.3	4370	52.1	4381
Men	44.9	12.1	43.0	3802	2.3	23.3	74.4	3793	46.1	3804
Residence										
Rural	49.5	12.7	37.7	4181	1.3	17.0	81.7	4170	50.1	4183
Urban	43.8	10.4	45.7	4001	3.4	27.2	69.3	3993	45.8	4002
Division										
Barishal	78.5	7.4	14.2	986	1.2	14.5	84.4	985	78.9	986
Chattogram	48.3	14.9	36.8	1053	3.3	26.7	70.0	1049	49.8	1053
Dhaka Rural	55.0	12.9	32.0	995	1.6	25.0	73.4	997	56.0	997
Khulna	51.3	8.3	40.4	1040	2.4	13.7	83.9	1038	52.4	1040
Mymensingh	45.0	14.5	40.5	1021	0.7	11.9	87.4	1015	45.4	1021
Rajshahi	39.3	9.5	51.2	1066	0.2	13.8	86.0	1064	39.5	1066
Rangpur	28.1	14.8	57.1	1008	0.9	15.3	83.9	1002	28.7	1009
Sylhet	43.7	10.7	45.6	1013	3.1	15.4	81.5	1013	45.4	1013
Education										
No education	53.9	12.8	33.3	3677	1.1	12.8	86.1	3661	54.2	3,678
Primary	48.7	11.3	40.0	2533	1.7	18.6	79.7	2529	49.5	2,533
Secondary	45.7	12.3	42.0	887	2.2	27.7	70.1	887	46.9	888
More than secondary	30.3	12.2	57.5	1064	3.8	35.6	60.6	1065	33.0	1065
Wealth quintile										
Lowest	51.0	11.2	37.8	1639	0.5	7.9	91.5	1628	51.2	1639
Second	53.0	13.8	33.1	1669	1.3	11.2	87.5	1666	53.3	1670
Middle	48.9	11.5	39.6	1451	2.0	22.4	75.7	1448	50.0	1451
Fourth	48.2	12.4	39.5	1504	1.9	22.4	75.7	1503	49.1	1506
Highest	40.0	12.2	47.8	1919	3.3	32.8	64.0	1918	42.0	1919
Total (18-39)	46.6	11.9	41.5	4512	2.2	22.1	75.7	4510	47.7	4515
Total (40-69)	51.2	12.8	36.1	3670	1.0	14.5	84.5	3653	51.7	3670
Total (25-69)	48.7	11.7	39.5	7156	1.6	17.6	80.8	7137	49.5	7159
Total (18-69)	48.2	12.2	39.5	8182	1.8	19.3	78.9	8163	49.2	8185

Table Salt. 7.3 Perceived intake of salt and salty sauce.

Percent of adults aged 18-69 who perceive their salt or salty sauce intake to be far too much/too much; just right; far too little/too little, according to background characteristics [Bangladesh, 2018]

Background characteristic	Perceived salt intake					Perceived salty sauces intake					Number of respondents
	Far too much / too much	Just right	Far too little/ too little	Never*	Don't know	Far too much / too much	Just right	Far too little/ too little	Never*	Don't know	
Age											
18-24	13.7	62.3	19.6	4.2	0.3	1.0	13.0	33.8	52.0	0.2	1026
25-39	13.8	60.7	20.3	4.8	0.5	0.5	12.1	29.0	57.9	0.5	3489
40-54	13.6	62.2	18.8	5.0	0.4	1.0	8.8	24.3	65.4	0.5	2503
55-69	12.3	59.7	20.1	7.0	0.9	0.6	7.7	19.2	71.8	0.6	1167
Sex											
Women	14.5	62.6	18.3	4.2	0.3	0.8	9.1	21.7	68.1	0.3	4381
Men	12.5	59.7	21.3	5.9	0.7	0.7	12.8	33.7	52.2	0.5	3804
Residence											
Rural	13.7	60.5	20.4	5.0	0.6	0.5	8.6	26.5	63.9	0.5	4183
Urban	12.9	63.8	17.8	5.4	0.2	1.5	18.9	31.4	47.9	0.2	4002
Division											
Barishal	15.0	63.4	17.6	3.8	0.3	0.6	6.2	30.1	62.3	0.8	986
Chattogram	13.0	45.7	26.0	14.7	0.5	1.3	15.2	23.0	60.2	0.4	1053
Dhaka Rural	17.5	64.6	15.8	2.0	0.1	1.0	18.6	37.9	42.5	0.0	997
Khulna	15.9	68.9	12.3	1.9	0.9	0.6	6.7	19.3	72.6	0.9	1040
Mymensingh	13.6	51.1	27.2	7.8	0.2	0.2	2.5	23.6	73.4	0.4	1021
Rajshahi	8.4	68.1	22.2	0.6	0.6	0.4	1.9	31.2	65.8	0.6	1066
Rangpur	6.8	76.2	16.2	0.4	0.3	0.1	12.0	20.9	66.2	0.9	1009
Sylhet	14.0	58.0	21.4	4.9	1.6	0.8	7.8	24.2	67.2	0.0	1013
Education											
No education	14.0	62.7	18.9	3.9	0.6	0.8	7.4	21.6	69.6	0.6	3678
Primary	13.9	59.3	20.4	6.1	0.3	0.7	10.9	28.2	59.8	0.4	2533
Secondary	14.8	59.5	20.4	5.3	0.0	0.9	16.3	34.4	48.4	0.0	888
More than secondary	9.6	62.4	20.7	6.3	1.1	0.6	18.2	40.7	40.3	0.3	1065
Wealth quintile											
Lowest	12.8	63.1	21.0	2.4	0.7	0.1	4.7	18.8	75.9	0.6	1639
Second	12.7	63.3	19.0	4.4	0.6	1.1	6.5	22.3	69.4	0.7	1670
Middle	13.6	59.0	21.3	5.7	0.4	0.7	10.5	29.2	59.1	0.5	1451
Fourth	15.8	56.2	21.2	6.5	0.3	0.6	12.2	30.9	55.9	0.3	1506
Highest	12.5	64.4	16.4	6.2	0.6	1.2	20.9	36.9	40.9	0.1	1919
Total (18-39)	13.8	61.3	20.0	4.6	0.4	0.7	12.4	30.8	55.7	0.4	4515
Total (40-69)	13.0	61.1	19.4	5.9	0.7	0.8	8.3	22.0	68.3	0.5	3670
Total (25-69)	13.4	60.9	19.8	5.3	0.6	0.6	10.3	25.7	62.9	0.5	7159
Total (18-69)	13.5	61.2	19.8	5.0	0.5	0.7	10.9	27.6	60.3	0.4	8185

* Category 'Never' was added as an option due to considerations for Ramadan for this round of survey

Table Salt.7.4 Consumption of processed food high in salt.: men and women

Percent of men and women aged 18-69 who often to always, sometimes, never to rarely eat processed foods high in salt, according to background characteristics [Bangladesh, 2018]

Background characteristic	Total				Women			
	Often/ always	Some- times	Rarely/ never	Number of respondents (N)	Often / always	Some- times	Rarely/ never	Number of women (N)
Age								
18-24	19.8	63.6	16.7	1,025	21.3	64.0	14.7	621
25-39	14.4	60.8	24.8	3,482	17.6	60.2	22.2	2016
40-54	10.1	51.6	38.4	2,498	12.7	49.8	37.5	1282
55-69	6.3	46.5	47.2	1,166	6.7	48.4	44.9	457
Residence								
Rural	12.9	56.7	30.5	4,176	15.5	57.5	27.0	2261
Urban	15.7	59.2	25.1	3,995	17.8	57.0	25.2	2115
Division								
Barishal	18.2	40.2	41.6	986	17.3	32.0	50.8	540
Chattogram	15.6	59.6	24.8	1,052	22.9	59.5	17.6	552
Dhaka Rural	14.6	66.0	19.4	995	11.0	73.4	15.6	518
Khulna	11.8	46.7	41.6	1,038	18.9	46.7	34.4	560
Mymensingh	12.7	56.8	30.6	1,021	13.1	61.5	25.4	552
Rajshahi	8.1	55.1	36.8	1,065	11.6	44.7	43.8	569
Rangpur	11.5	60.8	27.7	1,007	12.4	52.2	35.4	541
Sylhet	16.6	49.4	34.0	1,007	22.4	57.7	19.8	544
Education								
No education	9.2	55.1	35.6	3669	10.0	54.8	35.2	1957
Primary	16.3	55.9	27.8	2532	18.3	57.8	23.9	1525
Secondary	20.1	60.5	19.4	887	27.0	58.3	14.7	434
More than secondary	14.7	65.0	20.3	1062	21.9	68.7	9.4	439
Wealth quintile								
Lowest	9.4	52.0	38.6	1,636	8.6	54.9	36.5	976
Second	11.9	56.8	31.3	1,669	12.8	55.4	31.8	912
Middle	13.2	57.7	29.0	1,450	20.5	55.7	23.8	725
Fourth	15.0	61.2	23.9	1,501	17.7	60.9	21.4	717
Highest	17.9	58.5	23.6	1,915	21.8	60.3	17.9	1046
Total (18-39)	16.4	61.8	21.8	4,507	19.1	61.7	19.3	2637
Total (40-69)	8.3	49.2	42.4	3,664	10.1	49.2	40.7	1739
Total (25-69)	11.5	55.3	33.2	7,146	14.2	55.1	30.7	3755
Total (18-69)	13.5	57.2	29.3	8,171	16.0	57.4	26.6	4376

Table Salt.7.5 Attitude and knowledge on salt intake and recommendations: Total

Percent of adults aged 18-69 who find importance in lowering salt intake; percentage who's knowledge on maximum salt intake per day is within WHO recommendations; percent who think too much salt relate to health consequence, according to background characteristics [Bangladesh, 2018]

Background characteristic	Percent who think lowering salt intake to be:		Percent who's knowledge on maximum salt intake per day is within WHO recommendations			Number of respondents (N)
	Very important/ somewhat important	Not important or unaware	Within recommendations (<=1 tsp or 5 g/day)	Above recommendation (> 1tsp or 5g/day)	Don't know	
Age						
18-24	72.0	28.0	26.1	33.5	40.4	1026
25-39	72.3	27.7	28.3	30.6	41.1	3489
40-54	68.0	32.0	24.9	30.0	45.1	2503
55-69	61.6	38.4	22.4	27.9	49.7	1167
Sex						
Women	70.0	30.0	26.4	37.1	36.5	4381
Men	69.2	30.8	25.8	24.2	50.0	3804
Residence						
Rural	69.1	30.9	24.3	33.2	42.6	4183
Urban	71.4	28.6	32.5	22.2	45.3	4002
Division						
Barishal	82.6	17.4	36.7	10.1	53.2	986
Chattogram	61.1	38.9	29.3	36.1	34.5	1053
Dhaka Rural	70.8	29.2	32.3	19.2	48.5	997
Khulna	60.6	39.4	12.1	40.0	47.8	1040
Mymensingh	77.7	22.3	28.0	42.3	29.7	1021
Rajshahi	69.5	30.5	20.2	37.9	41.9	1066
Rangpur	74.4	25.6	22.9	21.7	55.4	1009
Sylhet	78.9	21.1	22.8	42.4	34.8	1013
Education						
No education	62.2	37.8	23.0	32.1	44.9	3,678
Primary	71.2	28.8	25.2	32.6	42.2	2,533
Secondary	80.8	19.2	30.4	24.1	45.5	888
More than secondary	80.7	19.4	35.4	27.8	36.8	1,065
Wealth quintile						
Lowest	61.4	38.6	22.3	31.9	45.8	1639
Second	67.4	32.6	25.2	30.6	44.2	1670
Middle	71.6	28.4	24.8	34.9	40.3	1451
Fourth	71.1	28.9	25.6	27.0	47.4	1506
Highest	76.7	23.3	32.8	29.2	38.1	1919
Total (18-39)	72.2	27.8	27.5	31.7	40.9	4515
Total (40-69)	65.0	35.0	23.8	29.0	47.2	3670
Total (25-69)	68.9	31.1	26.1	29.8	44.0	7159
Total (18-69)	69.6	30.4	26.1	30.7	43.2	8185

Table Salt.7.6 Knowledge on salt intake and health consequences: Total

Percent of adults aged 18-69 who think too much salt is related to health consequence, according to background characteristics [Bangladesh, 2018]

Background characteristic	Percent who correctly identified that salt intake is related to increased blood pressure or kidney diseases:			Percent who think that too much salt is related to:				
	Correct	Incorrect	Total (%)	No health consequences	Increased blood pressure / kidney disease	Other consequences: asthma / cancer / tuberculosis/ others	Don't know	Number of respondents (N)
Age								
18-24	41.6	58.4	100.0	2.1	41.6	4.2	49.7	1026
25-39	37.3	62.7	100.0	2.1	37.3	4.5	54.4	3489
40-54	34.3	65.7	100.0	2.7	34.3	3.0	57.0	2503
55-69	32.0	68.0	100.0	2.3	32.0	3.7	61.8	1167
Sex								
Women	32.6	67.4	100.0	2.1	32.6	3.5	55.7	4381
Men	41.2	58.8	100.0	2.4	41.2	4.5	54.3	3804
Residence								
Rural	34.0	66.0	100.0	2.4	34.0	4.1	57.2	4183
Urban	46.7	53.3	100.0	1.9	46.7	3.5	47.3	4002
Division								
Barishal	40.2	59.8	100.0	9.8	40.2	2.7	48.9	986
Chattogram	40.3	59.7	100.0	0.4	40.3	6.5	48.8	1053
Dhaka Rural	44.1	55.9	100.0	0.3	44.1	3.9	51.3	997
Khulna	34.4	65.6	100.0	1.1	34.4	2.3	62.9	1040
Mymensingh	32.6	67.4	100.0	0.6	32.6	5.7	49.5	1021
Rajshahi	33.8	66.2	100.0	0.8	33.8	2.1	64.4	1066
Rangpur	25.2	74.8	100.0	4.8	25.2	3.8	64.9	1009
Sylhet	28.7	71.3	100.0	12.3	28.7	2.3	53.3	1013
Education								
No education	25.5	74.5	100.0	3.0	25.5	2.9	64.9	3678
Primary	35.5	64.5	100.0	2.0	35.5	3.8	55.8	2533
Secondary	48.9	51.1	100.0	1.4	48.9	4.9	44.3	888
More than secondary	67.6	32.4	100.0	1.0	67.6	7.4	29.1	1065
Wealth quintile								
Lowest	21.6	78.4	100.0	3.1	21.6	3.6	66.4	1639
Second	27.4	72.6	100.0	3.1	27.4	2.9	61.1	1670
Middle	38.0	62.0	100.0	3.1	38.0	5.0	54.8	1451
Fourth	41.0	59.0	100.0	1.2	41.0	3.7	53.7	1506
Highest	56.3	43.7	100.0	0.7	56.3	4.9	38.9	1919
Total (18-39)	38.9	61.1	100.0	2.1	38.9	4.4	52.6	4515
Total (40-69)	33.2	66.8	100.0	2.5	33.2	3.3	59.2	3670
Total (25-69)	35.3	64.7	100.0	2.3	35.3	3.9	56.7	7159
Total (18-69)	36.8	63.2	100.0	2.3	36.8	4.0	55.0	8185

Table Salt 7.7 Currently controlling salt intake and methods: Total

Percent of adults aged 15-69 who often to always, sometimes, never to rarely eat processed foods high in salt, according to background characteristics [Bangladesh, 2018]

Background characteristic	Percent who are currently doing something to control salt intakes:		Amongst adults who are currently doing anything to controlling salt intake, percent of adults that use the method of:						
	Percent	Number of respondents (N)	Avoid/ minimize consumption of processed foods	Look at the salt or sodium content on food label	Buy low salt/ sodium alternatives	Use spices other than salt when cooking	Avoid eating foods prepared outside of home	Stop/Reduce added salt	Number of respondents (N)
Age									
18-24	10.9	1014	65.6	39.6	41.3	20.2	69.4	93.4	110
25-39	10.9	3443	54.6	28.7	38.8	22.1	62.3	91.2	418
40-54	11.2	2463	65.7	39.6	39.7	28.8	74.4	94.8	314
55-69	9.8	1136	58.7	28.7	35.6	18.7	59.9	96.6	123
Sex									
Women	14.4	4343	52.3	30.6	37.7	22.2	65.3	95.7	703
Men	7.1	3713	76.8	39.9	42.0	23.2	68.0	88.2	262
Residence									
Rural	10.7	4125	58.4	30.8	37.8	22.2	68.7	93.3	462
Urban	11.2	3931	66.1	42.9	43.6	23.5	57.7	93.1	503
Division									
Barishal	6.9	978	48.2	26.9	21.7	21.7	38.1	83.1	77
Chattogram	10.8	1016	30.1	12.2	15.4	10.6	37.5	97.3	119
Dhaka Rural	5.9	988	69.5	42.5	46.0	16.9	57.5	88.6	57
Khulna	23.7	1023	60.6	23.3	15.1	6.4	84.9	92.2	230
Mymensingh	5.0	992	27.3	11.7	9.6	17.4	46.3	99.2	59
Rajshahi	4.8	1062	47.4	30.5	24.3	9.0	29.5	89.0	62
Rangpur	18.0	1007	95.4	82.8	91.2	85.6	97.1	98.1	204
Sylhet	19.0	990	71.7	23.1	73.3	3.0	75.1	90.4	157
Education									
No education	9.2	3609	58.8	31.6	35.5	29.1	65.4	94.3	352
Primary	12.0	2492	59.5	29.8	39.4	17.4	72.9	92.5	318
Secondary	9.9	878	59.3	42.9	42.8	23.6	58.8	92.8	117
More than secondary	14.5	1056	65.5	39.3	44.1	17.8	59.5	93.0	177
Wealth quintile									
Lowest	9.7	1609	71.8	41.6	41.8	38.0	74.7	95.0	165
Second	8.2	1649	64.1	38.1	49.7	32.6	69.6	94.8	163
Middle	9.3	1431	52.6	25.9	31.8	15.1	70.7	87.6	133
Fourth	10.4	1481	57.2	31.6	32.6	19.6	61.4	96.1	147
Highest	16.6	1886	57.6	32.2	40.5	14.4	59.9	92.9	357
Total (18-39)	10.9	4457	58.8	32.8	39.8	21.4	65.0	92.0	528
Total (40-69)	10.6	3599	62.8	35.0	38.0	24.6	68.3	95.6	437
Total (25-69)	10.8	7042	58.5	31.7	38.4	23.3	65.1	93.2	855
Total (18-69)	10.8	8056	60.2	33.6	39.1	22.5	66.2	93.3	965

Table Salt. 7.8 Self-reported amount of added salt to foods

Self-reported amount of extra salt (in teaspoons) added to food amongst adults aged 15-69 , according to background characteristics [Bangladesh, 2018]

Background characteristic	Extra Salt added to food		
	Mean	**95% CI**		**Number of respondents (n)**
Age				
18-24	1.1	1.1	1.1	651
25-39	1.1	1.1	1.1	2166
40-54	1.1	1.1	1.1	1590
55-69	1.1	1.1	1.1	777
Sex				
Women	1.1	1.1	1.1	2913
Men	1.1	1.1	1.1	2271
Residence				
Rural	1.1	1.1	1.1	2860
Urban	1.1	1.1	1.1	2324
Division				
Barishal	1.1	1.1	1.1	822
Chattogram	1.1	1.0	1.1	692
Dhaka Rural	1.1	1.1	1.1	732
Khulna	1.1	1.0	1.1	658
Mymensingh	1.1	1.1	1.2	659
Rajdhani	1.1	1.1	1.2	538
Rangpur	1.0	1.0	1.0	469
Sylhet	1.0	1.0	1.1	614
Education				
No education	1.1	1.1	1.1	2532
Primary	1.1	1.1	1.1	1645
Secondary	1.1	1.1	1.1	486
More than secondary	1.1	1.0	1.1	505
Wealth quintile				
Lowest	1.1	1.1	1.1	1107
Second	1.1	1.1	1.1	1157
Middle	1.1	1.1	1.1	963
Fourth	1.1	1.1	1.1	966
Highest	1.1	1.1	1.1	991
Total (18-39)	1.1	1.1	1.1	2817
Total (40-69)	1.1	1.1	1.1	2367
Total (25-69)	1.1	1.1	1.1	4533
Total (18-69)	1.1	1.1	1.1	5184

Chapter 8 Physical activity

Key findings

Time spent on physical activity

- *Total physical activity (in moderate-intensity minutes):*
  - On average 247.9 minutes per day
  - Half of the population spent 132.0 or more minutes (median) per day.

Insufficient levels of physical activity

- *Among adults aged 18-69 years: 12.3% of adults (14.8% in women, and 9.6% men) have insufficient levels of physical activity defined as <150 minutes of moderate-intensity activity per week.*

Percent contribution to total physical activity from each domain:

- *Work: 73.4%.*
- *Travelling from and to places: 22.1%*
- *Recreational activities: 4.6% of total physical activity minutes*

Time spent on sedentary activities

- *On average adults (15-69 years) spend 174.8 minutes per day sitting or reclining.*
- *Half of the population spent 140.0 minutes or more per day (median) sitting or reclining*

Introduction

Insufficient physical activity and sedentary behaviour is a leading risk factor for NCD related mortality and has major implications for the rising prevalence of NCDs[43]. Additionally, it accrues staggering economic cost through increased health-care expenditure and loss of productivity[44]. Participation in regular physical activity and reducing sedentary behaviours has substantial effects on increasing life expectancy and the primary prevention of several chronic

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[43] Lee I-M, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. The Lancet. 2012;380(9838):219-229. doi:10.1016/S0140-6736(12)61031-9.

[44] Ding D, Lawson KD, Kolbe-Alexander TL, et al. The economic burden of physical inactivity: a global analysis of major non-communicable diseases. *The Lancet*. 2016;388(10051):1311-1324. doi:10.1016/S0140-6736(16)30383-X

diseases such as, cardiovascular diseases, diabetes, hypertension, cancer, obesity and mental health at a population level[45,46,47].

The 2025 global physical activity target aims for a 10% reduction in prevalence of insufficient physical activity relative to 2010[38]. Bangladesh has also incorporated it as one of the key targets in its 3-year multisectoral action plan for 2018-2025[10] and its predecessor[39]. Policies to promote physical activity (mass media campaigns combined with community-based education, motivational and environmental programmes aimed at supporting behavioral change) are one of the recommended interventions to prevent and control non-communicable diseases[48].

This chapter focuses on indicators related to physical activity and sedentary behavior. This information will help Bangladesh assess trends and progress towards physical activity targets specified in its multisectoral action plan as well as evaluation of current policies and programs in place.

Current relevant policies and programs in Bangladesh for promoting physical activity:

- Healthy city project, 1990[49]
- Health promoting model schools

Current WHO physical activity guidelines (**Figure 8.1**) for adults are expressed in minutes of physical activity throughout the week at two levels of intensities for ease of understanding amongst the public. The underlying standardized measurement to assess both quantity and intensity of physical activity is MET, metabolic equivalent of task, which is assigned to each domain of activity and levels of intensity as shown in **Figure 8.2** which is based on the Global Physical Activity Questionnaire (GPAQ)[50]. An example is given on the calculations for standardized conversion between regular minutes of varying intensity -level and MET minutes.

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[45] Reiner M, Niermann C, Jekauc D, Woll A. Long-term health benefits of physical activity – a systematic review of longitudinal studies. *BMC Public Health*. 2013;13(1):813. doi:10.1186/1471-2458-13-813

[46] Ekelund U, Steene-Johannessen J, Brown WJ, et al. Does physical activity attenuate, or even eliminate, the detrimental association of sitting time with mortality? A harmonised meta-analysis of data from more than 1 million men and women. *The Lancet*. 2016;388(10051):1302-1310. doi:10.1016/S0140-6736(16)30370-1

[47] Warburton DER. Health benefits of physical activity: the evidence. *Canadian Medical Association Journal*. 2006;174(6):801-809. doi:10.1503/cmaj.051351

[48] WHO. The Updated Appendix of 3 of the Global Action Plan for the Prevention and Control of NCDs 2013-2020.

[49] Burton S. Evaluation of healthy city projects: Stakeholder analysis of two projects in Bangladesh. Environment and Urbanization. 1999 Apr;11(1):41-52.

[50] Armstrong T, Bull F. Development of the World Health Organization Global Physical Activity Questionnaire (GPAQ). J Public Health 2006; 14:66-70.

Figure 8.1. WHO Physical activity guidelines 2010[51]:

5-17 years	▪ at least 60 minutes of moderate- to vigorous-intensity physical activity daily for children and adolescents aged 5-17.
18 years and above	▪ at least 150 minutes of moderate-intensity physical activity per week OR
	▪ 75 minutes of vigorous-intensity physical activity per week OR
	▪ an equivalent combination of moderate- and vigorous intensity physical activity which equates to 600 MET-minutes per week

*refer to guidelines for more detailed guidelines.

Figure 8.2 Metabolic equivalent of task per domain and intensity

Domain	Intensity level and MET value per minute
Work	Moderate-intensity = 4 MET per minute
	Vigorous-intensity = 8 MET per minute
Transport (Cycling and walking)	Moderate-intensity = 4 MET
Recreation	Moderate-intensity = 4 MET per minute
	Vigorous-intensity = 8 MET per minute

Example:

Activity: 30 minutes of moderate-intensity physical activity and 60 min of vigorous-intensity physical activity in one day.

MET value per day:

(30 min x 4) METs + (60 min x 8) METs =600 METs /day

8.1 Time spent on physical activity

Total minutes of physical activity were obtained by inquiring respondents about time spent on physical activity in three key domains (work, transport, and recreational) at moderate and vigorous intensity level on a typical day each week. The vigorous intensity minutes were converted into moderate intensity minutes using a multiplication factor of 2 and 'total' physical activity minutes were expressed as moderate-intensity minutes per day.

On average, adults aged 18-69 in Bangladesh spent 247.9 minutes on moderate-intensity or equivalent level physical activity per day while the median was 132.0 minutes. In other words, 50% of the population engaged in 132.0 or less minutes of moderate-intensity physical activity each day which is insufficient according to current WHO recommendations (**Table 8.1**).

In terms of intensity, the population average minutes per day for vigorous- and moderate-intensity physical activity were 55.6 and 136.9 minutes, respectively. More than half of the

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[51] WHO. Global recommendations on physical activity for health. Geneva, World Health Organization (WHO), 2010

population did not engage (0.0 minute) in any vigorous-intensity physical activity per day while the median for moderate-intensity activity was 90.0 minutes (**Table 8.1**).

Patterns by background characteristics (Table 8.1):

- Total average minutes of physical activity is consistently higher than the median, which suggest the average is influenced by a number of adults that reported very long hours of engagement in physical activity.
- Average total minutes of physical activity was highest amongst 25-39 and 40-54 age groups, 272.2 min and 291.8 min respectively (**Table 8.1**).

Figure 8.3 Differentials in total minutes of physical activity by residence and sex amongst adults aged 18-69, Bangladesh STEPs Survey 2018
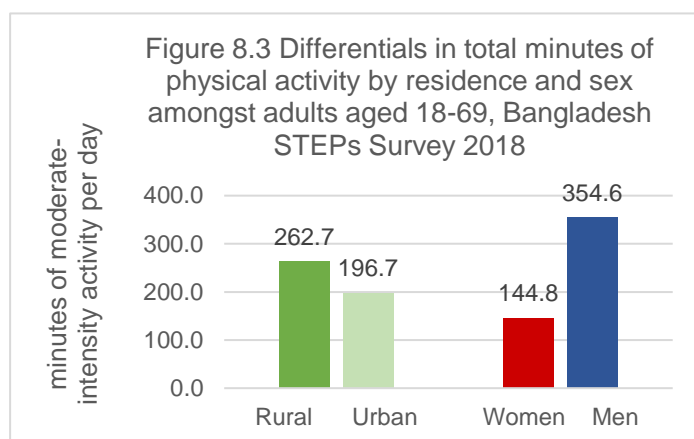
- Women had lower average total minutes of physical activity than men (144.8 min vs 354.6 min), as well as lower average minutes of vigorous-intensity and moderate intensity physical activity (**Figure 8.3**).
- Engagement in physical activity was higher amongst rural residents than urban residents (**Figure 8.3**)

- Rajshahi had the highest average total minutes of physical activity (322.1 min) and Khulna had the highest median (202.1 min), while the lowest average (203.7 min) and median minutes (93.4 min) of total physical activity was in Dhaka Rural (**Table 8.1**).

Figure 8.4 Average total time spent on physical activity by education and wealth amongst adults aged 18-69, Bangladesh STEPs Survey 2018
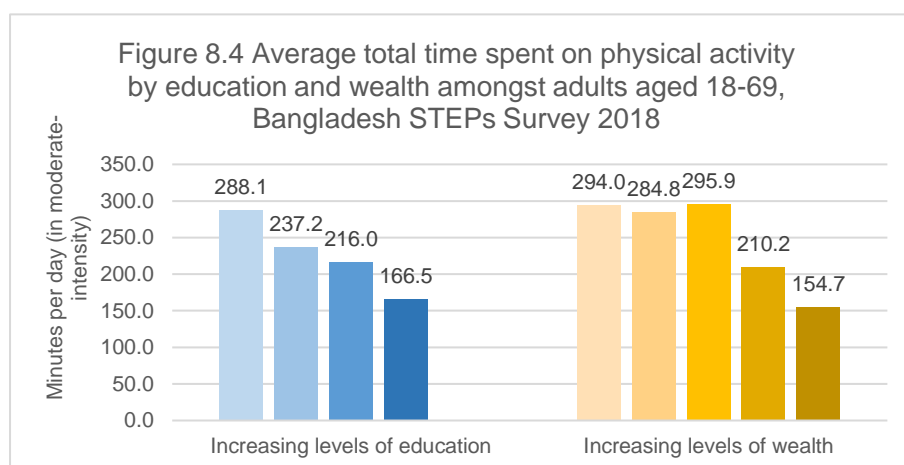
- Total minutes of physical activity decreased with increasing levels of education and household wealth (**Figure 8.4**).

8.2 Insufficient levels of physical activity

Figure 8.5 Prevalence of insufficient levels of physical activities by age group amongst women and men aged 18-69, Bangladesh STEPs Survey 2018
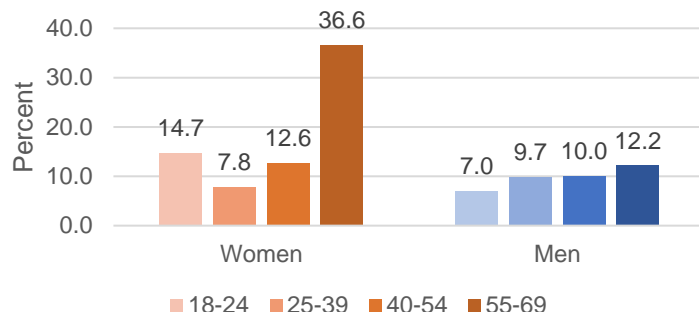
Figure 8.6 Differentials in percent of women and men aged 18-69 who have insufficient levels of physical activity by residence, Bangladesh STEPs Survey 2018
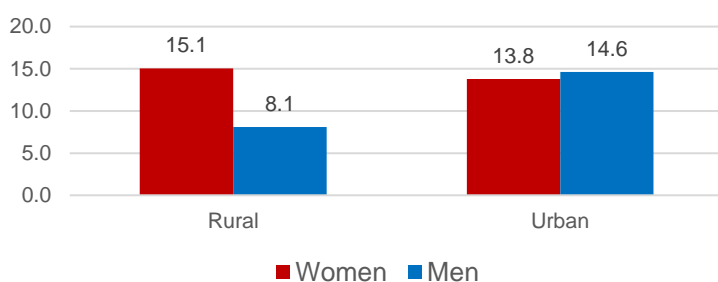
Figure 8.7 Prevalence of insufficient levels of physical activity amongst adults aged 18-69 by division, Bangladesh STEPs Survey 2018

Rangpur 9.4%
Rajshahi 8.4%
Mymensingh 17.3%
Sylhet 20.9%
Dhaka 13.1%
Khulna 9.6%
Barisal 14.2%
Chittagong 11.2%
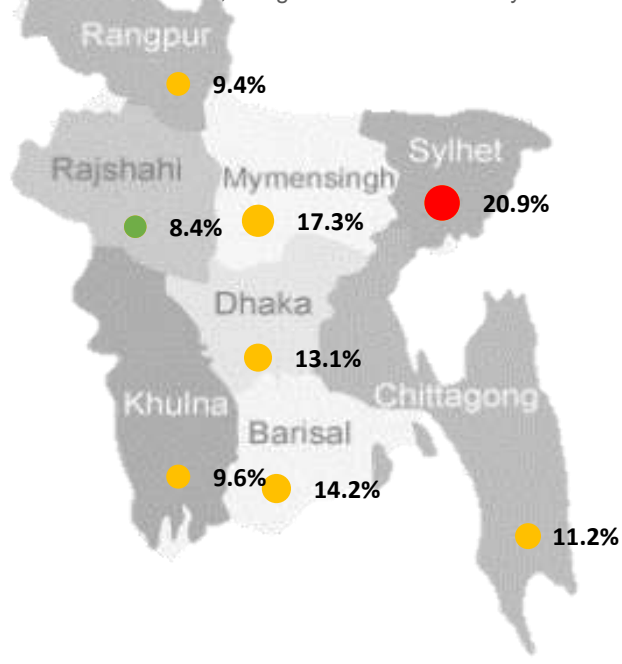
The prevalence of insufficient levels of physical activity was 12.3% amongst adults aged 18-69 years (**Table 8.2**).

Patterns by background characteristic (Table 8.2):

• The highest proportion of adults with insufficient levels of physical activity was in the oldest age group for both men and women. However, a much higher proportion of women aged 55-69 had insufficient levels of physical activity compared to all other groups (**Figure 8.5**)

• Prevalence of insufficient physical activity is higher amongst urban residents than rural residents (11.7% vs 14.2%), however this relation is differential across sex (**Table 8.2**). A higher percentage of women who are rural residents had insufficient levels of physical activity, while the opposite is seen amongst men (**Figure 8.6 and Table 8.2**).

• Sylhet and Mymensingh have the highest prevalence of insufficient physical activity, while the lowest prevalence is seen in Rajshahi (**Figure 8.7**)

8.3. Percent contribution to physical activity from each domain.

Amongst adults who engaged in some level of physical activity, 73.4% of the total physical activity minutes contributed from

work, 22.1% from travel, and only 4.6% were from recreational activities.

Patterns by background characteristics (Table 8.3):

- Adults aged 18-24 were most likely to engage in recreational activities (10.4%) as part of their physical activity while adults aged 40-54 were mostly engaged in physical activity through work (76.0%).

Figure 8.8 Differentials in prevalence of insufficient physical activity by education and wealth amongst adults age 18-69, Bangladesh STEPs Survey 2018

- Women engaged in less recreational physical activities and more work-related activities compared to men. Much of men's physical activity came from travelling to and from the places (31.5%).

- Rural residents engaged in more physical activities that were work-related or travel-related compared to urban residents.

- The proportional contribution from work to the total physical activity declines with increasing household wealth (**Figure 8.10**), while the reverse is true for physical activity from travel and recreational activities. Similar patterns were observed with increasing educational levels. **(Figure 8.11**).

Figure 8.11 Contribution to total physical activity from each domain by education level amongst adults aged 18-69, Bangladesh STEPs Survey 2018
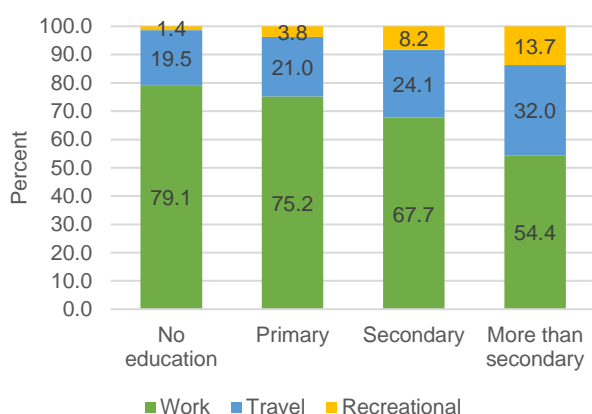
Figure 8.10 Contribution to total physical activity from each domain by wealth amongst adults aged 18-69, Bangladesh STEPs Survey 2018
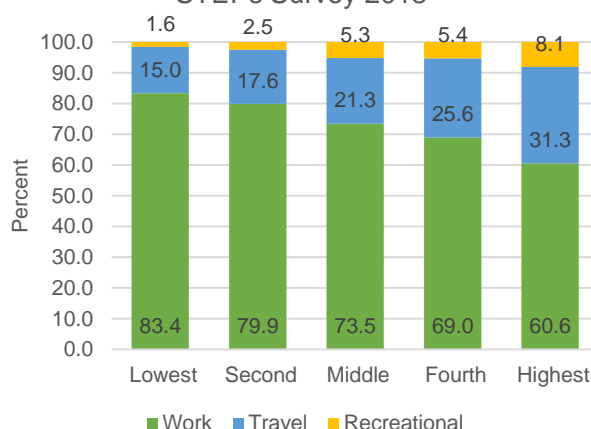
8.4 Time spent on sedentary activities

On average, adults spend 174.8 minutes per day on sedentary activities such as sitting or reclining excluding sleep time. Fifty percent of adults spent 140.0 minutes or more per day on sedentary activities.

Patterns by background characteristics (Table 8.4):

- Adults who aged 40-54, men, lower levels of education and lower household wealth quintiles are least sedentary (**Figure 8.12 and Table 8.4**)

Figure 8.12 Differentials in average minutes of sedentary activity per day by age, sex, education and wealth amongst adults aged 18-69, Bangladesh STEPs Survey 2018
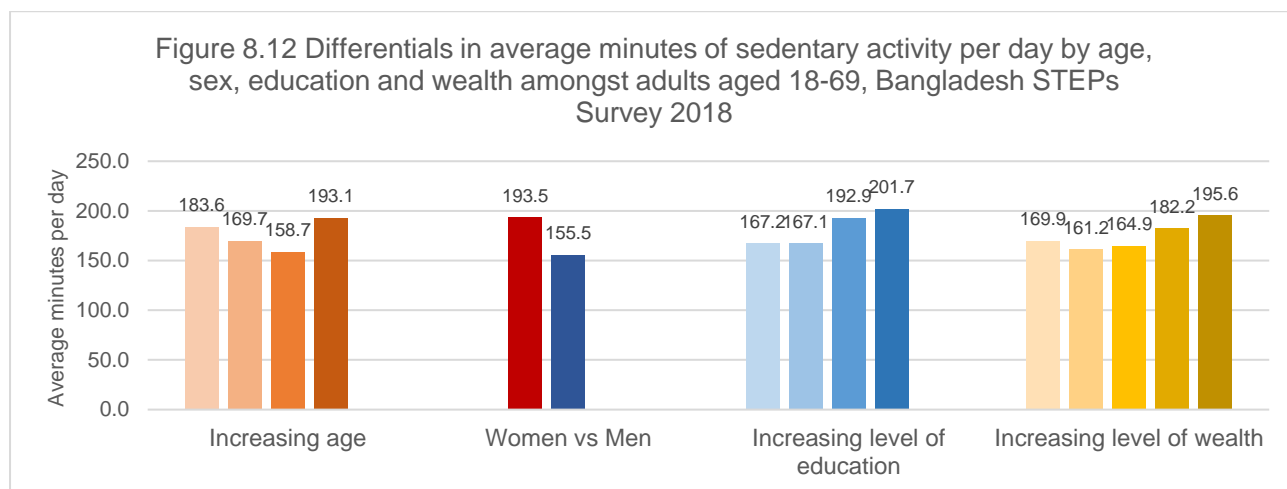
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Table 8.1 Average and median time spent on physical activity per day by intensity level: all respondents

Table 8.2 Percent not meeting physical activity recommendations: all respondents

Table 8.3 Proportional contribution of each domain to total physical activity: all respondents

Table 8.4 Average and median time spent on sedentary activity on a typical day: all respondents

Table 8.1 Average and median time spent on physical activity per day by intensity level: All respondents.

Average and median time (minutes per day) spent on vigorous- and moderate-intensity physical activity amongst adults (18-69 years), according to background characteristics [Bangladesh, 2018]

Background characteristic	Vigorous intensity physical activity (min. per day)				Total (N)	Moderate intensity physical activity (min. per day)				Total (N)	Total physical activity in minutes of moderate- intensity activity (min. per day)**				Total respondents (N)
	Average	Median	IQR			Average	Median	IQR			Average	Median	IQR		
			p25	p75				p25	p75				p25	p75	
Age															
18-24	45.0	0.0	0.0	25.7	1023	122.8	80.0	33.6	160.0	1019	213.3	114.3	51.4	265.7	1017
25-39	60.7	0.0	0.0	38.6	3482	151.7	111.4	45.0	200.0	3460	272.2	150.0	64.3	374.3	3454
40-54	72.0	0.0	0.0	68.6	2500	147.9	105.7	40.0	200.0	2487	291.8	158.6	60.0	400.0	2484
55-69	39.5	0.0	0.0	17.1	1165	108.7	60.0	17.1	150.0	1165	187.7	90.0	25.7	255.7	1163
Sex															
Women	11.2	0.0	0.0	0.0	4379	122.3	90.0	38.6	171.4	4349	144.8	100.0	42.9	180.0	4347
Men	101.6	17.1	0.0	154.3	3791	151.9	94.3	30.0	222.9	3782	354.6	235.0	68.6	557.1	3771
Residence															
Rural	61.2	0.0	0.0	51.4	4713	140.6	96.4	37.1	188.6	4159	262.7	147.9	60.0	360.0	4151
Urban	36.4	0.0	0.0	0.0	3997	124.0	72.9	30.0	150.0	3792	196.7	98.6	38.6	231.4	3967
Division															
Barishal	49.9	0.0	0.0	25.7	986	111.3	85.7	40.7	150.0	983	211.2	115.7	60.0	265.7	983
Chattogram	48.2	0.0	0.0	21.4	1053	129.0	94.3	51.4	147.9	1051	224.9	120.0	60.0	244.3	1051
Dhaka Rural	45.8	0.0	0.0	17.1	995	111.7	60.0	25.7	141.4	996	203.7	94.3	38.6	241.4	994
Khulna	50.2	0.0	0.0	21.4	1040	176.8	128.6	42.1	282.9	1015	278.2	202.1	60.0	428.6	1015
Mymensingh	55.1	0.0	0.0	42.9	1018	175.4	120.0	30.0	270.0	1015	285.1	180.0	50.0	420.0	1012
Rajshahi	82.2	0.0	0.0	102.9	1065	160.3	121.4	60.0	222.9	1060	322.1	186.4	90.0	497.1	1059
Rangpur	60.1	0.0	0.0	51.4	1004	135.7	98.6	32.1	201.4	1003	256.4	154.3	55.7	360.0	999
Sylhet	71.4	0.0	0.0	40.0	1009	114.4	88.6	28.6	150.0	1008	257.1	114.3	30.0	276.4	1005
Education															
No education	75.1	0.0	0.0	80.0	3670	138.8	90.0	30.0	182.1	3655	288.1	160.0	59.3	407.1	3648
Primary	45.9	0.0	0.0	17.1	2527	145.2	92.1	45.0	197.1	2515	237.2	120.0	60.0	301.4	2510
Secondary	42.8	0.0	0.0	17.1	888	129.6	88.6	30.7	175.0	879	216.0	120.0	45.0	240.0	879
More than secondary	24.8	0.0	0.0	17.1	1064	116.9	74.3	30.0	154.3	1061	166.5	105.0	37.1	201.4	1060
Wealth quintile															
Lowest	77.5	0.0	0.0	102.9	1636	140.5	90.0	31.4	210.0	1625	294.0	171.4	60.0	430.0	1623
Second	71.9	0.0	0.0	72.9	1667	141.5	94.3	35.7	195.0	1659	284.8	150.0	60.0	397.1	1656
Middle	73.4	0.0	0.0	68.6	1445	148.3	102.9	40.0	185.7	1438	295.9	167.1	64.3	415.7	1433
Fourth	35.7	0.0	0.0	8.6	1504	138.5	90.0	30.0	180.0	1499	210.2	120.0	45.0	270.0	1497
Highest	19.8	0.0	0.0	0.0	1918	115.4	77.1	30.0	150.0	1910	154.7	90.0	40.0	184.3	1909
Total (25-69)	59.0	0.0	0.0	38.6	7147	141.3	94.3	34.3	187.1	7112	258.7	141.4	57.1	360.0	7101
Total (18-69)	55.6	0.0	0.0	34.3	8,170	136.9	90.0	34.3	180.0	8131	247.9	132.0	53.6	330.0	8118

*MET(Metabolic equivalent of task): for vigorous activity 1 minute equate to 8 units of MET; for moderate activity 1 minute equate to 4 units of MET. **Minutes spent on vigorous-intensity activities per day are multiplied by 2, to derive equivalent minutes of moderate-intensity activities, which is then summed up to derive total physical activity in minutes of moderate-intensity activity per day.

Table Physical activity.8.2 Percent not meeting physical activity recommendations: All respondents

Percent of men and women (18-69 years) not meeting physical activity recommendations*, according to background characteristics [Bangladesh, 2018]

Background characteristic	Total Percent	n	Women Percent	n	Men Percent	n
Age						
18-24	11.2	1017	14.7	615	7.0	402
25-39	8.8	3454	7.8	2000	9.7	1454
40-54	11.3	2484	12.6	1276	10.0	1208
55-69	23.1	1163	36.6	456	12.2	707
Residence						
Rural	11.7	4151	15.1	2252	8.1	1899
Urban	14.2	3967	13.8	2095	14.6	1872
Division						
Barishal	14.2	983	18.4	538	9.7	445
Chattogram	11.2	1051	14.2	552	7.6	499
Dhaka Rural	13.1	994	13.1	518	13.1	476
Khulna	9.6	1015	9.2	535	10.0	480
Mymensingh	17.3	1012	25.6	547	7.4	465
Rajshahi	8.4	1059	10.9	569	6.0	490
Rangpur	9.4	999	6.8	543	12.1	456
Sylhet	20.9	1005	32.6	545	7.8	460
Education						
No education	13.1	3648	17.9	1948	8.1	1700
Primary	10.4	2510	10.3	1512	10.4	998
Secondary	11.9	879	14.5	427	9.4	452
More than secondary	14.0	1060	16.5	439	12.6	621
Wealth quintile						
Lowest	12.8	1623	16.9	973	7.5	650
Second	10.9	1656	12.4	903	9.3	753
Middle	8.5	1433	12.7	717	5.2	716
Fourth	15.6	1497	18.3	712	13.0	785
Highest	13.4	1909	13.3	1042	13.6	867
Total (25-69)	12.6	7101	14.8	3732	10.4	3369
Total (18-69)	12.3	8118	14.8	4347	9.6	3771

*WHO physical activity recommendations per age group: [15-17 years] At least 60 minutes of moderate- to vigorous-intensity physical activity daily; [18-64] At least 600 METs (metabolic equivalent of tasks) of physical activity throughout the week or 150 minutes of moderate-intensity physical activity per week or 75 minutes of vigorous-intensity physical activity per week; [65 years and above] same as age group 18-64 years. (For complete recommendation, please refer to Global recommendation on physical activity for health, 2010).

Table Physical Activity.8.3 Proportional contribution of each domain to total physical activity: all respondents

Proportional share of total physical activity from work, travel and recreational activities amongst adults (18-69) who participate in some level of physical activity, according to background characteristics*
[Bangladesh, 2018]

Background characteristic	Average percent contribution to overall physical activity from:			Total (%)	Total respondents (n)**
	Work	Travel from and to places	Recreational activities		
Age					
18-24	71.6	18.1	10.4	100.0	954
25-39	75.9	21.0	3.1	100.0	3292
40-54	76.0	22.2	1.9	100.0	2319
55-69	65.9	31.6	2.5	100.0	1028
Sex					
Women	85.9	12.8	1.3	100.0	4,021
Men	60.7	31.5	7.8	100.0	3,572
Residence					
Rural	75.6	20.4	4.0	100.0	3,934
Urban	65.6	28.1	6.3	100.0	3,659
Division					
Barishal	71.1	23.4	5.5	100.0	908
Chattogram	71.1	26.1	2.8	100.0	999
Dhaka Rural	70.3	22.7	7.0	100.0	957
Khulna	76.4	18.7	5.0	100.0	964
Mymensingh	74.8	22.8	2.4	100.0	932
Rajshahi	78.6	17.4	4.0	100.0	1007
Rangpur	77.6	18.3	4.1	100.0	972
Sylhet	69.6	26.9	3.5	100.0	854
Education					
No education	79.1	19.5	1.4	100.0	3426
Primary	75.2	21.0	3.8	100.0	2364
Secondary	67.7	24.1	8.2	100.0	826
More than secondary	54.4	32.0	13.7	100.0	962
Wealth quintile					
Lowest	83.4	15.0	1.6	100.0	1540
Second	79.9	17.6	2.5	100.0	1585
Middle	73.5	21.3	5.3	100.0	1357
Fourth	69.0	25.6	5.4	100.0	1393
Highest	60.6	31.3	8.1	100.0	1718
Total (25-69)	73.9	23.4	2.7	100.0	6,639
Total (18-69)	73.4	22.1	4.6	100.0	7,593

*proportion calculation based on amount of METs per activity among total amount of METs of total physical activity ** Adults who reported no participation in any type of physical activities were excluded.

Table Physical Activity.8.4 Average and median time spent on sedentary activity on a typical day: all respondents

Average time (minutes per day) spent sitting or reclining among adults (18-69 years), according to background characteristics [Bangladesh, 2018]

Background characteristic	Average	95% CI		Median	Interquartile range		Total respondents
					p25	p75	(n)
Age							
18-24	183.6	170.6	196.6	150.0	90.0	240.0	1026
25-39	169.7	158.5	180.9	120.0	60.0	240.0	3489
40-54	158.7	146.2	171.1	120.0	60.0	210.0	2503
55-69	193.1	176.3	210.0	150.0	80.0	270.0	1167
Sex							
Women	193.5	181.1	205.8	150.0	90.0	270.0	4381
Men	155.5	143.9	167.0	120.0	60.0	205.0	3804
Residence							
Rural	173.7	162.0	185.4	135.0	60.0	240.0	4183
Urban	178.4	162.9	193.8	150.0	60.0	240.0	4002
Division							
Barishal	146.7	134.8	158.6	120.0	60.0	180.0	986
Chattogram	156.1	144.4	167.9	120.0	90.0	205.0	1053
Dhaka Rural	214.8	182.9	246.6	185.0	60.0	300.0	997
Khulna	186.6	158.6	214.6	150.0	90.0	240.0	1040
Mymensingh	166.7	126.9	206.5	120.0	60.0	240.0	1021
Rajshahi	186.9	173.3	200.5	155.0	90.0	300.0	1066
Rangpur	110.6	88.5	132.8	80.0	30.0	150.0	1009
Sylhet	168.3	153.9	182.7	150.0	90.0	220.0	1013
Education							
No education	167.2	155.0	179.4	120.0	60.0	240.0	3678
Primary	167.1	156.1	178.1	121.0	60.0	240.0	2533
Secondary	192.9	175.2	210.7	150.0	90.0	240.0	888
More than secondary	201.7	184.7	218.8	180.0	90.0	300.0	1065
Wealth quintile							
Lowest	169.9	152.6	187.3	120.0	60.0	240.0	1639
Second	161.2	145.6	176.9	120.0	60.0	210.0	1670
Middle	164.9	150.7	179.1	120.0	60.0	210.0	1451
Fourth	182.2	170.1	194.4	150.0	90.0	240.0	1506
Highest	195.6	183.8	207.3	180.0	90.0	270.0	1919
Total (25-69)	172.0	161.8	182.1	120.0	60.0	240.0	7159
Total (18-69)							

Chapter 9 Anthropometry

Key findings

Nutritional status:

- o *Underweight:* 13.7% of adults (11.6% women, 15.7% men)
- o *Overweight:* 20.5% of adults (25.1% women, 16.0% men)
- o *Obesity:* 4.3% of adults (8.6% women, 2.3% men)
- o *Mean population Body-mass Index (BMI):* 22.7 kg/m^2 (23.5 kg/m^2 in women, 21.9 kg/m^2 in men)

Waist circumference and waist-hip ratio:

- o *High waist circumference (>88cm for women, >104 for men): 10.9% (20.1% in women, 1.8% in men)*
- o *High waist-hip ratio (>= 0.85 for women, >=0.90 for men): 42.7% (42.2% in women, 43.2% in men)*

Disease risk based on body-mass index and waist circumference:

- o *Increased risk:18.6% (18.9% women, 18.2% men)*
- o *High risk: 7.8% (13.2% women, 8.5% men)*
- o *Very high risk: 4.9% (8.5% women, 1.3% men)*

Introduction

The global epidemic of overweight and obesity is rapidly becoming a major public health problem that paradoxically coexists with undernutrition in many developing countries. The increasing prevalence of overweight and obesity is associated with many chronic diseases including type 2 diabetes mellitus, cardiovascular disease (CVD), stroke, hypertension, non-alcoholic fatty liver disease, and certain cancers[52,53]. One of the nine voluntary global targets set under WHO Global Action Plan against NCDs[54] is to halt the rise in diabetes and obesity by 2025. Hence, Bangladesh has incorporated it as one of the key targets in its 5-year multisectoral action plan for 2018-2025[10] and its predecessor[39].

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[52] Lu, Y., Hajifathalian, K., Ezzati, M., Woodward, M., Rimm, E.B. and Danaei, G., 2014. Metabolic mediators of the effects of body-mass index, overweight, and obesity on coronary heart disease and stroke: a pooled analysis of 97 prospective cohorts with 1· 8 million participants.

53 The GBD 2015 Obesity Collaborators. Health Effects of Overweight and Obesity in 195 Countries over 25 Years. N Engl J Med. 2017;377(1):13-27. doi:10.1056/NEJMoa1614362

[54] WHO. The Updated Appendix of 3 of the Global Action Plan for the Prevention and Control of NCDs 2013-2020. World Health Organization. Global action plan for the prevention and control of NCDs 2013-2020. Geneva.

Current relevant policies and programs in Bangladesh for nutritional status

- Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases 2018-2025[10]

- National Nutrition Policy 2015[55]

This chapter summarizes anthropometric parameters that reflect both general obesity (body-mass Index (BMI)), and abdominal obesity as measured by waist circumference (WC) and waist-to-hip ratio (WHR) and its associated disease risk. The indicators presented will help Bangladesh assess current trends in overall nutrition status and the risk for chronic diseases and metabolic disorders and the effectiveness of current policy and programs.

9.1 Nutritional Status

In 2018, mean population BMI of adult population (15-69 years) was 22.7kg/m^2 which is within normal weight range (i.e. 18.5 to 24.9 kg/m2). 13.7% of adults were underweight (BMI<18.5 kg/m2) while 20.5% and 5.4% of adults were overweight (BMI-25-29.9) and obese (BMI>=30), respectively (**Table 9.1**).

Patterns by background characteristics for nutritional status (Table 9.1):

- Mean BMI was significantly higher in age groups 25-39 and 40-54 compared to older and younger age groups.

- Women had significantly higher mean BMI than men (23.5 kg/m2 vs 21.9 kg/m2) which is also reflected in prevalence of overweight and obesity (33.7% vs 18.3%) (**Table 9.1**)

- Adults who are urban residents, with higher education levels and higher household wealth had significantly higher mean BMI and prevalence of overweight and obesity (**Figure 9.1**). While the opposite relationship is seen for underweight (**Figure 9.2**)

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[55] National Nutrition policy 2015. Available at : http://extwprlegs1.fao.org/docs/pdf/bgd152517.pdf

Figure 9.1 Differentials in prevalence of overweight and obesity amongst adults aged 18-69, by residence, education and wealth, Bangladesh STEPs Survey 2018

Figure 9.2 Differentials in prevalence of underweight amongst adulst aged 18-69 by residence, education and wealth, Bangladesh STEPs Survey 2018
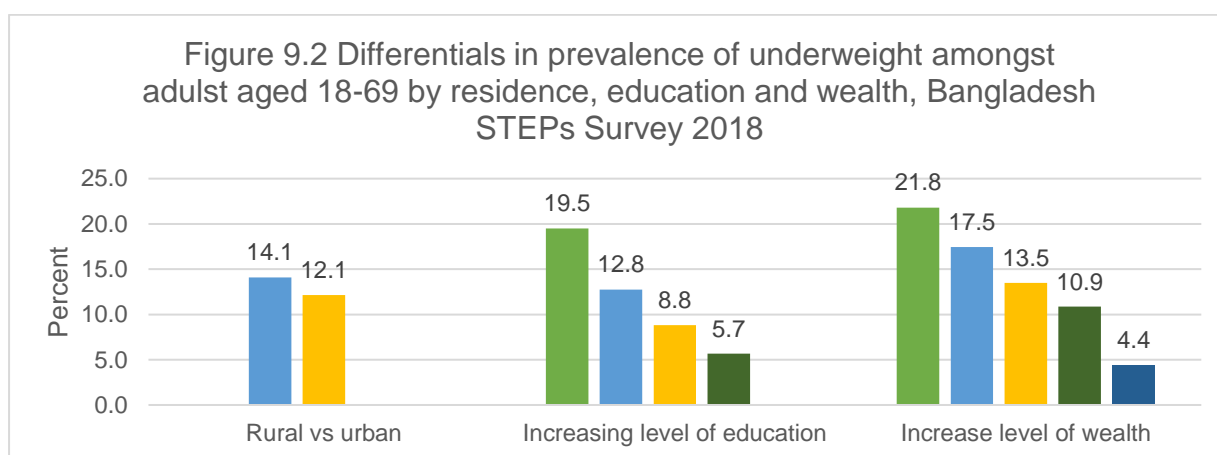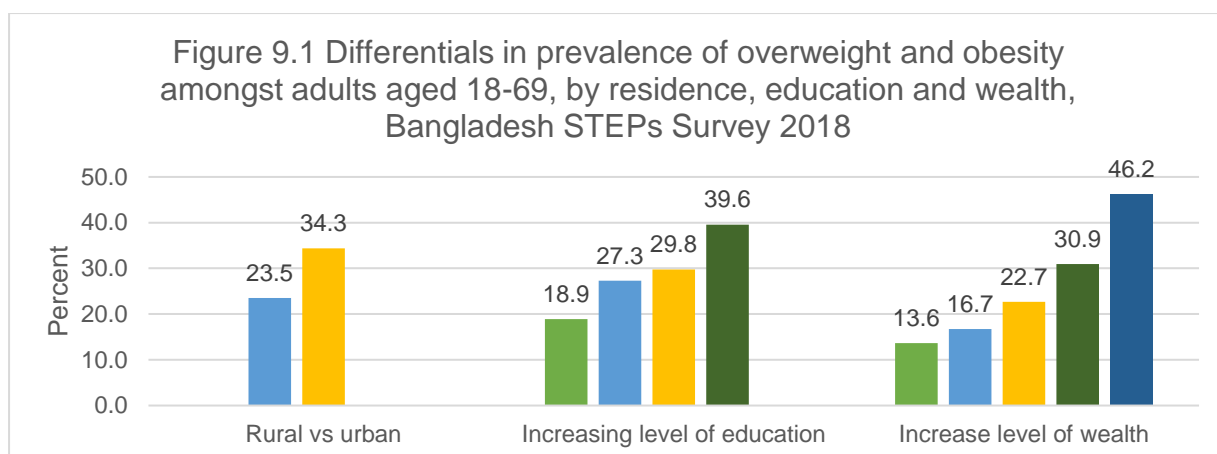
- Dhaka rural had the highest prevalence of overweight and obesity (31.6%) and Mymensingh had the highest prevalence of underweight (21.1%) (**Table 9.1**).

9.2 Waist Circumference and Waist-Hip Ratio

While BMI is a population-level measure for overweight and obesity, it does not reflect variation in body fat distribution and lean body mass. Both WC and WHR correlate more closely to abdominal obesity which in-turn is more reflective of metabolic abnormalities such as decreased glucose tolerance, reduced insulin sensitivity and adverse lipid profiles[56]. There are no definite evidence on appropriate universal or population-specific cut offs for WC or WHR[57] and variations in outcome measures used for reference. For the purpose of this report, cut-offs commonly attributed to WHO[6,58] (used for discussion below) and South Asian specific cut-offs established by International Diabetes Federation[59] (only shown in

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[56] WHO. Waist circumference and waist-hip ratio: report of a WHO expert consultation, Geneva, 2008.

[57] Lear SA, James PT, Ko GT, Kumanyika S. Appropriateness of waist circumference and waist-to-hip ratio cutoffs for different ethnic groups. Eur J Clin Nutr. 2010;64(1):42-61. doi:10.1038/ejcn.2009.70

[58] WHO. Obesity: preventing and managing the global epidemic: report a WHO consultation. Geneva, 2000.

[59] Alberti KGMM, Zimmet P, Shaw J. Metabolic syndrome-a new world-wide definition. A Consensus Statement from the International Diabetes Federation. Diabet Med. 2006;23(5):469-480. doi:10.1111/j.1464-5491.2006.01858.x

Table 9.2) that both have been widely cited across studies were utilized for cross country comparison and trend analysis. Further analysis using validated country or population specific cut-offs may be required for more sensitive population risk assessment.

The population mean WC of all adults (18-69 years) was 78.6 cm and mean WHR was 0.87 (**Table 9.2**). 10.9% of adults had high WC (>88 cm for women, > 102 cm for men). 42.7% of adults have high WHR (**Table 9.2**).

Patterns by background characteristics for waist circumference and waist-hip ratio (Table 9.2):

- Although mean WC did not differ significantly between men and women, a substantially higher proportion of women had high WC compared to men (20.1% vs 1.8%).
- Women had significantly lower mean WHR than men (0.84 vs 0.89) but did not differ much in prevalence of high WHR.
- A higher proportion of adults who are urban residents and are of higher household wealth had high WC and high WHR **(Figure 9.3).**

Figure 9.3 Percent adults aged 15-69 with high waist circumference and high wasit-hip ratio by residence and wealth, Bangladesh STEPs Survey 2018
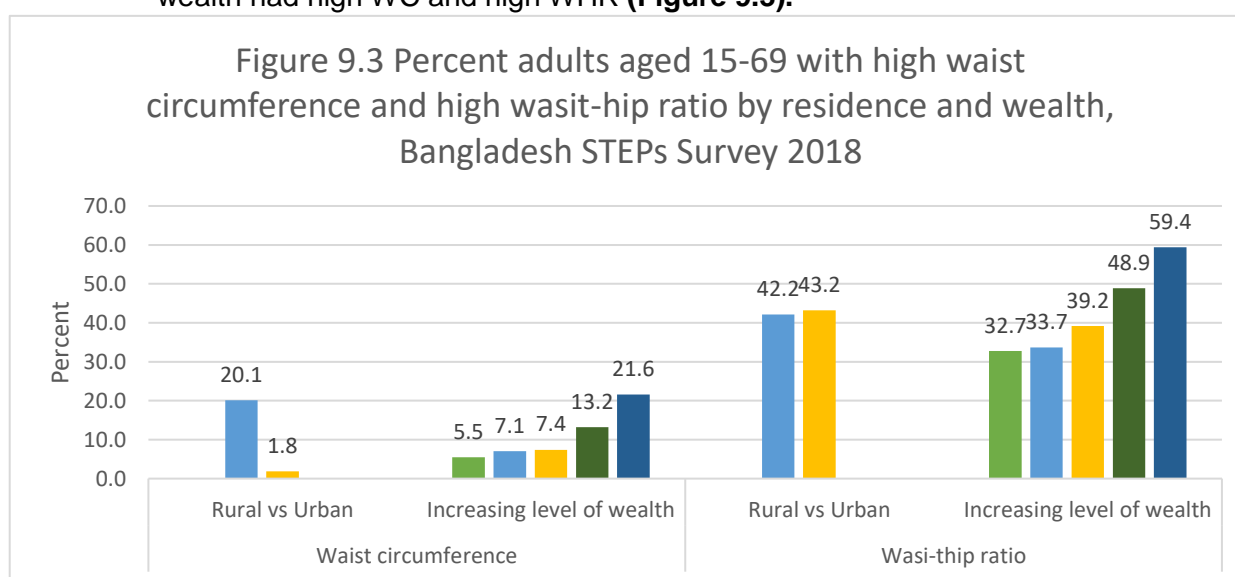
- Chattogram and Khulna are amongst the divisions with the highest prevalence of high WC or high WHR. Interestingly, Although Rangpur has the second highest prevalence of high WC(43.1%) , only 8.4% of adults have high WC. **(Table 9.2)**

9.3 Disease risk based on body-mass index and waist circumference
Information from BMI and WC can be combined to capture both general obesity and abdominal obesity for the better categorization of risk status relative to individuals who have normal BMI and normal WC **(Figure 9.6).**

Figure 9.6 Classification of Overweight and Obesity by BMI, Waist Circumference, and Associated Disease Risk* (adapted from: NHLBI Obesity Education Initiative (2000)[60])

	Waist Circumference	
BMI categories**	Men<=102cm, Women <=88cm	Men<102cm, Women <88cm
Normal (BMI 18.5-24.9)	Normal risk	Increased risk
Overweight (BMI 25.0-29.9)	Increased risk	High risk
Obese (BMI>=30.0)	High risk	Very high risk

*Disease risk is relative to normal weight and waist circumference
**Excluded underweight category

In Bangladesh 69.2% of adults had both a normal BMI and a normal WC and hence falls in the normal risk group for chronic diseases (**Table 9.3**). 19.9% of adults were in "increased" risk group, while 7.5% and 3.3% of all adults were categorized into "high" and "very-high" risk group respectively (**Table 9.3**).

Patterns by background characteristics (Table 9.3):

- A substantially higher proportion of men and rural residence compared to their counterparts.

- Rangpur has the highest percent of adults with normal risk (78.2%) and the lowest in Dhaka rural (63.9%)

- Increasing levels of education and household wealth is associated with a higher prevalence of disease risk (**Figure 9.7 & Figure 9.8**).

Figure 9.7 Differentials in disease risk based on BMI and WC by wealth amongst adults aged 18-69, Bangladesh STEPs Survey 2018
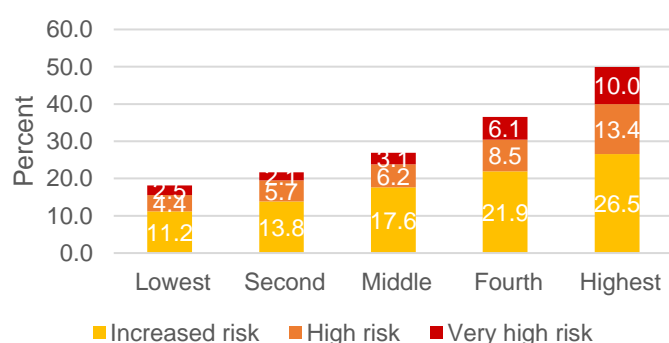
Figure 9.8 Differentials in disease risk based on BMI and WC by education level amongst adults aged 18-69, Bangladesh STEPs Survey 2018

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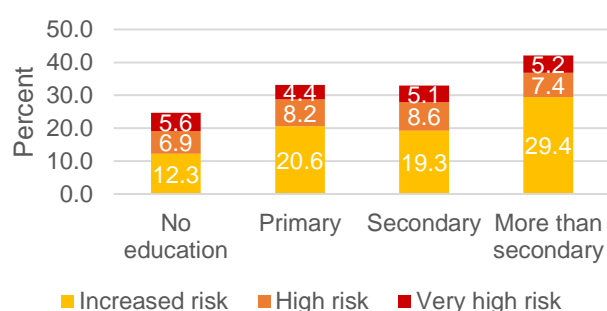
[60] National Institutes of Health. National Heart, Lung, and Blood Institute. NIH Publication Number 00-4084. October 2000. NHLBI Obesity Education Initiative.

Bangladesh, 2018

List of Tables:

For more information on anthropometry, see the following tables:

Table 9.1 Nutritional status based on body-mass Index: all respondents (excluding pregnant women)

Mean population BMI and percentage of adults aged 15-69 who had normal BMI, were underweight, overweight or obese; by background characteristics, [Bangladesh, 2018]

Background characteristic	Mean BMI* (kg/m2)	95% CI		Percent respondents who's weight status is:				Number of respondents (n)
				Normal (BMI 18.5-24.9)	Underweight (BMI<18.5)	Overweight (BMI 25.0-29.9)	Obese (BMI >= 30.0)	
Age								
18-24	21.6	21.3	- 22.0	69.4	14.8	13.0	2.9	966
25-39	23.2	23.0	- 23.4	57.1	11.5	25.7	5.7	3378
40-54	23.0	22.8	- 23.3	57.6	13.6	21.1	7.7	2484
55-69	22.3	21.8	- 22.7	59.3	17.1	18.0	5.6	1157
Sex								
Women	23.5	23.2	- 23.7	54.7	11.6	25.1	8.6	4206
Men	21.9	21.7	- 22.0	66.0	15.7	16.0	2.3	3779
Residence								
Rural	22.4	22.2	- 22.6	62.4	14.1	18.9	4.6	4087
Urban	23.6	23.3	- 23.9	53.5	12.1	26.0	8.3	3898
Division								
Barishal	22.5	22.2	- 22.8	62.5	13.8	18.9	4.8	967
Chattogram	23.0	22.6	- 23.4	60.6	11.1	22.2	6.2	1016
Dhaka Rural	23.1	22.8	- 23.5	56.3	12.1	25.4	6.2	974
Khulna	23.0	22.6	- 23.4	59.7	12.2	20.6	7.4	1023
Mymensingh	21.5	21.1	- 21.9	62.9	21.1	13.6	2.5	995
Rajshahi	22.8	22.3	- 23.3	59.0	13.4	21.3	6.3	1040
Rangpur	21.9	21.4	- 22.4	67.2	15.3	14.3	3.3	987
Sylhet	21.6	21.3	- 22.0	64.3	18.4	14.9	2.4	983
Education								
No education	21.8	21.6	- 22.1	61.6	19.5	13.5	5.4	2443
Primary	22.8	22.6	- 23.0	60.0	12.8	22.4	4.9	3622
Secondary	23.2	22.9	- 23.5	61.5	8.8	23.4	6.4	1352
More than secondary	24.0	23.3	- 24.7	54.7	5.7	33.0	6.6	547
Wealth quintile								
Lowest	21.2	20.9	- 21.4	64.6	21.8	11.2	2.4	1602
Second	21.7	21.4	- 21.9	65.8	17.5	14.5	2.2	1637
Middle	22.3	22.0	- 22.7	63.8	13.5	18.7	4.0	1405
Fourth	23.2	22.9	- 23.6	58.2	10.9	24.1	6.9	1471
Highest	24.9	24.6	- 25.3	49.4	4.4	34.4	11.8	1870
Total (18-39)	22.6	22.5	- 22.8	61.6	12.7	21.0	4.7	4344
Total (40-69)	22.7	22.4	- 22.9	58.3	15.2	19.7	6.8	3641
Total (25-69)	23.0	22.8	- 23.1	57.7	13.3	22.8	6.2	7019
Total (18-69)	22.7	22.5	- 22.8	60.4	13.7	20.5	5.4	7985

* underweight BMI<18.5; overweight BMI >=25.0-29.9; obese BMI>=30.0. For respondents aged 15-18, BMI classification is based on age: underweight BMI<-2SD, overweight BMI >=1-2SD, obese BMI>=2SD
(https://www.who.int/growthref/who2007_bmi_for_age/en/)

Table 9.2: Nutritional status based on waist circumference and waist-hip ratio: all respondents (excluding pregnant women)

Mean waist circumference and waist/hip ratio and Percentage of people age 18-69 (excluding pregnant women) who have high waist circumference and at-risk and high-risk waist-hip ratio; by background characteristics, [Bangladesh, 2018]

Background characteristic	Mean WC (cm)	95% CI			Percent adults with high WC based on cut-offs:		Mean WHR ***	95% CI			Percent adults with high WHR (>=0.85 women, >=0.90 men	Number of responde nts (n)
					women >88cm men >102cm*	women >80cm men >90cm**						
Age												
18-24	74.5	73.7	-	75.3	4.9	16.2	0.83	0.83	-	0.84	22.5	972
25-39	79.4	78.8	-	80.0	10.8	30.5	0.87	0.86	-	0.87	43.9	3388
40-54	80.4	79.7	-	81.0	14.1	32.5	0.88	0.88	-	0.88	51.9	2490
55-69	80.4	79.2	-	81.7	15.6	31.9	0.90	0.89	-	0.90	56.6	1163
Sex												
Women	78.2	77.5	-	78.8	20.1	41.1	0.84	0.84	-	0.85	42.2	4229
Men	79.1	78.5	-	79.6	1.8	14.7	0.89	0.89	-	0.90	43.2	3784
Residence												
Rural	77.8	77.3	-	78.3	9.6	25.4	0.86	0.86	-	0.87	40.7	4104
Urban	81.4	80.7	-	82.1	15.5	36.2	0.88	0.87	-	0.88	49.5	3909
Division												
Barishal	78.2	77.4		79.1	9.9	24.5	0.86	0.85		0.87	37.4	970
Chattogram	80.0	78.7	-	81.2	14.6	33.8	0.88	0.87	-	0.88	48.3	1022
Dhaka Rural	79.2	78.4	-	80.0	9.8	28.3	0.86	0.86	-	0.87	40.0	976
Khulna	79.8	78.7	-	80.9	14.8	30.9	0.87	0.86	-	0.88	43.3	1024
Mymensingh	77.1	76.0	-	78.3	8.4	24.9	0.87	0.86	-	0.88	43.3	999
Rajshahi	78.3	77.0	-	79.6	10.7	27.9	0.87	0.86	-	0.88	42.4	1046
Rangpur	76.1	75.1	-	77.1	6.0	18.5	0.87	0.86	-	0.87	43.6	989
Sylhet	76.9	75.6	-	78.1	8.4	22.3	0.86	0.85	-	0.87	37.8	987
Education												
No education	76.7	75.9	-	77.5	10.1	22.4	0.87	0.86	-	0.87	41.1	2451
Primary	78.7	78.1	-	79.4	11.5	29.5	0.86	0.86	-	0.87	41.5	3637
Secondary	79.9	79.1	-	80.8	11.0	29.8	0.87	0.86	-	0.88	43.1	1357
More than secondary	83.8	82.1	-	85.5	10.4	36.8	0.89	0.88	-	0.90	59.7	547
Wealth quintile												
Lowest	74.0	73.3	-	74.6	5.5	14.0	0.85	0.85	-	0.86	32.7	1606
Second	75.6	74.8	-	76.3	7.1	19.1	0.85	0.85	-	0.86	33.7	1645
Middle	78.1	77.3	-	79.0	7.4	23.2	0.87	0.86	-	0.87	39.2	1411
Fourth	80.8	79.9	-	81.8	13.2	34.1	0.88	0.87	-	0.89	48.9	1477
Highest	84.8	83.8	-	85.7	21.6	49.1	0.89	0.88	-	0.90	59.4	1874
Total (18-39)	77.6	77.1	-	78.1	8.6	25.2	0.85	0.85	-	0.86	36.0	4360
Total (40-69)	80.4	79.7	-	81.1	14.8	32.2	0.89	0.88	-	0.89	54.0	3653
Total (25-69)	79.9	79.4	-	80.4	12.7	31.3	0.88	0.87	-	0.88	48.8	7041.0
Total (18-69)	78.6	78.2	-	79.1	10.9	27.8	0.87	0.86	-	0.87	42.7	8013

*WHO cut-offs for substantially increased risk by WC: >88 cm for women and >102 cm for men. ** International Diabetes Federation(IDF) cut-offs for increased risk by WC for South Asians: >80cm for women and >90 cm for men. ***WHO cut offs for increased risk by WHR:>=0.85 for women, >=0.90 for men.

Table 9.3 Disease risk based on body-mass index and waist circumference: all respondents (excluding pregnant women)

Prevalence of different levels of disease risk* based on Body Mass Index and waist circumference amongst adults aged 18-69, by background characteristics, [Bangladesh, 2018]

Background characteristic	Percent of adults who's disease risk is:				Total	Number of respondents (N)
	Normal risk**	Increased risk	High risk	Very high risk		
Age						
18-24	80.7	13.3	3.6	2.4	100.0	826
25-39	63.9	22.7	8.9	4.5	100.0	3002
40-54	64.9	19.0	8.6	7.4	100.0	2175
55-69	68.5	15.0	10.1	6.3	100.0	965
Sex						
Women	59.5	18.9	13.2	8.5	100.0	3755
Men	78.2	18.2	2.4	1.3	100.0	3213
Residence						
Rural	71.3	17.6	6.9	4.2	100.0	3466
Urban	59.7	21.8	11.2	7.3	100.0	3502
Division						
Barishal	71.0	17.2	7.9	3.8	100.0	863
Chattogram	65.5	19.3	9.6	5.6	100.0	910
Dhaka Rural	63.9	22.5	9.0	4.6	100.0	861
Khulna	67.1	16.5	8.5	8.0	100.0	921
Mymensingh	77.6	13.4	6.1	2.9	100.0	801
Rajshahi	66.9	21.1	5.8	6.3	100.0	917
Rangpur	78.2	14.4	4.8	2.6	100.0	869
Sylhet	77.7	12.7	7.0	2.6	100.0	826
Education						
No education	75.3	12.3	6.9	5.6	100.0	1994
Primary	66.8	20.6	8.2	4.4	100.0	3174
Secondary	67.1	19.3	8.6	5.1	100.0	1256
More than secondary	57.9	29.4	7.4	5.2	100.0	530
Wealth quintile						
Lowest	81.9	11.2	4.4	2.5	100.0	1248
Second	78.4	13.8	5.7	2.1	100.0	1373
Middle	73.1	17.6	6.2	3.1	100.0	1217
Fourth	63.5	21.9	8.5	6.1	100.0	1332
Highest	50.1	26.5	13.4	10.0	100.0	1798
Total (18-39)	69.9	19.3	7.0	3.8	100.0	3828
Total (40-69)	66.5	17.2	9.3	6.9	100.0	3140
Total (25-69)	65.1	20.1	9.1	5.7	100.0	6142
Total (18-69)	68.7	18.6	7.8	4.9	100.0	6968

* Disease risk for type 2 diabetes, hypertension and CVD. Normal risk: Normal BMI and normal WC; increased risk: normal BMI and high WC or overweight and normal WC; High risk: overweight and high WC or Obese and normal WC; very high risk: obese and high WC. ** Adults who are underweight were excluded. Source: NHLBI Obesity Education Initiative (2000)

Chapter 10 Blood Pressure: screening, prevalence and treatment

Key findings

Prevalence of raised blood pressure (BP) among adults age 18-69 yrs.

- o *Based on actual measurement:* Based on the criteria of Systolic BP$\geq$ 140 or diastolic BP$\geq$90mm Hg, the prevalence of raised blood pressure was 21.0%. This includes people on medication who were normotensive at the time of the survey.
- o *Self-reported prevalence:* Among adults who had ever had their BP measured, 13.7% adults were ever told by a doctor or health care provider that they have raised BP.

Diagnosis and treatment gap among those noted to have raised BP at the time of survey

- o *Unaware about their raised BP: 51.3% adults*
- o *Not on treatment: 13.8% of adults knew their raised BP but were not on treatment.*
- o *On treatment but not controlled: 20.8% of adults.*
- o *On treatment and controlled: 14.1% of adults.*

Screening coverage, prescription of medications, treatment compliance

- o *Screening coverage: 70.1% of adults (78.8 % among 40-69 years old) had had their BP ever measured by a doctor or a health care provider.*
- o *Treatment compliance: Among adults who were told to have raised 77.3% reported ever taking medications and 41.4% reported currently taking their prescribed medication in the two weeks prior to the survey.*

Sources of care and medications

- o *Public and private sources of care: 77.2% and 14.0% of adults reported seeking treatment and advice for raised BP usually from only private and public facilities, respectively. 6.3% reported seeking care from either government or private facilities.*
- o *Sources of drugs/medications: Majority of the adults (97.5%) who were prescribed medication reported usually getting them only from private sources and only 1.0% reported getting their medications only from government facilities.*
- o *Only 1.4% of adults reported ever seeking care from local healers while 0.3% reported using herbal medications to control their raised BP.*

Reasons for not taking medications among those prescribed medication to control their hypertension

- o *"Medication not necessary" and "blood pressure got normal" were the most common reasons given for not taking medication-- reported by 68.1% adults.*

Introduction

Elevated blood pressure or hypertension is a serious medical condition which significantly increases the risk of developing heart, brain, kidney and other diseases. An individual is considered hypertensive if when measured on two consecutive occasions, their systolic blood pressure is ≥140mm Hg and their diastolic blood pressure is ≥ 90mm Hg on both occasions.[61]

Hypertension if often considered a "silent killer" as most people with hypertension are unaware of the problem and the condition may represent no warning signs or symptoms. Several modifiable risk factors may lead to hypertension. These include unhealthy diets (excessive salt consumption, a diet high in saturated fat and trans fats, low intake of fruits and vegetables), physical inactivity, consumption of tobacco and alcohol, and being overweight or obese.[61]

Under the WHO Global Action Plan, one of the nine voluntary targets is to achieve 25% relative reduction in the prevalence of raised blood pressure by 2025 relative to 2010 levels.[62] Hence, Bangladesh has incorporated it as one of the key targets in its 5-year multisectoral action plan for 2018-2025[10] and its predecessor[39].

Current relevant policies and programs in Bangladesh for nutritional status

- Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases 2018-2025[10]
- National guidelines for management of hypertension in Bangladesh[63]

This chapter focuses on indicators related to blood pressure; assessing prevalence, diagnosis and treatment gaps and care seeking behaviors around blood pressure management. This information will help Bangladesh assess trends and progress towards hypertension management as specified in its multisectoral action plan as well as evaluation of current policies and programs in place to reduce population blood pressure levels. These will also guide future policy and programs to manage hypertension at population level.

Blood Pressure Measurement

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[61] World Health Organization (WHO). Hypertension [Internet]. Geneva, Switzerland: WHO; 13 Sep 2019 [cited 30 Mar 2020]. Available from: https://www.who.int/news-room/fact-sheets/detail/hypertension#
[62] World Health Organization. Global action plan for the prevention and control of NCDs 2013-2020. Geneva, Switzerland: WHO; 2013.
[63] World Health Organization. Country Office for Bangladesh. (2013). National guidelines for management of hypertension in Bangladesh. World Health Organization. Country Office for Bangladesh. https://apps.who.int/iris/handle/10665/279486

Blood pressure was measured with a digital, automated blood pressure monitor. Before taking the measurements, participants were asked to sit quietly and rest for 15 minutes with legs uncrossed. Three readings of systolic and diastolic blood pressure were obtained. Participants rested for three minutes between each reading. The mean of the second and third readings was calculated. A universal cuff size was used for all participants. The sphygmomanometer cuff was placed on the left arm while the participant rested their forearm on a table with the palm facing upward. Participants were requested to remove or roll up clothing on the arm. The cuff was kept above the elbow aligning the mark for artery (ART) on the cuff with the brachial artery and making sure the lower edge of the cuff was placed 1.2 to 2.5 cm above the inner side of the elbow joint and with the level of the cuff at the same level as the heart.

Analysis

Hypertension was defined as having systolic blood pressure $\geq$140 mm Hg and/or diastolic blood pressure $\geq$90 mm Hg during the study, or normotensive at the time of survey but previously diagnosed as having hypertension and currently taking medications to control blood pressure.

Observations which had systolic BP $\leq$ 40 mm Hg or $\geq$300 mm Hg were and Diastolic BP <30 mm Hg or $\geq$ 200 mm Hg were excluded, though none of adults were recorded in this range. In case the third reading was invalid, the average of the first two readings was considered.

10.1. Prevalence of raised blood pressure based on measurement and medications history

Self-reported prevalence is likely to underestimate the true prevalence as many people may be asymptomatic and not aware of their BP status. Therefore, carrying out measurements in order to determine the actual prevalence is essential to understanding the overall risk of hypertension across the population.

Overall 21.0% of adults were measured to have raised BP based on both the measurement and medications history (**Table 10.1**). On the other hand, based on self-reports among adults who ever got their BP measured, the prevalence was only 13.7% (**Table 10.2**).

Patterns by background characteristics (Table 10.1):

- The prevalence of hypertension increased with age. The prevalence increased substantially after the age 40 (34.4% prevalence among adults aged 40-54 years). Prevalence of hypertension was significantly higher in women compared to men (24.1% vs 17.9%).

- No significant trends regarding prevalence of hypertension were observed by education level. The prevalence of hypertension increased with increase in wealth quintile with a 15.8% prevalence in the lowest group and 28.8% in the wealthiest group.
- Prevalence of hypertension was higher in residents of urban households compared to rural households (25.2%-urban vs 19.8%-rural). The prevalence of hypertension was observed to be the highest in the Barisal region- 25.0% followed by 22.5% in Chittagong and lowest in the Sylhet region 18.1% (**Figure 10.1**).

Figure 10.1 Regional differences in hypertension prevalence among 18-69 years population, Bangladesh's STEPs survey 2018
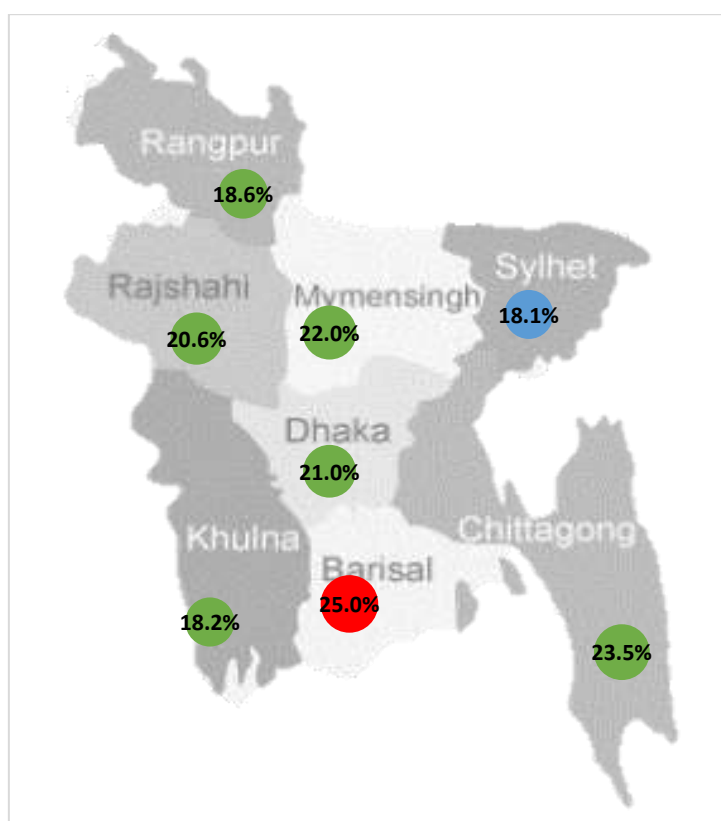
10.2. Diagnosis and treatment gap

Hypertension increases the risk of development of severe health complications such as heart disease or stroke. Ensuring early diagnosis and initiation of treatment enables adults to make necessary lifestyle adjustments and reduces the risk of lasting damage.

Diagnosis gap (Table 10.1):

Of all the people who were diagnosed to be hypertensive as presented in section 10.1, 51.3 % hypertensive adults were unaware of their hypertensive status.

- Percentage of people unaware of their raised BP status declined with age.

- More men were unaware of their raised BP status than women (56.4%- men vs 47.6%-women)

- The proportion of adults who were unaware of their diagnosis status decreased with increased education level and with increased household wealth. (Figure 10.3)

Treatment gap (Table 10.1):

Overall, 18.2 % of the people with raised BP at the time of survey were aware of diagnosis but were not on treatment. Out of remaining 17.5% of adults with raised BP who reported to be on treatment, 16.5% adults still have raised BP (uncontrolled) at the time of survey and only 11% of adults were on treatment and controlled.

- Similar to diagnosis gap, the proportion of adults who were on treatment increased with increasing age.

- A higher proportion of urban residents were on treatment when compared to rural residing hypertensive adults.

- The proportion of adults who were on treatment increased with increase in education level and increase in wealth. (**Figure 10.3**)

Quality of treatment (Table 10.1): Adults on treatment and controlled

- Overall, 14.1 % of adults were on treatment with BP within normal limits at the time of survey.

- A higher proportion of men were on treatment which could control their raised BP when women with raised BP (14.7%-men vs 13.6%-women)

- A higher proportion of urban residents were on treatment which could control their raised BP when compared to rural residing adults with raised BP (15.3%-Urban vs 13.6%-Rural)

- The proportion of adults who were on treatment with controlled BP increased progressively with increase in education level and increase in wealth quintile **(Figure 10.3)**

Figure 10.3 Diagnosis and Treatment gaps among adults aged 18-69 years by wealth quintile, Bangladesh's' STEPs survey 2018
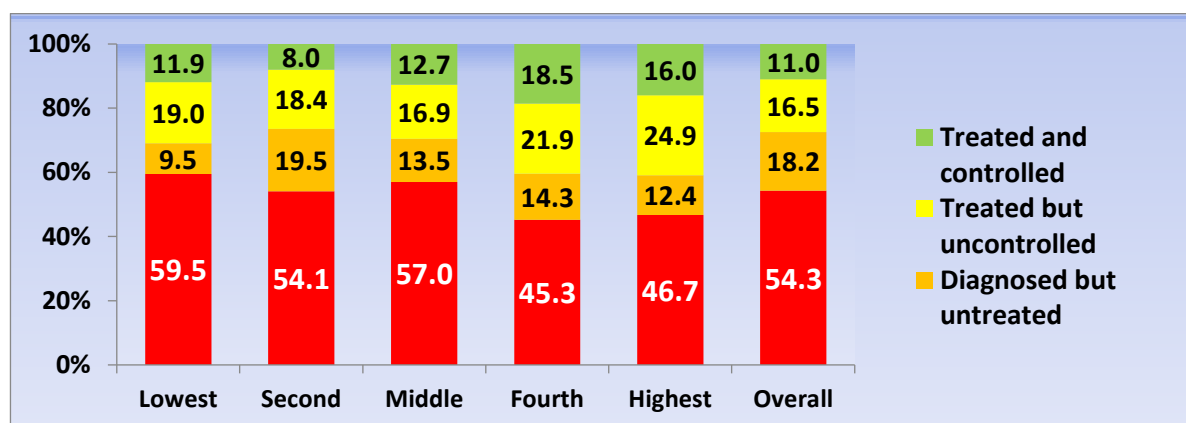
10.3. Screening coverage

Early detection of raised BP through regular (at least annual) screening of healthy adults is one of the key public health strategies for reduction the morbidity and mortality associated with hypertension. Though data were not elicited about annual screening, 70.1% adults (78.8 % among the age group 40-69 years old) had had their blood pressure ever measured by a doctor or a health care provider.

Patterns by background characteristics (Table 10.2):

- More women reported ever having their BP measured (82.9 %- women versus 57.0%- men).
- Younger adults age 15-24 years were much less likely to report their BP ever measured compared to other age-groups **(Figure 10.4).**
- The likelihood of ever having BP measured did not vary by residence types and but varied by region. The screening coverage in the Chittagong region was highest (77.2%) followed by the Khulna region (74.5%) and was least in the Rangpur region (57.6%). **(Figure 10.5).**
- The likelihood of having had BP measured increased significantly by household wealth **(Figure 10.4).**

Figure 10.4: Percent of adults who have ever had their BP measured by a doctor or health care provider among adults aged 18-69 years, Bangladesh's STEPs survey 2019
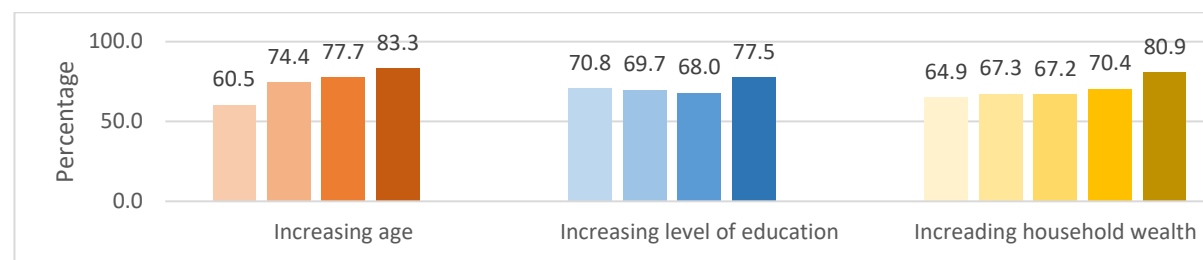
Figure 10.5 Percent of adults who have ever had their BP measured by a Doctor or Health Care provider among adults age 18-69 years, Bangladesh's STEPs survey 2018
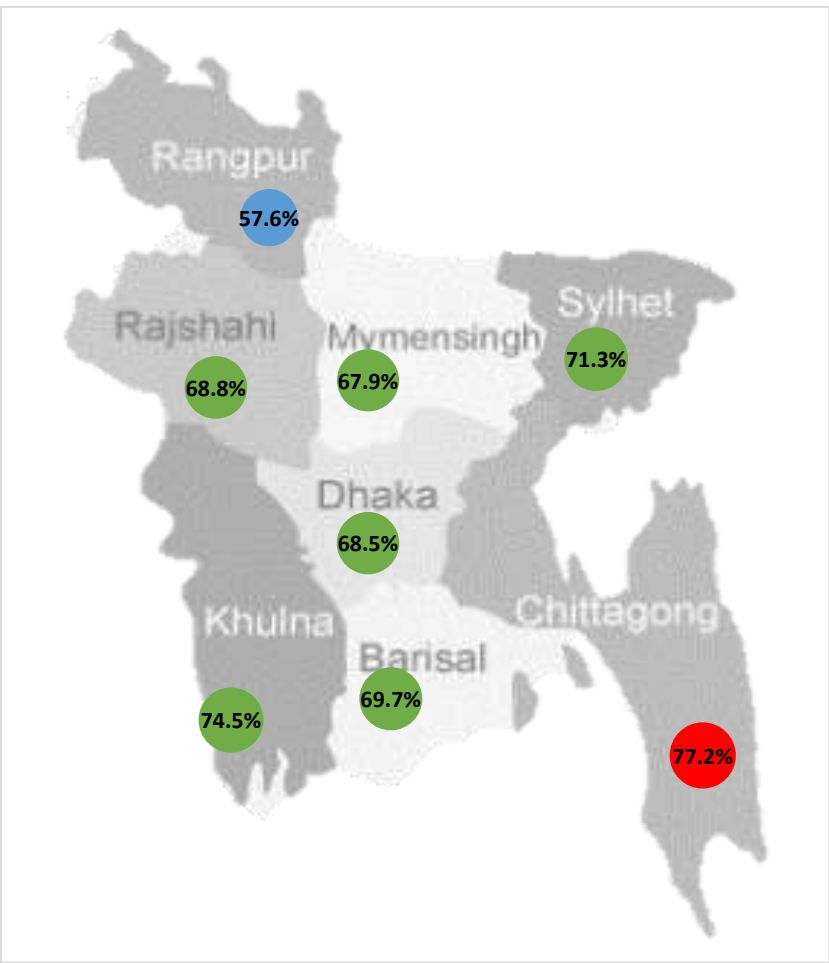
10.4. Prescription of medications and compliance with treatment (Table 10.2)

Monitoring of prescription practices and treatment compliance is an important strategy for evaluating the outcomes at individual and at population level. Hypertension is a chronic risk factor, requiring treatment over the lifetime of a person, which may reduce the compliance with treatment as observed with many other chronic conditions such as HIV/AIDS or tuberculosis.

Overall, 13.7% of adults who were ever told to have raised BP, 77.3% ever took medicines to control their BP and 41.4% reported currently taking the medications, showing poor compliance with the prescriptions.

- Compliance with treatment increased with age. So, if a person is diagnosed and prescribed medicine in 30-44-year age group, he/she is less likely to take drug compared to adults 45-69 years of age.

- The likelihood of ever taking medications varied inversely with educational level. However, the likelihood of having taken medications in the past two weeks prior to the survey increased with increase in education level.

- The proportion of the adults who reported ever taking or currently taking medications increased directly with household wealth.

10.5. Sources of care for treatment and advice and medications for raised BP

Overall a much higher proportion of adults sought treatment advise and care from Private facilities (which include NGO run centers) (77.2%) than from government (14.0%) or other sources (such as Ayurvedic, homeopathic or naturopathic hospital/clinic, medicine shops, pharmacies, etc.) (10.9%) **(Table 10.3).** Similarly, for medications, majority of the adults approached only private providers (97.5%), and only 0.8% of adults went to government providers. 1.0% of adults mentioned both government and private sources for medications for raised BP. (**Table 10.4**)

Background patterns: (Table 10.3 and 10.4)

- The proportion of adults who usually visited private facilities for care and medication increased with increasing age. Highest proportion of adults sought care-treatment and advice from private sources (77.2%)

- Men were more likely to seek both treatment/advice (16.0%- men vs 12.6%-women) and medications (1.4%- men vs 0.8%-women) only from government facilities.

- *Sources of care and household wealth*: More than half of all adults, even in the poorest wealth quintile sought care from private facilities. The proportion of adults seeking treatment and advice at government had a reverse relationship with wealth quintile **(Figure 10.7).** Lower wealth quintiles were more likely to seek advice and consultation from government facilities (17.8% in the lowest wealth index group) while higher wealth quintiles usually seek care form private facilities 15.4% in the wealthiest group).

- *Source of care and region*: In all the provinces and irrespective of the residence in urban or rural residences, more than 50% of adults sought both care/advice and medications from private providers. The use of government facilities for

advice/consultation was lowest in the Chittagong and Mymensingh regions, and higher in the Rangpur, Khulna and Rajshahi. (**Figure 10.8**).

- *Source of care and residence*:   By residence, while use of government facilities was much higher in urban residences for consultation and advice for raised BP compared rural residences, the same was not true for source of medication.

Figure 10.7 Percent of adults (who were ever told to have raised BP) who sought treatment care/advise and medications from government and private facilities with respect to wealth quintile, Bangladesh's STEPs survey 2018
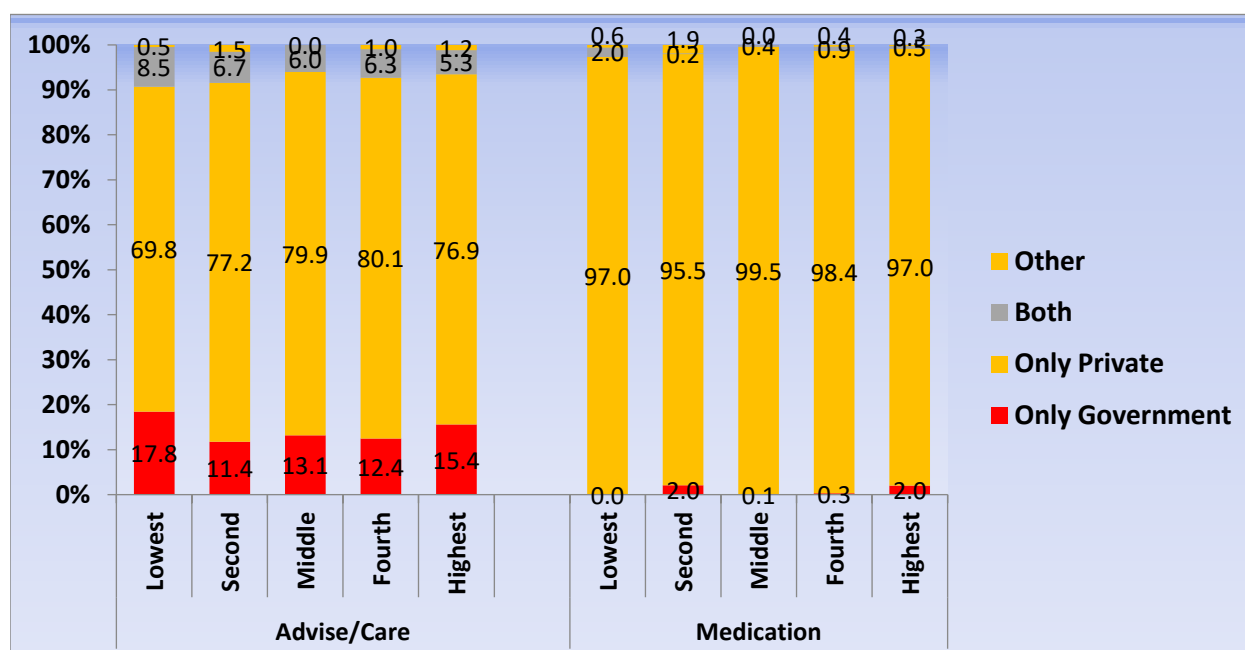
Figure 10.8 Percent of adults (who were ever told to have raised BP) who sought treatment care/advise from government facilities with respect to province, Bangladesh's STEPs survey 2018
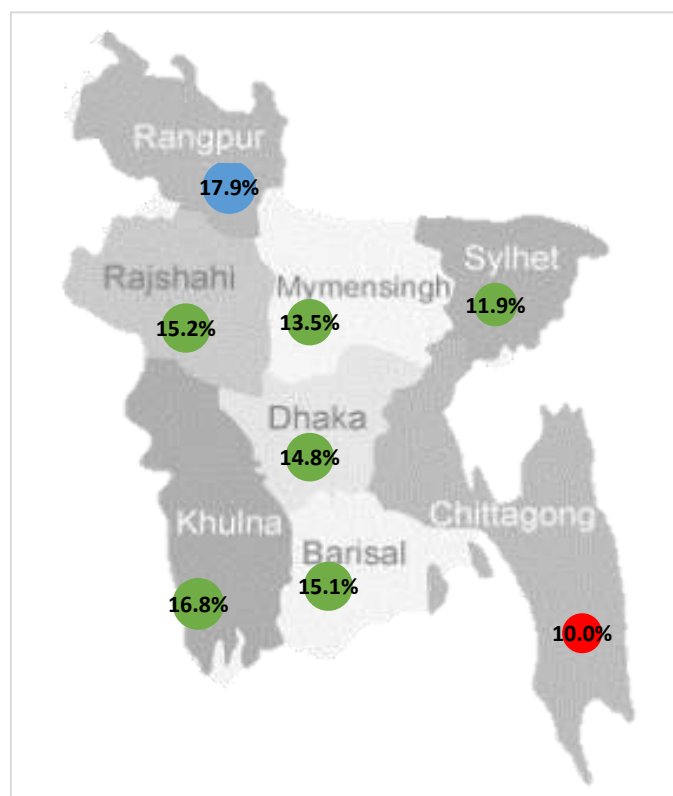
10.6. Consultation with traditional healers and use of herbal remedies

1.4% of adults with raised BP who reported visiting a traditional healer for treatment and advise of which 0.3% adults reported currently taking herbal or traditional remedies for their raised blood pressure.

Background patterns: (Table 10.5)

- The proportion of adults who reported taking herbal or traditional remedies for their raised blood pressure was highest in the 40-55 years age group- 1.1%. Women were more likely to have ever visited a local healer as compared to men (1.9%- women vs 0.6%- men). Additionally, a higher proportion of women reported currently taking herbal or traditional remedies to control their BP among adults who had ever visited a traditional healer. (0.5%-women vs 0%-men)

- Rural residents were more likely to have ever visited a local healer as compared to urban residents.

- The proportion of adults who had ever visited a local healer and currently taking herbal or traditional remedies to control their BP decreased with increase in education level.

Figure 10.9 Percent of adults (who were ever told to have raised BP) who had ever visited a traditional healer with respect to region, Bangladesh's STEPs survey 2018
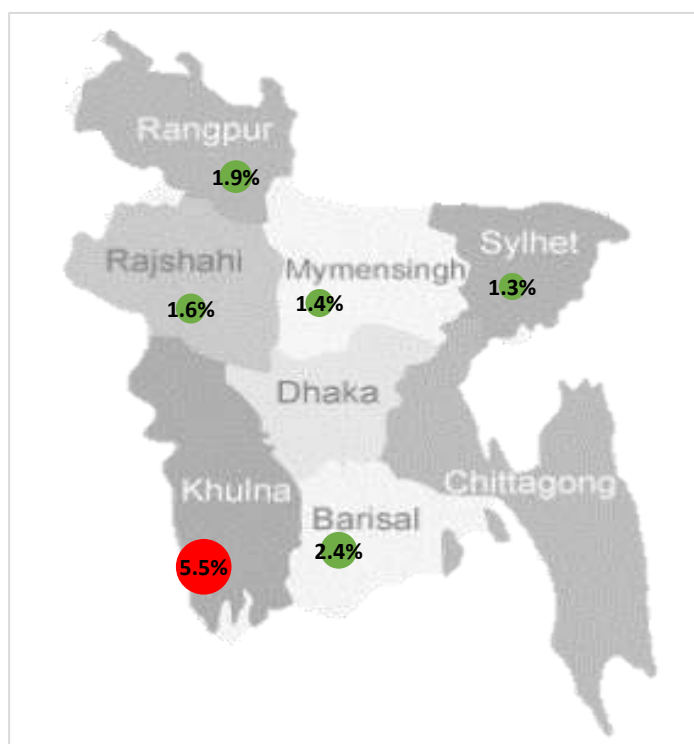
10.7. Reasons for not on treatment

69.8% of adults who were prescribed medications cited "didn't think the drugs were necessary" and "their blood pressure got normal "as reasons for not currently taking medications/treatment (**Table 10.6**).   The second most common reason given for not taking medications was "too expensive/ drugs not available" as cited by 19.6% adults

Patterns by background characteristics (Table 10.6):

- The highest proportion of adults who reported "too expensive/ drugs not available" were within the ages 40-54 years (24.1%).

- A higher proportion of men (77.8 %) gave the reasons "did not think drugs were necessary" or "their blood pressure was under control" compared to women (61.2%).

- The proportion of adults who reported did not think drugs were necessary" or "their blood pressure was under control" increased with increase in education level and increased household wealth.

Figure 10.11 Reasons for which hypertensive adults reported not taking drugs for raised BP, Bangladesh 2018.
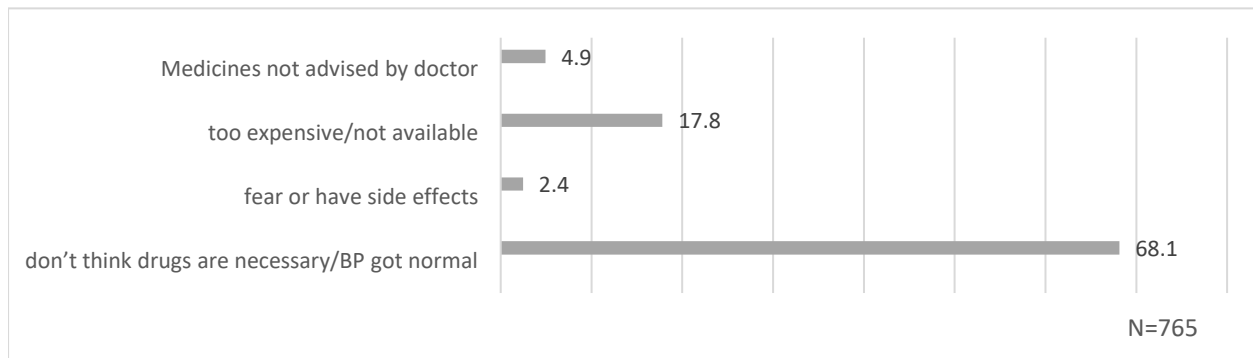
List of Tables:

For more information on raised blood pressure prevalence, screening and treatment coverage or sources of care, see the following tables:

Table: 10.1 Prevalence of raised BP and diagnosis, treatment and control rates

Table: 10.2 Measurement of BP, prescription of medications, treatment compliance

Table: 10.3 sources of care for raised BP

Table: 10.4 sources of medications for raised BP

Table: 10.5 Care seeking from traditional healers and use of traditional/herbal remedies

Table: 10.6 Reasons for not taking medications among those told to have raised BP and have been prescribed medications.

Table NCD.10.1 Prevalence of raised BP and diagnosis, treatment and control rates: All

Percentage of people 18-69 who had raised BP at the time of survey or on BP medications and who were aware of their diagnosis, on treatment or have their BP controlled or uncontrolled with medications , by background characteristics, [Bangladesh, 2018]

Background characteristic	Prevalence of raised BP[1]	(n)	Among those with raised BP[1]				
			Not aware of diagnosis	Aware of diagnosis but not treatment	On treatment but not controlled	On treatment and controlled	Total (n)
Age							
15-24	8.8	1919	69.7	9.8	6.6	14.0	177
25-39	20.7	3439	58.1	15.8	16.7	9.5	762
40-54	34.4	2098	43.5	16.5	24.5	15.5	816
55-69	46.9	563	39.7	11.4	31.3	17.6	266
Sex							
Women	24.1	4306	47.6	14.5	24.3	13.6	1215
Men	17.9	3713	56.4	12.9	15.9	14.7	806
Residence							
Rural	19.8	4106	54.0	14.9	17.5	13.6	887
Urban	25.2	3913	43.9	10.8	30.0	15.3	1134
Region							
Barishal	25.0	975	43.6	15.5	18.9	21.9	299
Chattogram	23.5	1031	47.8	14.4	19.7	18.1	236
Dhaka Ru	21.0	975	52.5	14.1	22.4	11.0	251
Khulna	18.2	1021	51.2	11.3	24.9	12.6	260
Mymensingh	22.0	991	49.4	13.4	23.3	13.9	230
Rajshahi	20.6	1045	57.7	17.0	15.2	10.1	263
Rangpur	18.6	986	62.7	12.1	20.6	4.6	234
Sylhet	18.1	995	40.4	8.5	23.1	28.1	248
Education							
No education	22.7	3604	53.9	13.8	19.9	12.4	850
Primary	19.5	2486	53.1	14.2	18.5	14.3	616
Secondary	16.8	866	42.4	14.7	24.7	18.3	225
More than secondary	23.2	1042	45.4	12.5	25.8	16.3	327
Wealth quintile							
Lowest	15.8	1604	59.5	9.5	19.0	11.9	301
Second	17.8	1639	54.1	19.5	18.4	8.0	338
Middle	18.0	1425	57.0	13.5	16.9	12.7	296
Fourth	24.8	1479	45.3	14.3	21.9	18.5	427
Highest	28.8	1872	46.7	12.4	24.9	16.0	659
Total (18-39)	12.0	4447	65.2	12.8	10.7	11.3	663
Total (40-69)	37.0	3572	43.3	14.4	26.7	15.7	1358
Total (25-69)	25.0	7008	48.7	14.4	22.1	14.9	1945
Total (18-69)	21.0	8019	51.3	13.8	20.8	14.1	2021

1 based on measurement of BP and medications history

Table NCD.10.2 Blood Pressure measured, self-reported prevalence and treatment of raised blood pressure: All

Percentage of respondents age 18-69 who have ever had their blood pressure measured and who have been told by a health care provider that they have raised blood pressure; among people who have been told they have raised blood pressure, the percentage told in the past 12 months they have raised blood pressure, and percentage taking medication to control blood pressure, by background characteristics, [Bangladesh, 2018]

Background characteristic	Ever had blood pressure measured by doctor or health care provider	Ever told have raised blood pressure by doctor or health care provider	Number of respondents	Among respondents who have been told by a doctor or health care provider they have raised blood pressure, the percentage who were:			Number of respondents
				Told in the past 12 months have raised blood pressure	ever taken medication to control blood pressure	currently taking medication to control blood pressure	
Age							
18-24	60.5	5.5	1942	75.8	55.1	27.4	126
25-39	74.4	12.9	3505	79.8	72.8	34.0	511
40-54	77.7	23.5	2152	82.2	85.0	48.2	586
55-69	83.3	30.8	586	89.6	87.4	50.1	186
Sex							
Women	82.9	16.2	4381	83.8	81.7	43.1	878
Men	57.0	11.2	3804	80.2	70.6	38.7	531
Residence							
Rural	69.9	12.7	4183	80.1	76.7	34.9	618
Urban	71.0	17.2	4002	88.1	78.7	57.8	791
Region							
Barishal	69.7	17.6	986	84.1	79.9	41.8	221
Chattogram	77.2	14.6	1053	89.3	83.1	39.2	154
Dhaka	68.5	12.9	997	80.9	80.3	50.3	160
Khulna	74.5	13.4	1040	80.9	75.3	41.3	188
Mymensingh	67.9	14.9	1021	76.7	73.6	38.4	172
Rajshahi	68.8	12.0	1066	76.4	71.2	29.6	165
Rangpur	57.6	11.3	1009	78.4	68.1	34.4	138
Sylhet	71.3	17.0	1013	87.3	75.0	48.2	211
Education							
No education	68.9	13.7	3678	81.1	80.3	38.0	544
Primary	71.9	13.2	2533	82.0	75.5	40.2	446
Secondary	69.2	11.5	888	89.2	75.4	49.6	165
More than secondary	70.9	16.9	1065	82.4	73.3	48.1	243
Wealth quintile							
Lowest	64.9	10.1	1639	72.5	78.7	39.0	196
Second	67.3	11.5	1670	77.9	70.2	31.1	221
Middle	67.2	11.7	1451	81.1	75.1	35.4	219
Fourth	70.4	16.9	1506	83.9	75.9	38.6	298
Highest	80.9	18.5	1919	89.9	83.5	55.5	475
Total (18-39)	65.2	7.6	4515	77.6	62.6	28.8	455
Total (40-69)	78.8	24.4	3670	84.9	85.2	48.2	954
Total (25-69)	74.8	16.6	7159	82.7	79.0	42.5	1361
Total (18-69)	70.1	13.7	8185	82.4	77.3	41.4	1409

Table NCD.10.3   Source of care for treatment and advise for BP: All

Percentage of people 18-69 who were ever told to have raised BP and who mentioned different sources of care for treatment/advise and for medication, by background characteristics, [Bangladesh, 2018]

Background characteristic	Government Facility	Private/NGO Facility	Both government and private	Any alternative/ traditional provider	Government facilities			Private*		n
					Primary	secondary	tertiary	Primary	secondary	
Age										
18-24	10.2	81.3	2.7	1.4	10.4	0.8	2.0	32.5	2.8	126
25-39	15.7	76.9	4.4	1.6	10.8	4.2	5.2	34.6	1.7	511
40-54	13.9	77.1	7.9	0.7	10.2	5.2	7.4	37.0	1.6	586
55-69	14.8	75.0	8.9	0.0	8.4	7.0	8.6	39.0	2.3	186
Sex										
Women	12.6	77.3	7.9	0.8	9.2	4.7	7.0	36.5	2.2	878
Men	16.0	77.1	4.0	1.1	11.1	4.5	4.9	35.5	1.7	531
Residence										
Rural	13.1	78.5	5.5	1.1	10.5	4.2	4.2	33.4	1.3	618
Urban	16.2	74.1	8.4	0.3	8.5	5.7	11.3	43.0	3.7	791
Region										
Barisal	15.1	69.6	8.2	5.2	10.4	6.4	7.7	37.1	0.0	221
Chittagong	10.0	88.2	0.7	0.3	6.7	0.6	3.3	27.4	0.0	154
Dhaka Ru	14.8	75.0	9.7	0.0	7.9	4.3	12.3	32.6	4.3	160
Khulna	16.8	77.2	4.0	1.7	14.9	2.4	4.0	41.6	2.3	188
Mymensingh	13.5	71.3	12.0	0.0	11.7	6.7	7.4	33.9	0.1	172
Rajshahi	15.2	77.6	2.1	0.1	6.0	11.5	1.9	38.4	1.4	165
Rangpur	17.9	70.7	9.0	2.1	16.8	5.9	4.7	36.1	3.6	138
Sylhet	11.9	73.7	10.2	1.0	14.0	4.3	4.2	60.4	3.4	211
Education										
No education	10.9	80.2	6.9	0.5	10.1	4.8	3.5	35.0	1.7	544
Primary	16.3	76.6	4.5	1.3	9.2	5.2	7.0	35.3	0.8	446
Secondary	11.0	81.0	7.8	0.1	5.5	1.9	11.4	37.0	1.3	165
More than secondary	19.4	69.0	6.3	1.6	12.5	4.7	8.9	40.1	5.8	243
Wealth quintile										
Lowest	17.8	69.8	8.5	0.5	14.8	8.5	3.5	30.5	0.4	196
Second	11.4	77.2	6.7	1.5	12.1	3.3	3.6	25.1	4.2	221
Middle	13.1	79.9	6.0	0.0	9.7	5.1	4.2	33.3	1.9	219
Fourth	12.4	80.1	6.3	1.0	8.7	4.7	5.5	40.0	0.0	298
Highest	15.4	76.9	5.3	1.2	7.2	3.0	11.1	44.4	3.4	475
Total (18-39)	13.1	78.4	4.0	1.6	10.6	3.0	3.7	32.2	1.8	455
Total (40-69)	14.4	76.6	7.6	0.5	9.6	5.5	7.5	38.3	2.1	954
Total (25-69)	13.9	77.5	6.7	0.7	9.6	5.0	6.6	37.5	2.2	1361
Total (18-69)	14.0	77.2	6.3	0.9	10.0	4.6	6.2	36.1	2.0	1409

* Private includes NGO clinics and hospitals

Table NCD.10.4: Source of drugs/medications for BP: All

Percentage of people 18-69 who have ever taken medication for raised BP and who mentioned different sources medications, by background characteristics, [Bangladesh, 2018]

Background characteristic	Government Only	Private* Only	Both government and private	Any alternative/ traditional provider	n
Age					
18-24	3.9	94.0	2.1	0.0	71
25-39	0.0	97.7	0.7	1.4	370
40-54	0.8	97.6	1.0	0.5	500
55-69	0.8	98.8	0.1	0.1	164
Sex					
Women	0.8	97.7	0.6	0.8	708
Men	1.4	97.3	1.2	0.2	397
Residence					
Rural	1.2	97.5	0.5	0.7	476
Urban	0.4	97.5	1.4	0.2	629
Region					
Barishal	0.6	97.8	0.8	0.0	181
Chattogram	2.0	97.2	0.7	0.2	122
Dhaka	0.0	100.0	0.0	0.0	130
Khulna	0.7	95.8	0.2	3.1	145
Mymensingh	0.9	96.0	2.5	0.3	132
Rajshahi	0.2	99.8	0.0	0.0	112
Rangpur	4.1	94.1	0.6	1.2	106
Sylhet	0.0	94.8	3.6	0.8	177
Education					
No education	0.5	97.6	0.9	0.8	427
Primary	0.7	97.9	0.8	0.6	355
Secondary	0.1	99.8	0.1	0.0	124
More than secondary	3.6	95.3	0.8	0.2	190
Wealth quintile					
Lowest	0.0	97.0	2.0	0.6	159
Second	2.0	95.5	0.2	1.9	160
Middle	0.1	99.5	0.4	0.0	166
Fourth	0.3	98.4	0.9	0.4	229
Highest	2.0	97.0	0.5	0.3	391
Total (18-39)	1.7	96.1	1.4	0.7	299
Total (40-69)	0.7	98.1	0.5	0.5	806
Total (25-69)	0.6	97.9	0.8	0.6	1081
Total (18-69)	1.0	97.5	0.8	0.6	1105

Table NCD.10.6 Care seeking from traditional healers and use of traditional/herbal remedies: All

Percentage of people 18-69 who have been ever told to have raised blood pressure and who sought care from a traditional healer or currently using a traditional/herbal remedy , by background characteristics, [Bangladesh, 2018]

Background characteristic	For raised BP			
	ever seen a local healer	Total Number (N)	currently taking a herbal remedy	Total Number (n)
Age				
18-24	0.2	126	0.0	126
25-39	3.0	511	1.0	511
40-54	1.1	586	0.2	586
55-69	0.9	186	0.0	186
Sex				
Women	1.9	878	0.5	878
Men	0.6	531	0.0	531
Residence				
Rural	1.6	618	0.3	618
Urban	0.8	791	0.4	791
Region				
Barishal	2.4	221	0.3	221
Chattogram	0.0	154	0.0	154
Dhaka	0.0	160	0.0	160
Khulna	5.5	188	1.7	188
Mymensingh	1.4	172	0.0	172
Rajshahi	1.6	165	0.2	165
Rangpur	1.9	138	0.7	138
Sylhet	1.3	211	0.3	211
Education				
No education	1.6	544	0.4	544
Primary	2.1	446	0.4	446
Secondary	0.1	165	0.1	165
More than secondary	0.2	243	0.0	243
Wealth quintile				
Lowest	1.4	196	1.2	196
Second	2.9	221	0.2	221
Middle	0.6	219	0.5	219
Fourth	1.5	298	0.1	298
Highest	0.8	475	0.1	475
Total (18-39)	1.5	455	0.3	455
Total (40-69)	1.3	954	0.3	954
Total (25-69)	1.5	1,361	0.3	1,361
Total (18-69)	1.4	1,409	0.3	1,409

Table NCD.10.5 Reasons for not taking medications for raised BP: All

Percentage of people 18-69 who have been ever advised to take drugs but not taking drugs in the past 2 weeks and specified different reasons for not taking medication for raised BP , by background characteristics, [Bangladesh, 2018]

Background characteristic	don't think drugs are necessary/BP got normal	fear or have side effects	too expensive/not available	Medicines not advised by doctor	(n)
Age					
15-24	82.4	4.2	12.7	7.4	96
25-39	73.8	1.9	20.0	5.8	316
40-54	67.4	2.1	24.1	3.3	278
55-69	47.5	1.9	12.0	3.3	75
Sex					
Women	61.2	1.4	19.1	5.0	466
Men	77.8	3.9	16.0	4.8	299
Residence					
Rural	67.1	2.6	18.7	4.3	387
Urban	72.3	1.8	14.1	7.4	378
Region					
Barishal	58.6	10.1	23.2	6.2	132
Chattogram	54.0	0.0	12.9	1.8	88
Dhaka	71.7	4.2	17.8	1.4	75
Khulna	79.0	1.1	10.8	3.0	91
Mymensingh	68.1	0.0	16.2	4.7	103
Rajshahi	78.0	1.4	22.8	16.5	110
Rangpur	66.8	0.5	25.5	6.4	76
Sylhet	78.3	7.7	22.1	2.5	90
Education					
No education	56.4	1.9	23.3	4.4	307
Primary	81.5	2.3	11.8	2.4	247
Secondary	79.0	0.4	14.6	6.7	85
More than secondary	70.9	4.7	12.9	11.5	118
Wealth quintile					
Lowest	48.4	3.1	45.0	9.1	113
Second	66.3	3.1	19.9	4.5	148
Middle	69.5	1.6	19.2	5.6	138
Fourth	67.7	2.4	5.0	0.9	164
Highest	84.1	2.2	10.4	6.7	202
Total (18-39)	81.4	3.0	15.8	6.5	313
Total (40-69)	58.2	2.0	19.3	3.7	452
Total (25-69)	66.2	2.3	18.1	4.1	726
Total (18-69)	68.1	2.4	17.8	4.9	765

Chapter 11 Diabetes: screening, prevalence and treatment
Key findings

Prevalence of raised blood glucose among adults age 15-69 yrs.

- o *Actual measurement:* Based on the criteria of fasting blood glucose > 126 mg/dl, the prevalence of raised blood glucose was 8.3 %. This includes people on medication whose blood glucose levels were normal at the time of survey.
- o *Self-reported prevalence:* Among adults who had ever had their blood glucose measured, 5.1% adults were ever told by a doctor or a health care provider that they have raised blood glucose.

Diagnosis and treatment gap among those noted to have raised blood glucose at the time of survey

- o *Unaware about their raised blood glucose: 51.4% adults*
- o *Not on treatment: 10.4% for adults knew they had raised blood glucose but were not on treatment.*
- o *On treatment but not controlled: 24.7% of adults.*
- o *On treatment and controlled: 13.6% of adults.*

Screening coverage, prescription of medications, treatment compliance

- o *Screening coverage: 25.1% of adults (36.7% among 40-69 years old) had had their blood glucose ever measured by a doctor or a health care provider.*
- o *Treatment compliance: 79.8% adults who were told to have raised blood glucose reported ever taking any medications to control their blood glucose. 58.5% adults reported currently taking their prescribed medications (including insulin) in the two weeks prior to the survey.*

Sources of care and medications

- o *Sources of care: 62.1% of adults usually sought treatment and advice for raised blood glucose from private facilities only, and 26.9% reported so from government facilities only. 5.7% sought care from both government and private facilities.*
- o *Sources of drugs/medication: Majority of the adults who were prescribed medication reported usually getting them only from private facilities (95.2%) and 1.1% reported getting their medication only from government facilities.*
- o *4.3% visiting a traditional healer for controlling their diabetes or raised blood glucose.*

Reasons for not taking medications among those prescribed medication to control their blood glucose

"Medication not necessary" and "blood glucose got normal" were the most common reasons given for not taking medication - reported by 51.7% adults who were ever prescribed medications.

Bangladesh 2018

Introduction

Diabetes is a chronic metabolic disorder characterized by raised blood glucose or hyperglycemia that occurs when the pancreas does not produce sufficient insulin (Type 1 diabetes) or when the body cannot effectively use the insulin it produces (Type 2 diabetes). Over time, diabetes can cause damage to the heart, blood vessels, eyes, kidneys and nerves. Type 2 diabetes is much more common and affects older people (generally 35 years or older) around the world. The risk for Type 2 diabetes arises increases among obese and physically inactive individuals .[1] Smoking also notably increases the risk of diabetes and other cardiovascular diseases[1]. An individual is considered to be hyperglycemic/diabetic if their fasting blood glucose is $\geq$7 mmol/L or $\geq$126 mg/ml [64].

Simple lifestyle changes have been shown to be effective in preventing or delaying the onset of type 2 diabetes. These include being physically active (at least 30 minutes of regular, moderate intensity activity on most days), achieving and maintaining a healthy body weight, eating a healthy diet and avoiding tobacco use.

Under the WHO Global Action Plan, two of the nine voluntary targets are directed at global diabetes control. These include attaining a 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases and halting the rise in diabetes and obesity[62]. Hence, Bangladesh has incorporated it as one of the key targets in its 5-year multisectoral action plan for 2018-2025[10] and its predecessor[39].

Current relevant policies and programs in Bangladesh for nutritional status

- Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases 2018-2025
- Diabetes Care BADAS Guideline 2019[65]
- Guidelines for Care Of Type 2 diabetes mellitus In Bangladesh[66]

This chapter focuses on indicators related to raised blood glucose; assessing prevalence, diagnosis and treatment gaps and care seeking behaviors around blood glucose and diabetes management. This information will help Bangladesh assess trends and progress towards diabetes management as specified in its multisectoral action plan as well as evaluation of current policies and programs in

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[64] World Health Organization (WHO). Diabetes [Internet]. Geneva, Switzerland: WHO; 30 Oct 2018 [cited 30 Mar 2020]. Available from: https://www.who.int/news-room/fact-sheets/detail/diabetes
[65] Diabetes treatment guideline and diabetes journey app launched. The Daily Star [Internet]. 2019 Dec 18 [cited 30 Mar 2020; Health. Available from: https://www.thedailystar.net/health/news/diabetes-treatment-guideline-and-diabetes-journey-app-launched-1827913
[66] Mahtab H, Khan AR, Latif ZA, Pathan MF, Ahmed T. Guidelines for care of type 2 diabetes mellitus in Bangladesh. BIRDEM Clinical Research Group. 2003 Feb 28. Available at http://www.whoban.org/pdf/diabetes.pdf

place to reduce population blood glucose levels. These will also guide future policy and programs to manage diabetes at population level.

Blood Glucose Measurement

Blood glucose was measured in the step 3 of the Survey and a sample of venous blood was obtained as mentioned in the data collection section. Appropriate consent was obtained from the respondents to carry out to obtain blood sample and carry out the biochemical measurements.

Analysis

Hyperglycemia or raised blood glucose was defined as having fasting blood glucose $\geq$126 mg /dl during the study, or blood glucose <126 mg/dl but currently taking medications to lower blood glucose based on previous diagnosis.

Observations which had fasting blood glucose $\leq$ 18 mg /dl Hg or $\geq$ 630 mg /dl were excluded, though none of adults were recorded in this range in the survey.

11.1. Prevalence of raised blood glucose based on measurement and medications history

Self-reported prevalence is likely to underestimate the true prevalence as many people with raised blood glucose may not have any symptoms in the initial stages and few asymptomatic people get their blood glucose measured regularly. Therefore, carrying out actual measurements of blood glucose levels is essential to determine the actual population-based prevalence.

Overall 8.3% of adults were measured to have raised blood glucose based on both the measurement and prior diagnosis and medications history. On the other hand, based on self-reports among individuals who ever got their blood glucose measured, the prevalence was only 5.1%.

Patterns by background characteristics (Table 11.1):

- The prevalence of raised blood glucose increased with age. The prevalence increases substantially after the age 40 (12.7% prevalence among adults aged 40-69 years). Prevalence of diabetes was higher in men compared to women (8.9%-men vs 7.9%-women). (**Figure 11.1**)
- The prevalence of raised blood glucose increased directly with increasing household wealth. (4.6% in the lowest group and 16.4% in the wealthiest group) **(Figure 11.1)**
- Adults from urban residences were more likely to have raised blood glucose (13.2%) compared to adults from rural residences (7.1%). The raised blood glucose prevalence was highest in Chattogram (12%) and lowest in Rangpur (4.8%). (**Figure 11.2**)

Figure 11.1 Prevalence raised blood glucose among adults aged 18-69 years by age and household wealth, Bangladesh's STEPs survey 2018
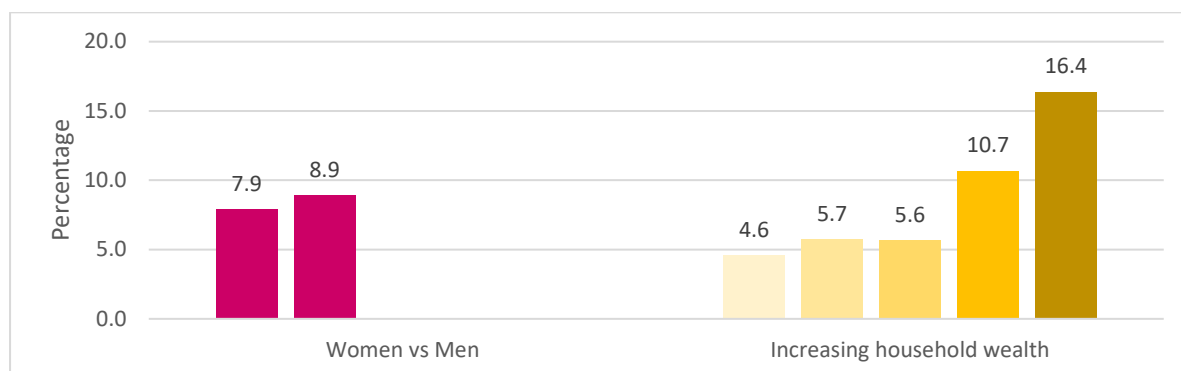
Figure 11.2 Regional differences in diabetes prevalence among 18-69 years population, Bangladesh's STEPs survey 2018
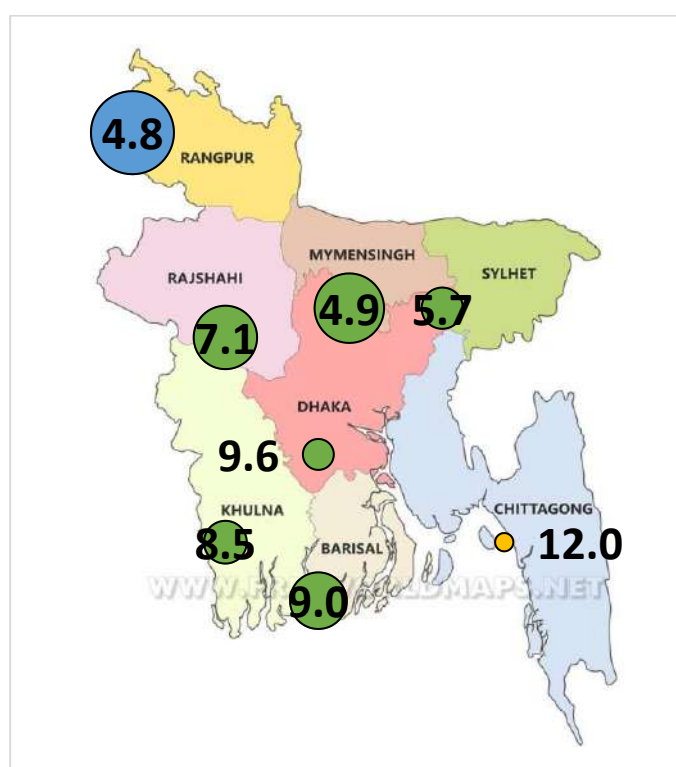
11.2. Diagnosis and treatment gap (Table 11.1)

diabetes increases the risk of development of severe health complications such as heart disease or problems with nerves, blood vessels, eyes and kidneys. Ensuring early diagnosis and initiation of treatment enables adults to make necessary lifestyle adjustments and reduces the risk of lasting damage. Hence, early detection of diabetes by regular screening using fasting blood glucose levels (at least annually is an important secondary prevention strategy to control morbidity and mortality associated with diabetes.

Diagnosis gap

Of all the adults who were diagnosed to be diabetic as presented in section 11.1, 51.4 % diabetic adults were unaware of their raised blood glucose status. The largest proportion amongst this group was observed to be between the ages 15-24 years (86.7%).

- Percentage of diabetic adults unaware of their raised blood glucose status declined with age .

- More diabetic men were unaware of their raised blood glucose status than women (54.5%- men vs 48.4%- women)

- Diabetic residents of rural areas were more likely to be unaware of their blood glucose status compared to urban residents. (56.7%- rural vs 40.2%- urban)

- The proportion of adults who were unaware of their diagnosis status decreased with increased education level (**Figure 11.2**), but no consistent trends were seen with household wealth.

Treatment gap:

Overall, 10.4% of the people with raised blood glucose were aware of diagnosis but not on treatment.

- The proportion of adults who were aware of their status not on treatment was highest in the age group of 40-69 years (10.6 %)

- There were no consistent trends for adults on treatment in terms of household wealth (**Figure 11.2**) or education level.

Quality of treatment: controlled or uncontrolled while on treatment

Overall, 13.6 % of adults with raised blood glucose were on treatment which had their blood glucose under control and 24.7 % were on treatment but still had raised blood glucose levels.

The proportion of adults with raised blood glucose who were on treatment which did not control their blood glucose increased with increasing age group (3.1% in the 15-24 years age group to 34.9% in the 55-69 years age group). The proportion of adults who were aware of their diagnosis and were on treatment that controlled was highest in the age group of 55-69 years (27.5%).

Figure 11.3 Diagnosis and Treatment gaps among adults aged 18-69 years by wealth quintile, Bangladesh's STEPs survey 2018
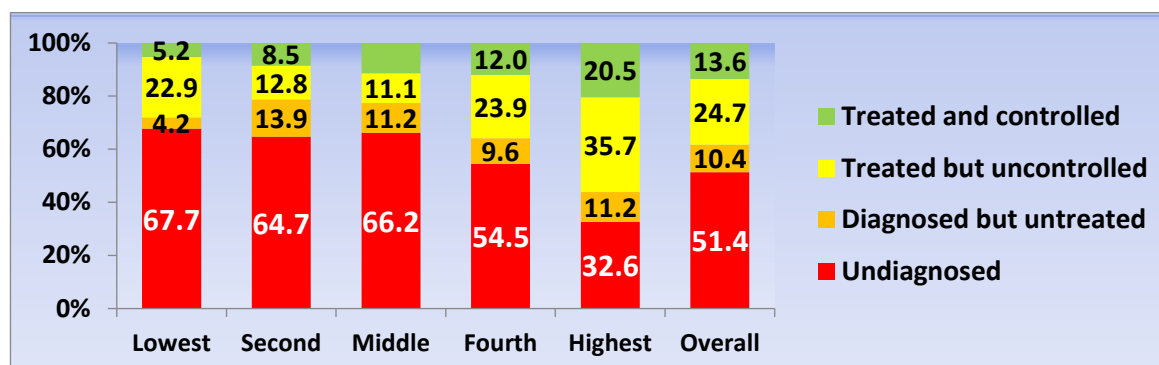
11.3. Screening coverage (Table 11.2)

Early detection of raised blood glucose through regular (at least annual) screening of healthy individuals is one of the key public health strategies for reduction the morbidity and mortality associated with diabetes. Though data were not elicited about annual screening, 25.1% adults (36.7% among the age group 40-69 years old) had had their blood glucose ever measured by a doctor or a health care provider.

Patterns by background characteristics (Figure 11.6):

- Younger adults age 15-24 years were much less likely to report their blood glucose ever measured compared to other age-groups.
- Women were more likely to have ever had their blood glucose measured compared to men (27.5%-women vs 22.6%-men)
- The likelihood of ever having blood glucose measured was higher among residents from urban areas (34.5%) compared to those from rural residences (22.3%). The likelihood of ever measurement of blood glucose also varied by region. The screening coverage in the Dhaka region was highest (30.3%) followed by Chattogram (28.8%) and lowest in the Rangpur region (12.5%). **(Table 11.2)**
- The likelihood of having had blood glucose measured increased by both household wealth and education level.

Figure 11.4 Percent of adults who have ever had their blood glucose measured by a doctor or health care provide among adults aged 18-69 years, Bangladesh's STEPs survey 2018
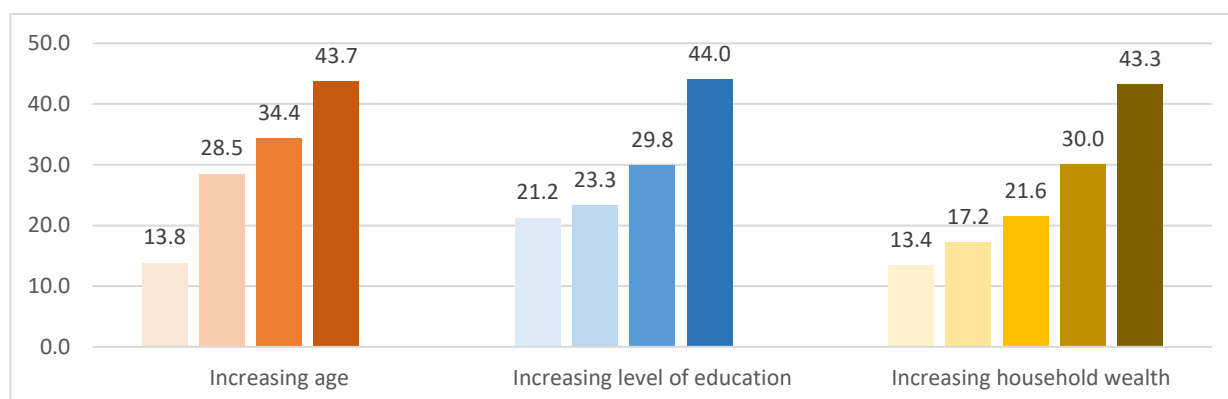
Figure 11.5 Percent of adults who have ever had their blood glucose measured by a doctor or health care provide among adults aged 18-69 years by province, Bangladesh's STEPs survey 2019
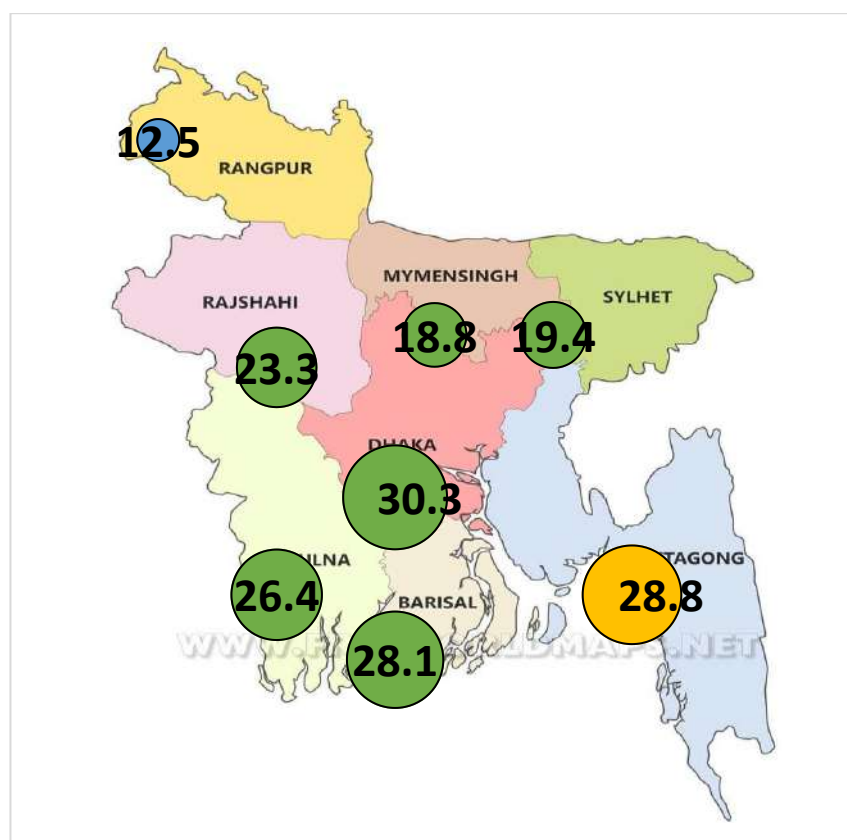
11.4. Prescription of medications and compliance with treatment (Table 11.2)

Monitoring of prescription practices and treatment compliance is an important strategy for evaluating the outcomes at individual and at population level. Raised blood glucose is a chronic risk factor,

requiring treatment over the lifetime of a person, which may reduce the compliance with treatment as observed with many other chronic conditions such as HIV/AIDS or tuberculosis.

Overall, a majority of the adults who were ever told to have raised blood glucose 79.8% ever took the medicines and 58.5% reported currently taking the medications, showing fairly good compliance with the prescriptions.

- The likelihood of compliance with treatment increased with age being highest in 40-69 years age groups (82.5% ever taken medication, 63.3% currently taking medication).
- The likelihood of ever taking medications or currently taking medications increased with increase in education level and household wealth.

11.5. Sources of care for treatment and advice and medications for raised blood glucose

Overall a much higher proportion of adults sought treatment advise and care from Private facilities (which include NGO run centers) (62.1 %) than from government (26.9%) or other sources (such as Alternative medicine practitioners- Homeo, Ayurveda, Unani and Traditional healers) (5.7%) (Table 10.3). Similarly, for medications, majority of the adults approached only private providers (95.2%), and only 1.1% of adults went to government providers. 2.7% of adults mentioned both government and private sources for medications for raised blood glucose. (**Table 11.4**)

Background patterns: (Table 11.3 and 11.4)

- The proportion of adults who usually visited government facilities for care- treatment and advise increased with increasing age.

- Women were more likely to seek both treatment/advice (33.3%- women vs 23.3%-men) and medications (1.2%- women vs 1%-men) only from government facilities.

- *Sources of care and household wealth*: More than half of all adults, even in the poorest wealth quintile sought care from private facilities. Lower wealth quintiles were more likely to seek advice and consultation from government facilities (33.6% in the lowest wealth index group) while higher wealth quintiles usually seek care form private facilities 59.9% in the wealthiest group) **(Figure 11.6).**

- *Source of care and region*: In all the provinces and irrespective of the residence in urban and rural residences, more than 50% of adults sought both care/advice and medications from private providers. The use of government facilities for advice/consultation was lowest in the Rajshahi and Sylhet regions. **(Figure 11.7).**

- *Source of care and residence*:   By residence, while use of government facilities was much higher in urban residences for consultation, advice and medication for raised blood glucose compared rural residences.

Figure 11.6 Percent of adults (who were ever told to have raised blood glucose) who sought treatment care/advise and medications from government and private facilities with respect to wealth quintile, Bangladesh's STEPs survey 2018
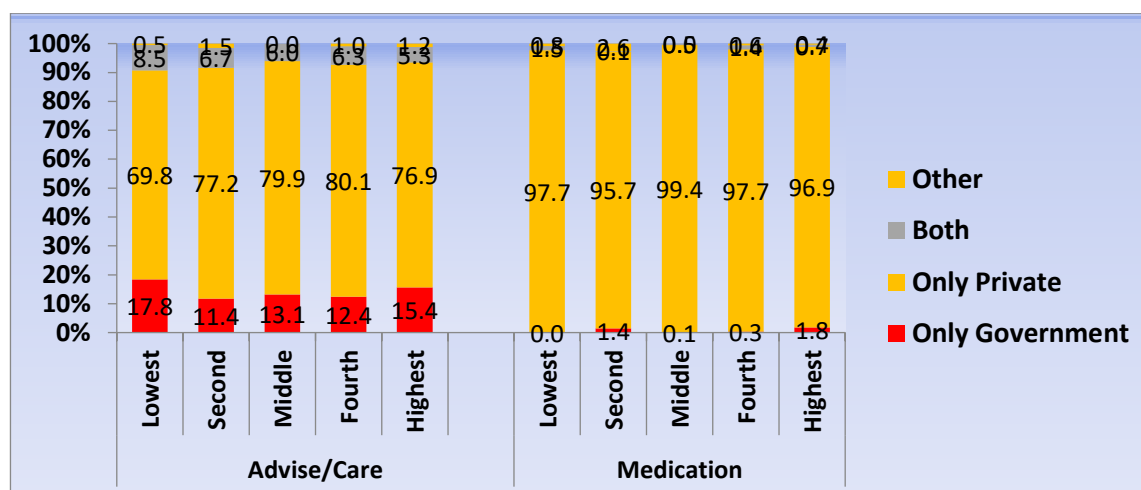
11.6. Consultation with traditional healers and use of herbal remedies

4.3% of adults with raised blood glucose who reported visiting a traditional healer for treatment and advise of which 29.2% adults reported currently taking herbal or traditional remedies for their raised blood pressure.

Background patterns: (Table 11.5)

- The proportion of adults who reported taking herbal or traditional remedies for their raised blood pressure was highest in the 40-54 years age group- 5.9%. Women were more likely to have ever visited a local healer as compared to men (6%- women vs 2%- men).

- Rural residents were more likely to have ever visited a local healer as compared to urban residents (5%-rural vs 3%-urban).

- The proportion of adults who had ever visited a local healer and currently taking herbal or traditional remedies to control their blood glucose decreased with increase in education level.

Figure 11.7 Percent of adults (who were ever told to have raised blood glucose) who had ever visited a traditional healer with respect to region, Bangladesh's STEPs survey 2018
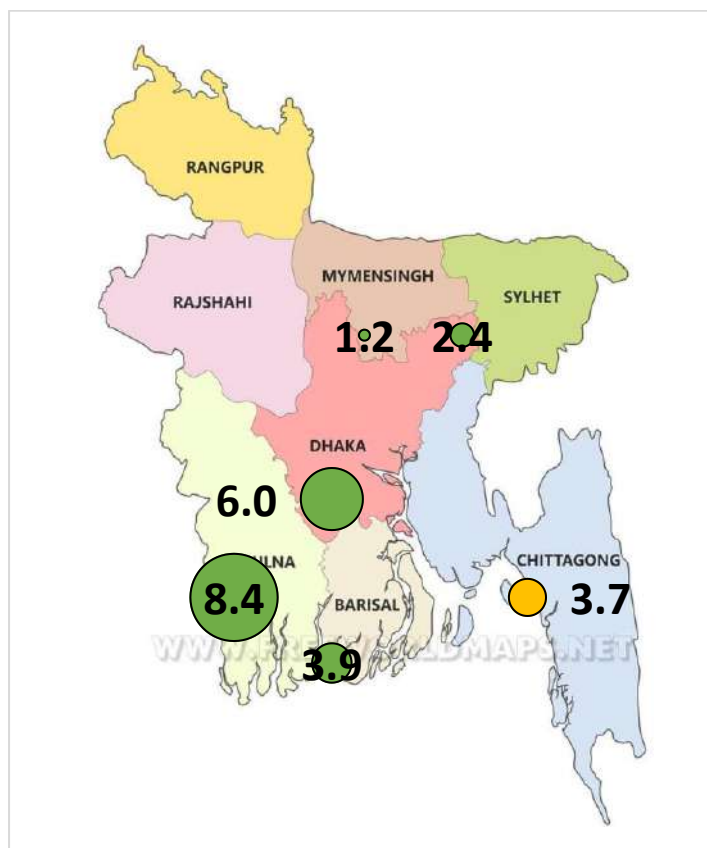
10.7. Reasons for not on treatment

51.7% of adults who were prescribed medications cited "didn't think the drugs were necessary" and "their blood pressure got normal "as reasons for not currently taking medications/treatment **(Table 11.6)**. The second most common reason given for not taking medications was "too expensive/ drugs not available" as cited by 17.8% adults

Patterns by background characteristics (Table 11.6):

- The highest proportion of adults who reported "too expensive/ drugs not available" were within the ages 15-24 years (29.6%).

- A higher proportion of men (60 %) gave the reasons "did not think drugs were necessary" or "their blood pressure was under control" compared to women (45.5%).

- The proportion of adults who reported did not think drugs were necessary" or "their blood pressure was under control" increased with increase in education level and increased household wealth.

Figure 11.8 Reasons for which diabetic adults reported not taking drugs for raised blood glucose, Bangladesh 2018
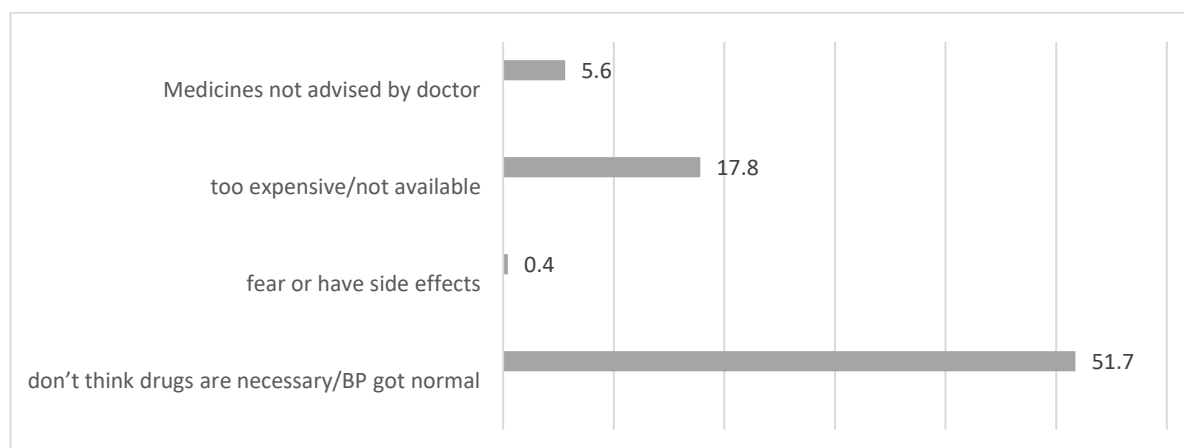
List of Tables:

For more information on raised blood glucose prevalence, screening and treatment coverage or sources of care, see the following tables:

Table: 11.1 Prevalence of raised blood glucose and diagnosis, treatment and control rates

Table: 11.2 Measurement of blood glucose, prescription of medications, treatment compliance

Table: 11.3 sources of care for raised blood glucose

Table:11.4 sources of medications for raised blood glucose

Table: 11.5 Care seeking from traditional healers and use of traditional/herbal remedies

Table: 11.6 Reasons for not taking medications among those told to have raised blood band have been prescribed medications.

Table NCD.11.1 Prevalence of raised blood glucose and diagnosis, treatment and control rates: All

Percentage of people[1] 15-69 who had raised blood glucose at the time of survey or on blood glucose medications and who were aware of their diagnosis, on treatment or have their blood glucose controlled or uncontrolled with medications, by background characteristics, [Bangladesh, 2018]

Background characteristic	Prevalence of raised Blood glucose[1]	(n)	Among those with raised blood glucose[1]				
			Not aware of diagnosis	Aware of diagnosis but not treatment	On treatment but not controlled	On treatment and controlled	Total (n)
Age							
15-24	2.9	1,553	86.7	7.0	3.1	3.2	53
25-39	8.1	3,072	60.3	11.6	18.9	9.2	257
40-54	12.4	1,910	39.8	13.1	32.0	15.1	274
55-69	16.3	521	34.8	2.8	34.9	27.5	93
Sex							
Women	7.9	3,807	48.4	11.6	24.5	15.5	345
Men	8.9	3,249	54.5	9.1	24.8	11.6	332
Residence							
Rural	7.1	3,736	56.7	9.8	20.9	12.6	259
Urban	13.2	3,320	40.2	11.6	32.5	15.8	418
Region							
Barishal	9.0	843	58.3	11.6	23.9	6.2	88
Chattogram	12.0	854	57.2	6.4	19.2	17.3	112
Dhaka	9.6	765	38.2	17.3	26.8	17.7	83
Khulna	8.5	948	52.1	12.8	23.3	11.7	100
Mymensingh	4.9	913	73.5	8.6	13.0	4.9	55
Rajshahi	7.1	982	43.1	6.5	37.2	13.1	91
Rangpur	4.8	906	59.6	3.6	30.4	6.4	71
Sylhet	5.7	845	61.8	9.6	24.5	4.1	77
Education							
No education	7.4	2,206	64.1	9.9	15.1	11.0	159
Primary	8.0	3,266	46.6	10.6	27.2	15.6	302
Secondary	8.3	1,138	51.1	6.9	28.7	13.4	134
More than	18.6	427	35.1	16.4	35.4	13.1	82
Wealth quintile							
Lowest	4.6	1,475	67.7	4.2	22.9	5.2	68
Second	5.7	1,495	64.7	13.9	12.8	8.5	86
Middle	5.6	1,269	66.2	11.2	11.1	11.4	98
Fourth	10.7	1,290	54.5	9.6	23.9	12.0	131
Highest	16.4	1,527	32.6	11.2	35.7	20.5	294
Total (18-39)	5.1	3810	72.1	10.0	11.5	6.4	212
Total (40-69)	12.7	3246	40.3	10.6	31.7	17.5	465
Total (25-69)	9.6	6242	49.9	10.8	25.6	13.8	658
Total (18-69)	8.3	7056	51.4	10.4	24.7	13.6	677

Table NCD.11.2 Blood glucose measured, self-reported prevalence and treatment of raised blood glucose: All

Percentage of respondents age 15-69 who have ever had their blood glucose measured and who have been told by a health care provider that they have raised blood glucose; among people who have been told they have raised blood glucose, the percentage told in the past 12 months they have raised blood glucose, and percentage taking medication to control blood pressure, by background characteristics, [Bangladesh, 2018]

Background characteristic	Ever had blood glucose measured by doctor or health care provider	Ever told have raised blood glucose by doctor or health care provider	Number of respondents	Among respondents who have been told by a doctor or health care provider they have raised blood glucose, the percentage who were:			
				Told in the past 12 months have raised blood glucose	Ever taken medication to control blood glucose	Currently taking medication to control blood glucose	Number of respondents
Age							
18-24	13.8	0.5	1942	75.5*	51.9*	34.9*	15*
25-39	28.5	4.5	3505	77.7	76.4	50.4	179
40-54	34.4	10.2	2152	84.4	74.1	60.3	248
55-69	43.7	15.8	586	75.6	91.9	65.3	96
Sex							
Women	27.5	5.7	4381	74.8	74.9	54.3	298
Men	22.6	4.5	3804	85.0	85.4	64.0	240
Residence							
Rural	22.3	4.1	4183	74.8	76.6	52.2	180
Urban	34.5	8.7	4002	86.4	84.3	68.8	358
Region							
Barishal	28.1	6.3	986	61.7	62.3	37.3	71
Chattogram	28.8	6.8	1053	77.5	82.5	62.5	86
Dhaka	30.3	6.3	997	87.8	82.5	62.8	84
Khulna	26.4	5.9	1040	79.7	74.5	45.0	82
Mymensingh	18.8	2.0	1021	64.2	69.6	44.8	44
Rajshahi	23.3	4.5	1066	81.9	81.0	69.5	75
Rangpur	12.5	2.8	1009	65.3	74.0	58.5	43
Sylhet	19.4	2.1	1013	76.3	93.8	59.5	53
Education							
No education	21.2	4.9	2476	66.8	78.8	44.8	112
Primary	23.3	5.0	3735	83.8	79.1	64.5	228
Secondary	29.8	4.6	1397	79.9	74.6	55.9	122
More than secondary	44.0	9.6	556	93.4	92.1	75.4	75
Wealth quintile							
Lowest	13.4	2.7	1639	75.5	59.7	49.7	42
Second	17.2	3.1	1670	58.4	73.8	37.1	51
Middle	21.6	1.9	1451	78.1	70.9	49.4	52
Fourth	30.0	6.7	1506	71.8	83.6	53.7	117
Highest	43.3	11.3	1919	90.6	84.3	71.0	276
Total (18-39)	18.4	1.6	4515	72.6	67.9	39.9	119
Total (40-69)	36.7	11.3	3670	80.9	82.5	63.3	419
Total (25-69)	29.6	6.6	7159	79.6	80.0	58.6	532
Total (18-69)	25.1	5.1	8185	79.2	79.8	58.5	538

*interpret data with caution due to small sample size

Table NCD.11.3 source of care for treatment and advise for diabetes: All

Percentage of people 15-69 who were ever told to have raised blood glucose and who mentioned different sources of care for treatment/advise and for medication, by background characteristics, [Bangladesh, 2018]

Background characteristic	Government Facility	Private/ NGO Facility	Both government and private	Any alternative/ traditional provider	government facilities			Private		n
					Primary	secondary	tertiary	Primary	secondary	
Age										
18-24	12.2*	78.2*	0*	0*	0*	0*	12.2*	36.4*	0*	15*
25-39	27.1	61.8	7.5	2.9	13.9	3.5	17.6	36.2	0.8	179
40-54	25.1	66.4	4.2	0.0	7.1	4.7	18.7	27.5	0.9	248
55-69	36.2	53.5	4.8	0.0	12.5	12.7	17.3	41.5	4.4	96
Sex										298
Women	33.3	57.6	4.5	1.3	12.1	7.4	18.8	36.1	0.7	240
Men	23.3	65.8	5.8	0.0	8.2	6.6	16.1	33.6	3.9	
Residence										
Rural	26.6	62.6	4.8	0.9	14.3	6.8	10.7	37.3	0.3	180
Urban	32.8	58.8	5.6	0.4	4.1	7.5	29.0	31.2	4.9	358
Region										71
Barishal	25.8	55.7	11.8	0.6	19.5	3.0	15.4	51.9	0.4	86
Chattogram	28.3	67.6	1.2	0.4	8.1	10.6	11.2	28.1	0.0	84
Dhaka	32.4	61.6	5.0	1.0	4.4	6.8	27.4	30.6	5.2	82
Khulna	35.6	50.4	9.1	0.0	21.8	7.2	17.7	37.5	2.1	44
Mymensingh	42.9	50.1	4.8	0.0	4.6	5.9	37.3	29.4	1.1	75
Rajshahi	11.2	70.2	0.2	2.4	6.4	3.1	2.6	43.6	0.3	43
Rangpur	35.0	50.4	6.5	0.0	30.6	2.1	11.1	35.9	1.9	53
Sylhet	19.1	55.0	26.0	0.0	5.5	11.6	31.1	67.2	1.3	
Education										
No education	26.6	66.8	2.1	0.0	17.4	5.7	7.1	40.0	0.9	112
Primary	31.8	55.9	5.7	0.7	11.2	8.5	18.7	32.5	0.4	228
Secondary	29.9	61.2	8.1	0.0	2.3	8.5	28.1	30.7	0.5	122
More than secondary	21.7	68.3	5.4	3.9	1.3	2.2	24.5	38.7	15.4	75
Wealth quintile										
Lowest	33.6	52.6	7.8	0.0	27.6	1.3	12.5	26.3	0.4	42
Second	37.2	54.2	6.3	2.3	22.4	8.7	12.4	34.6	0.3	51
Middle	25.7	61.4	9.1	0.0	18.2	8.5	16.0	37.6	0.9	52
Fourth	22.0	69.9	4.4	0.2	7.6	9.9	9.2	35.2	1.1	117
Highest	30.2	59.9	3.8	0.9	3.3	6.0	25.6	36.6	3.8	276
Total (18-39)	13.0	73.2	7.2	4.3	8.7	2.9	9.9	42.5	0.7	119
Total (40-69)	31.1	58.7	5.3	0.0	10.8	8.1	19.6	33.1	2.4	419
Total (25-69)	27.2	61.7	5.8	1.0	10.6	7.2	18.0	35.0	2.1	532
Total (18-69)	26.9	62.1	5.7	1.0	10.4	7.0	17.6	35.0	2.1	538

* Private includes NGO clinics and hospitals

Table NCD.11.4 source of drugs/medications for diabetes: All

Percentage of people 18-69 who have ever taken medication for raised blood glucose and who mentioned different sources medications, by background characteristics, [Bangladesh, 2018]

Background characteristic	Government Only	Private* Only	Both government and private	Any alternative/ traditional provider	n
Age					
18-24	0*	100*	0*	0*	12*
25-39	1.4	94.1	0.7	2.9	150
40-54	1.6	97.5	0.6	0.0	208
55-69	0.6	93.5	5.9	0.0	76
Sex					
Women	1.2	96.0	1.3	2.8	253
Men	1.0	94.4	0.0	0.0	193
Residence					
Rural	0.7	94.3	0.9	2.4	159
Urban	1.7	96.3	0.4	0.0	287
Region					
Barishal	3.7	96.3	0.0	0.6	58
Chattogram	1.4	97.7	0.9	0.4	72
Dhaka	0.0	98.6	0.0	1.0	69
Khulna	1.9	96.0	1.6	0.0	65
Mymensingh	7.0	87.7	2.6	0.0	40
Rajshahi	1.7	76.7	18.0	2.4	62
Rangpur	0.0	100.0	0.0	0.0	36
Sylhet	0.0	100.0	0.0	0.0	44
Education					
No education	0.0	96.7	3.3	0.0	104
Primary	1.8	93.5	3.5	0.7	187
Secondary	1.1	97.9	1.0	0.0	98
More than	0.7	95.0	0.9	3.9	56
Wealth quintile					
Lowest	0.0	89.6	10.5	0.0	40
Second	0.0	94.8	0.0	2.3	47
Middle	1.8	97.0	1.3	0.0	47
Fourth	1.5	98.5	0.0	0.2	96
Highest	1.2	94.3	3.4	0.9	216
Total (18-39)	0.0	93.2	1.0	3.3	99
Total (40-69)	1.3	95.5	3.0	0.1	347
Total (25-69)	1.1	95.1	2.7	0.7	443
Total (18-69)	1.1	95.2	2.7	0.7	446

*interpret data with caution due to small sample size

Table NCD.11.5 Care seeking from traditional healers and use of traditional/herbal remedies: All

Percentage of people 18-69 who have been ever told to have raised blood glucose and who sought care from a traditional healer or currently using a traditional/herbal remedy, by background characteristics, [Bangladesh, 2018]

Background characteristic	For raised blood glucose			
	Ever seen a local healer	Total Number (n)	currently taking a herbal remedy	Total Number (n)
Age				
18-24	0*	15*	0*	0*
25-39	3.3	179	30.9*	8*
40-54	5.9	248	47.3*	12*
55-69	3.8	96	0*	3*
Sex				
Women	6.0	298	29.0*	18*
Men	2.0	240	29.7*	5*
Residence				
Rural	5.0	180	13.9*	10*
Urban	3.0	358	70.3*	13*
Region				
Barishal	3.9	71	58.3*	3*
Chattogram	3.7	86	9.9*	3*
Dhaka	6.0	84	25*	7*
Khulna	8.4	82	45.7*	8*
Mymensingh	1.2	44	100*	1*
Rajshahi	0.0	75	0*	0*
Rangpur	0.0	43	0*	0*
Sylhet	2.4	53	0*	0*
Education				
No education	7.0	112	16.9*	6*
Primary	3.5	228	46.1*	11*
Secondary	3.4	122	7.3*	3*
More than	1.6	75	100*	3*
Wealth quintile				
Lowest	6.6	42	16.4*	3*
Second	13.4	51	21.8*	4*
Middle	1.5	52	0*	1*
Fourth	0.2	117	100*	1*
Highest	4.1	276	40.1*	14*
Total (18-39)	1.6	119	66.3*	5*
Total (40-69)	4.9	419	26.1*	18*
Total (25-69)	4.3	532	29.2*	23*
Total (18-69)	4.3	538	29.2*	23*

*interpret data with caution due to small sample size

Table NCD.11.6 Reasons for not taking medications for raised diabetes: All

Percentage of people 18-69 who have been ever advised to take drugs but not taking drugs in the past 2 weeks and specified different reasons for not taking medication for raised blood glucose, by background characteristics, [Nepal, 2018]

Background characteristic	don't think drugs are necessary/blood glucose got normal	fear or have side effects	too expensive/not available	Medicines not advised by doctor	(n)
Age					
15-24	61.4*	0*	29.6*	15.7*	12*
25-39	57.0	0.5	18.8	6.9	150
40-54	53.4	0.1	21.9	7.2	208
55-69	45.6	0.8	11.9	2.2	76
Sex					
Women	45.5	0.2	18.5	6.5	253
Men	60.0	0.8	16.9	4.5	193
Residence					
Rural	49.9	0.0	23.7	7.4	159
Urban	55.0	1.2	7.4	2.5	287
Region					
Barishal	47.3	2.3	40.8	6.3	58
Chattogram	40.2	0.4	20.8	1.4	72
Dhaka	59.2	0.0	8.8	3.4	69
Khulna	70.0	0.0	18.5	12.6	65
Mymensingh	46.4	0.0	12.4	8.5	40
Rajshahi	52.9	0.0	19.2	16.2	62
Rangpur	54.8	2.9	14.4	5.2	36
Sylhet	19.3	0.8	33.7	0.0	44
Education					
No education	47.6	0.3	22.1	3.9	104
Primary	46.2	0.5	20.9	7.3	187
Secondary	63.8	0.6	9.3	6.1	98
More than	68.3	0.5	5.2	3.3	56
Wealth quintile					
Lowest	44.3	0.0	31.2	7.9	40
Second	45.3	0.0	38.4	13.0	47
Middle	48.6	3.3	31.0	14.3	47
Fourth	57.9	0.4	17.5	3.4	96
Highest	52.6	0.2	5.1	2.3	216
Total (18-39)	62.5	0.7	21.6	9.0	99
Total (40-69)	49.0	0.4	16.9	4.7	347
Total (25-69)	51.7	0.4	17.9	5.7	443
Total (18-69)	51.7	0.4	17.8	5.6	446

Notes: *interpret data with caution due to small sample size

Chapter 12 Cholesterol: screening, prevalence and treatment

Key findings

Prevalence of raised blood cholesterol among adults age 18-69 yrs.

- o Actual measurement: Based on the criteria of total cholesterol > 190 mg/dl, the prevalence of raised blood cholesterol was 28.4%. This includes people on medication whose blood cholesterol levels were normal at the time of survey.
- o Self-reported prevalence: Among adults who had ever had their blood cholesterol measured, 4.6% adults were ever told by a doctor or a health care provider that they have raised blood cholesterol.

Diagnosis and treatment gap among those noted to have raised blood cholesterol at the time of survey

- o Unaware about their raised blood cholesterol: 94.8% adults
- o Not on treatment: 2.5% for adults knew they had raised blood cholesterol but were not on treatment.
- o On treatment but not controlled: 0.7% of adults.
- o On treatment and controlled: 2.0% of adults.

Screening coverage, prescription of medications, treatment compliance

- o Screening coverage: 4.6% of adults (7.6% among 40-69 years old) had had their blood cholesterol ever measured by a doctor or a health care provider.
- o Treatment compliance: 78.9% adults who were told to have raised blood cholesterol reported ever taking any medications to control their blood cholesterol. 40.2% reported currently taking their prescribed medications in the two weeks prior to the survey.

Sources of care and medications

- o Sources of care: 70.2% of adults usually sought treatment and advice for raised blood cholesterol from private facilities only, and 20.1% reported so from government facilities only.
- o Sources of drugs/medications: Majority of the adults who were prescribed medication reported usually getting them only from private facilities (95.2%) and none of them reported getting their medications only from only government facilities.
- o 4.9% adult reported visiting a traditional healer for controlling their raised blood cholesterol.

Introduction

Raised blood cholesterol was defined as having a lipid profile (total cholesterol, HDL and triglycerides) of ≥ 190 mg/dl during the study, or normal cholesterol levels at the time of survey but previously diagnosed as having raised blood cholesterol and currently taking medications to control blood cholesterol.

Observations which had cholesterol levels <75 mg/dl or > 470mg/dl were excluded, though none of adults were recorded in this range.

12.1. Prevalence of raised blood cholesterol based on measurement and medications history

Self-reported prevalence is likely to underestimate the true prevalence as many people may be asymptomatic and not aware of their raised blood cholesterol status. Therefore, carrying out measurements in order to determine the actual prevalence is essential to understanding the overall risk of raised cholesterol across the population

Overall 28.4% of adults were measured to have raised cholesterol; based on both the measurement and medications history **(Table 12.1).** The prevalence based on self-reports among individuals who ever got their blood cholesterol measured (4.6%), was higher reported to be 46.8% **(Table 12.2).**

Patterns by background characteristics (Table 12.1):

- The prevalence of raised cholesterol increased with age. The prevalence increased substantially after the age 40 (35.7 % prevalence among adults aged 40- 69 years). Prevalence of raised cholesterol was higher in women compared to men (29.3% vs 27.4%).
- The prevalence of raised cholesterol was observed to be highest in adults with "more than secondary level" education (36.1%). Raised cholesterol prevalence were observed to increase with increase in household wealth.
- Adults from urban residences were more likely to have raised cholesterol compared to those from rural residences (32.4%-Urban vs 27.4%-Rural). By region, the highest prevalence of raised cholesterol was observed in Barishal (34.9%) followed by Khulna (33%) and was lowest in Mymensingh (20.9%). **(Figure 12.1)**.

Figure 12.1 Regional differences in raised cholesterol prevalence among 18-69 years population, Bangladesh's STEPs survey 2018
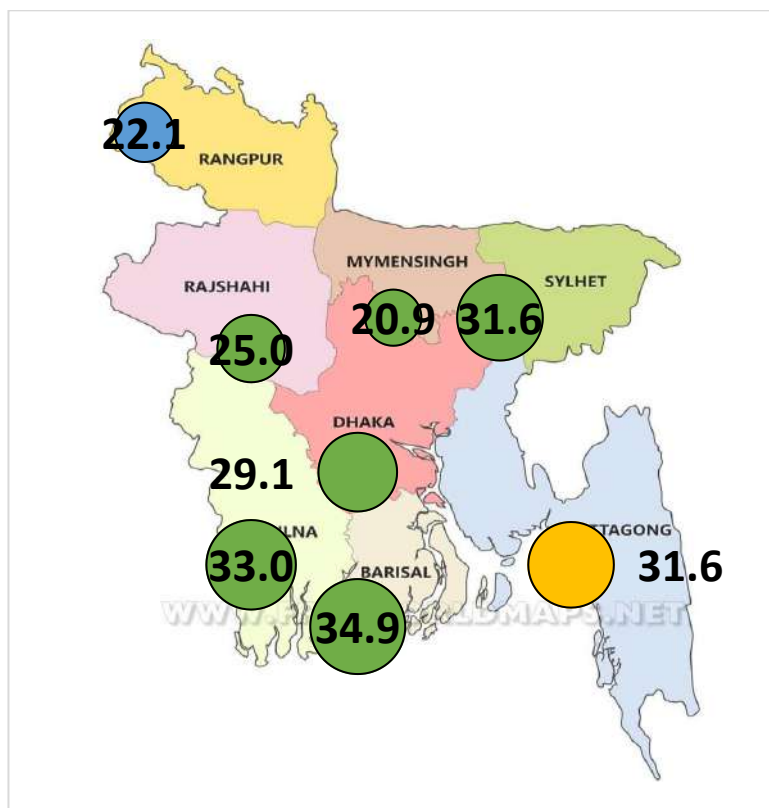
12.2. Diagnosis and treatment gap

Raised blood cholesterol increases the risk of development of severe health complications such as heart disease or stroke. Ensuring early diagnosis and initiation of treatment enables adults to make necessary lifestyle adjustments and reduces the risk of lasting damage.

Diagnosis gap (Table 12.1):

Of all the people who were diagnosed to have raised blood cholesterol as presented in section 12.1, 94.8% adults with raised blood cholesterol were unaware of their raised blood cholesterol status (**Figure 12.2**).

- Percentage of people unaware of their raised cholesterol status declined with age.
- More women were unaware of their raised blood cholesterol status than men (95.3%- women vs 94.2%-men)
- The proportion of adults who were unaware of their diagnosis status decreased with increase in wealth and educational level.

Treatment gap (Table 12.1):

Overall, 2.5% of the people with raised blood cholesterol at the time of survey were aware of diagnosis but were not on treatment. Out of remaining adults with raised blood cholesterol who reported to be on treatment, 0.7 % adults still have raised blood cholesterol (uncontrolled) at the time of survey and 2% of adults were on treatment and controlled.

- Similar to diagnosis gap, the proportion of adults who were on treatment increased with increasing age.
- The proportion of adults with raised blood cholesterol who were on treatment increased with increasing age group. More women were on treatment which did not control their blood cholesterol than men (0.9%-women vs 0.4%- men)
- The proportion of adults who were on treatment increased with increasing household wealth, but no consistent trends were seen with education level.

Quality of treatment (Table 12.1): Adults on treatment and controlled

Only 2% of the adults surveyed reported being on treatment which controlled this blood cholesterol, this is likely due to the majority of adults surveyed being unaware of their raised blood cholesterol status.

Figure 12.2 Diagnosis and Treatment gaps among adults aged 18-69 years by wealth quintile, Bangladesh's STEPs survey 2018
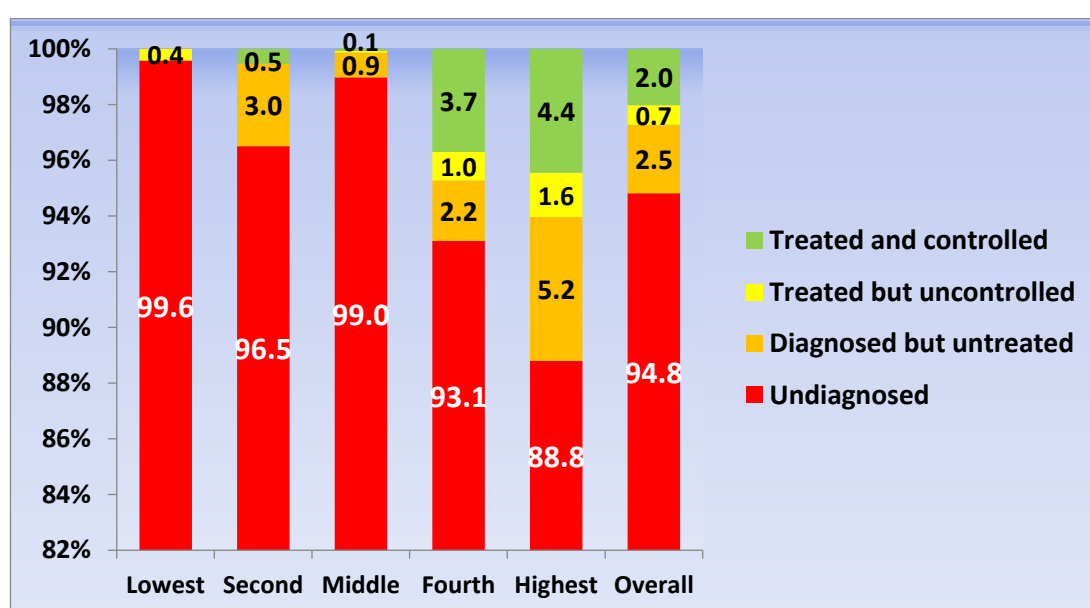
12.3. Screening coverage

Early detection of raised blood cholesterol through regular (at least annual) screening of healthy individuals is one of the key public health strategies for reduction the morbidity and mortality associated with high cholesterol. Though data were not elicited about annual screening, 4.6 % adults (7.6 % among the age group 40-69 years old) had had their blood cholesterol ever measured by a doctor or a health care provider.

12.4. Prescription of medications and compliance with treatment (Table 12.2)

Monitoring of prescription practices and treatment compliance is an important strategy for evaluating the outcomes at individual and at population level. Raised blood cholesterol is a chronic risk factor, requiring treatment over the lifetime of a person, which may reduce the compliance with treatment as observed with many other chronic conditions such as HIV/AIDS or tuberculosis.

Overall, of the adults who were ever told to have raised blood cholesterol 78.9% ever took the medicines and 40.2% reported currently taking the medications, showing poor compliance with the prescriptions.

- The likelihood of compliance with treatment increased with age. So, if a person is diagnosed and prescribed medicine in 30-44-year age group, he/she is less likely to take drug compared to adults 45-69 years of age.
- There were no significant variation in compliance with treatment observed with regard to education level or household wealth.

12.5. Sources of care for treatment and advice and medications for raised blood cholesterol

Overall a much higher proportion of adults sought treatment advise and care from only Private facilities (which include NGO run centers) (70.2%) than from only government facilities (20.1%) or other sources (such as Alternative medicine practitioners- Homeo, Ayurveda, Unani and Traditional healers.) (0.2%) **(Table 12.3)**. Similarly, for medications, majority of the adults approached only private providers (95.2%), and 0% of adults went to government providers. 2.7% of adults mentioned both government and private sources for medications for raised blood cholesterol. (**Table 12.4)**

Background patterns: (Table 10.3 and 10.4)

- The proportion of adults who usually visited private facilities for care and medication decreased with increasing age. Highest proportion of adults sought care-treatment and advice from private sources (70.2%)

- *Sources of care and household wealth*: Most of all adults, even in the poorest wealth quintile sought care from private facilities. The proportion of adults seeking treatment and advice at both government and private facilities increased directly with increase in wealth quintile (**Figure 12.3**).

- *Source of care and region*: In all the provinces and irrespective of the residence in urban or rural residences, more than 50% of adults sought both care/advice and medications from private providers. The use of government facilities for advice/consultation was lowest in the Rajshahi and Rangpur regions, and higher in the Mymensingh and Dhaka regions. (**Figure 12.4**).

Figure 12.3 Percent of adults (who were ever told to have raised blood cholesterol) who sought treatment care/advise and medications from government and private facilities with respect to wealth quintile, Bangladesh's STEPs survey 2018
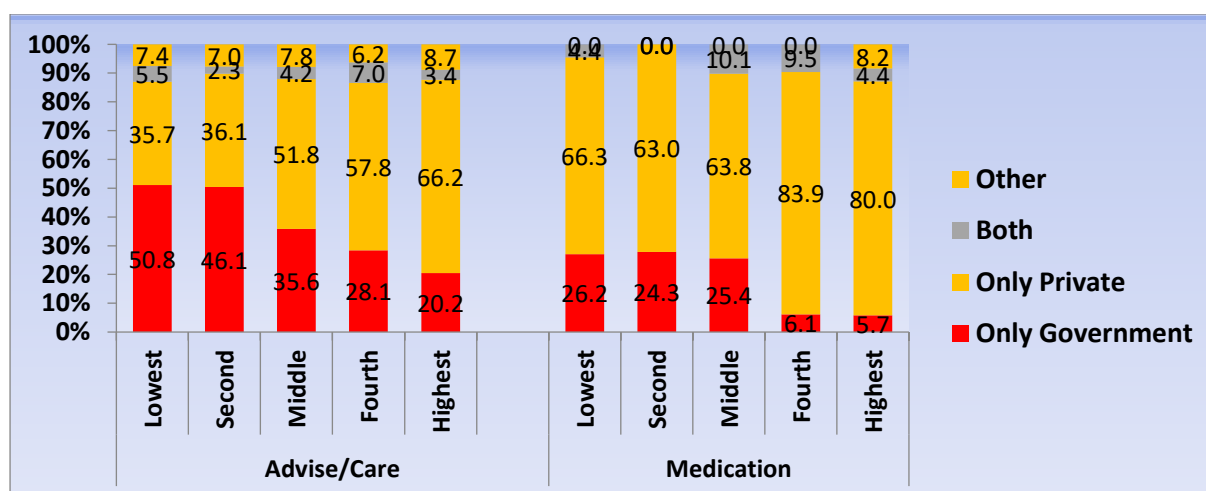
Figure 12.4 Percent of adults (who were ever told to have raised blood cholesterol) who sought treatment care/advise from government facilities with respect to province, Bangladesh's STEPs survey 2018
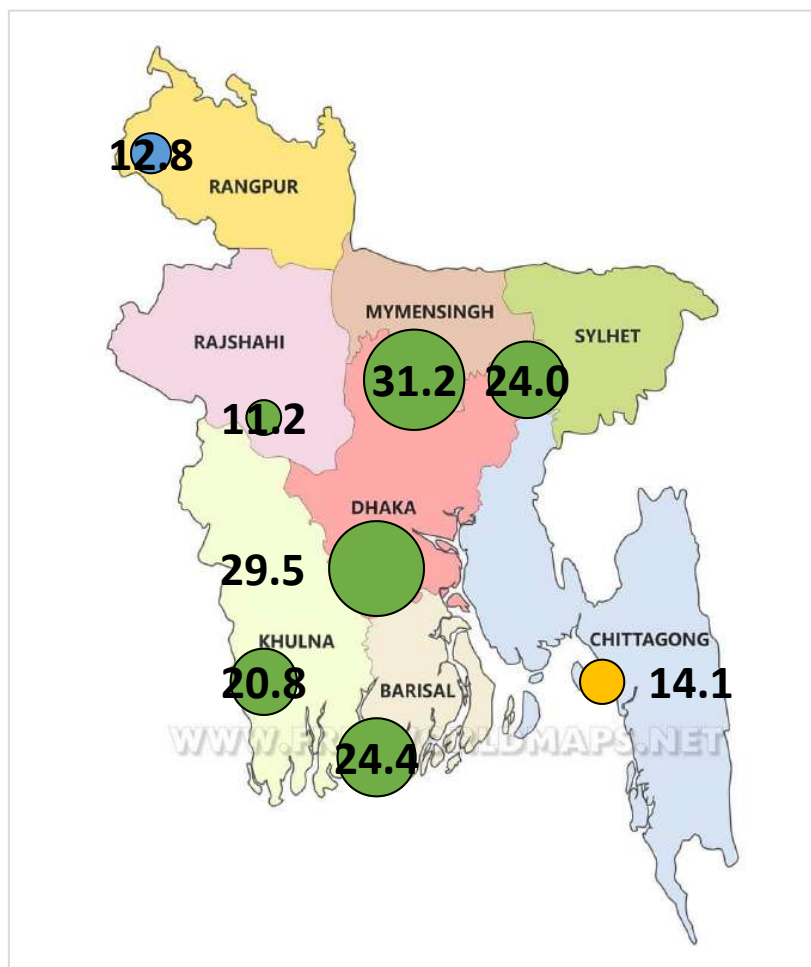
12.6. Consultation with traditional healers and use of herbal remedies

4.9% of adults with raised blood cholesterol reported visiting a traditional healer like treatment and advise. Of which, 33.9% adults reported currently taking herbal remedies for their raised blood cholesterol

Background patterns: (Table 12.5)

- The proportion of adults who reported taking herbal or traditional remedies for their raised blood cholesterol was highest in the 40-55 years age group- 28.3%. Women were more likely to have ever visited a local healer as compared to men (7.5%- women vs 2.9%- men). However, a higher proportion of men reported currently taking herbal or traditional remedies to control their blood cholesterol among adults who had ever visited a traditional healer. (53.0%-men vs 25.0%-women)

- Rural residents were more likely to have ever visited a local healer as compared to urban residents.
- The proportion of adults who had ever visited a local to control their blood cholesterol decreased with increase in education level and wealth quintile.

12.7. Reasons for not on treatment

81.9% of adults who were prescribed medications cited "didn't think the drugs were necessary" and "their blood cholesterol got normal "as reasons for not currently taking medications/treatment (**Table 12.6**).   The second most common reason given for not taking medications was "too expensive/ drugs not available" as cited by 11.4% adults

Patterns by background characteristics (Table 12.6):

- The highest proportion of adults who reported "too expensive/ drugs not available" were within the ages 40-54 years (86.1%).
- A higher proportion of men (82.5 %) gave the reasons "did not think drugs were necessary" or "their blood pressure was under control" compared to women (80.8%).
- The proportion of adults who reported did not think drugs were necessary" or "their blood pressure was under control" increased with increase in education level however, no consistent trends were observed with regards to household wealth.

Figure 12.5 Reasons for which adults with high blood cholesterol reported not taking drugs for raised Blood cholesterol, Bangladesh 2018.
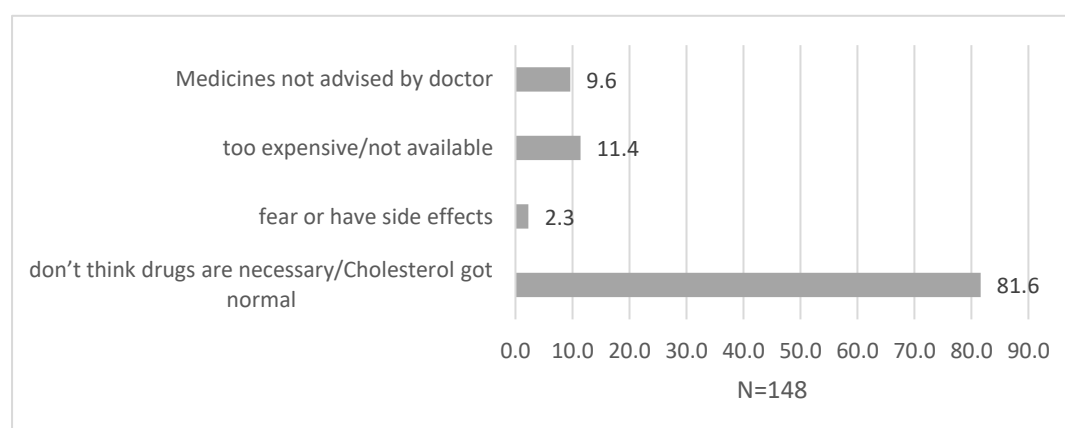
List of Tables:

For more information on raised blood cholesterol prevalence, screening and treatment coverage or sources of care, see the following tables:

Table: 12.1 Prevalence of raised blood cholesterol and diagnosis, treatment and control rates
Table: 12.2 Measurement of blood cholesterol, prescription of medications, treatment compliance
Table: 12.3 sources of care for raised blood cholesterol
Table: 12.4 sources of medications for raised blood cholesterol
Table: 12.5 Care seeking from traditional healers and use of traditional/herbal remedies
Table: 12.6 Reasons for not taking medications among those told to have raised blood cholesterol and have been prescribed medications.

Table NCD.12.1 Prevalence of raised blood cholesterol and diagnosis, treatment and control rates: All

Percentage of people 18-69 who had raised blood cholesterol at the time of survey or on blood cholesterol medications and who were aware of their diagnosis, on treatment or have their blood cholesterol controlled or uncontrolled with medications , by background characteristics, [Bangladesh, 2018]

Background characteristic	Prevalence of raised blood cholesterol	(n)	Among those with raised blood cholesterol				
			Not aware of diagnosis	Aware of diagnosis but not treatment	On treatment but not controlled	On treatment and controlled	Total (n)
Age							
18-24	20.6	1550	99.0	0.6	0.0	0.5	317
25-39	26.7	3070	95.3	2.8	0.5	1.4	888
40-54	36.4	1908	92.7	3.2	1.1	3.0	766
55-69	39.5	521	91.8	2.6	1.4	4.1	189
Sex							
Women	29.3	3805	95.3	2.9	0.9	0.9	1,196
Men	27.4	3244	94.2	1.8	0.4	3.5	964
Residence							
Rural	27.4	3733	96.5	1.7	0.5	1.3	1,004
Urban	32.4	3316	89.3	4.8	1.3	4.6	1,156
Region							
Barishal	34.9	842	90.3	5.1	1.7	3.0	313
Chattogram	31.6	854	96.3	1.6	0.6	1.5	264
Dhaka	29.1	765	90.8	4.2	0.9	4.2	228
Khulna	33.0	947	94.4	2.1	1.2	2.2	345
Mymensingh	20.9	912	99.1	0.3	0.0	0.7	212
Rajshahi	25.0	981	98.4	1.2	0.0	0.4	279
Rangpur	22.1	903	97.6	1.1	0.2	1.1	232
Sylhet	31.6	845	94.8	3.5	0.8	0.9	287
Education							
No education	27.0	3269	97.6	1.4	0.2	0.9	929
Primary	28.8	2199	92.5	**3.8**	1.3	2.5	689
Secondary	29.5	724	94.3	1.5	0.8	3.4	234
More than Secondary	33.0	838	90.6	4.2	1.1	4.2	302
Wealth quintile							
Lowest	21.5	1474	99.6	0.0	0.4	0.0	324
Second	24.2	1493	96.5	3.0	0.0	0.5	395
Middle	27.2	1267	99.0	0.9	0.1	0.1	374
Fourth	32.4	1289	93.1	2.2	1.0	3.7	445
Highest	38.7	1526	88.8	5.2	1.6	4.4	622
Total (18-39)	23.0	3805	97.7	1.5	0.2	0.6	931
Total (40-69)	35.7	3244	92.4	3.2	1.1	3.3	1229
Total (25-69)	30.1	6237	94.3	2.8	0.8	2.2	2012
Total (18-69)	28.4	7049	94.8	2.5	0.7	2.0	2160

Table NCD.12.2 Blood cholesterol measured, self-reported prevalence and treatment of raised blood cholesterol: All

Percentage of respondents age 18-69 who have ever had their blood cholesterol measured and who have been told by a health care provider that they have raised blood cholesterol; among people who have been told they have raised cholesterol, the percentage told in the past 12 months they have raised cholesterol, and percentage taking medication to control cholesterol, by background characteristics, [Bangladesh]

Background characteristic	Ever had blood cholesterol measured by doctor or health care provider	Number of respondents	Ever told have raised cholesterol by doctor or health care provider	Number of respondents	Among respondents who have been told by a doctor or health care provider they have raised blood cholesterol, the percentage who were:			
					Told in the past 12 months have raised cholesterol	ever taken medications	currently taking medication to control cholesterol	Number of respondents
Age								
18-24	2.1	1942	27.7	45	49.5*	89.5*	12.2*	12*
25-39	5.1	3505	42.3	196	55.2	72.4	22.0	88
40-54	7.5	2152	58.3	208	76.3	85.6	56.3	115
55-69	8.5	586	54.8	65	79.3	71.9	50.3	35
Sex								
Women	4.3	4381	44.8	247	72.0	77.0	29.9	121
Men	5.0	3804	48.5	267	64.9	80.4	48.5	129
Residence								
Rural	3.2	4183	43.1	155	65.9	84.2	34.6	71
Urban	9.5	4002	51.0	359	70.2	73.7	45.7	179
Region								
Barishal	7.8	986	49.5	94	65.1	85.1	29.7	45
Chattogram	3.7	1053	54.0	55	63.9*	92.6*	45.2*	32*
Dhaka	7.9	997	50.7	99	66.0	78.2	45.3	54
Khulna	3.4	1040	51.3	63	91.7	82.5	50.7	35
Mymensingh	3.6	1021	27.4	52	97.5*	27.5*	12.6*	17*
Rajshahi	1.9	1066	48.4*	33*	45.4*	54.0*	9.4	18*
Rangpur	1.8	1009	30.5*	32*	91.9*	60.6*	44.7*	12*
Sylhet	5.9	1013	27.1	86	54.5	92.1	30.0	37
Education								
No education	2.3	3678	41.3	94	73.2	70.3	38.3	42
Primary	5.1	2533	53.6	145	73.1	95.6	41.6	85
Secondary	5.0	888	44.5	88	51.1	87.4	53.7	45
More than Secondary	11.3	1065	44.0	187	65.6	57.8	33.4	78
Wealth quintile								
Lowest	1.3	1639	14.0*	20*	50.1*	95.7*	32.7*	5*
Second	1.7	1670	48.9*	32*	73.3*	89.9*	10.3*	14*
Middle	2.1	1451	34.2	38	56.6*	69.6*	3.3*	16*
Fourth	6.4	1506	45.2	109	74.5	86.1	61.1	55
Highest	11.9	1919	53.0	315	66.2	74.7	38.7	160
Total (18-39)	2.9	4515	30.8	173	49.4	83.4	13.3	57
Total (40-69)	7.6	3670	57.4	341	74.8	77.3	49.9	193
Total (25-69)	5.6	7159	48.3	492	68.6	79.0	41.0	243
Total (18-69)	4.6	8185	46.8	514	68.1	78.9	40.2	250

*interpret with caution due to small sample size

Table NCD.12.3 source of care for treatment and advise for blood cholesterol: All

Percentage of people 18-69 who were ever told to have raised blood cholesterol and who mentioned different sources of care for treatment/advise and for medication, by background characteristics, [Bangladesh, 2018]

Background characteristic	Government Facility	Private/NGO Facility	Both government and private	Any alternative/ traditional provider	government facilities			Private		n
					Primary	secondary	tertiary	Primary	secondary	
Age										
18-24	100.0	95.5	100.0	0*	0.0	0.0	0.0	42.0	13.7	12*
25-39	80.3	72.7	95.1	0.8	2.7	7.8	14.1	25.9	0.0	88
40-54	79.9	71.5	92.6	0.0	4.3	3.6	21.4	43.8	0.7	115
55-69	70.4	54.1	83.8	0.0	5.9	0.6	39.3	32.8	0.0	35
Sex										
Women	20.1	70.0	8.5	0.5	0.8	1.4	26.9	42.7	3.9	121
Men	20.2	70.3	7.7	0.0	6.3	5.4	17.0	30.2	0.0	129
Residence										
Rural	15.9	70.7	12.6	0.0	6.9	4.8	16.9	37.5	0.0	71
Urban	24.2	69.7	3.5	0.5	0.8	2.5	25.9	34.1	3.5	179
Region										
Barishal	17.2	53.4	28.9	0.0	3.8	7.6	35.2	66.6	2.3	45
Chattogram	8.2	90.6	0.0	1.2	0.0	5.6	2.6	21.2	0.0	32*
Dhaka	27.5	65.4	6.1	0.0	1.6	1.8	30.2	20.1	3.4	54
Khulna	18.5	73.2	8.3	0.0	5.2	3.8	17.8	67.9	0.0	35
Mymensingh	25.7	33.9	40.4	0*	50.5	0.0	15.6	58.1	0.0	17*
Rajshahi	8.5	82.3	0.0	0*	0.0	7.2	8.5	58.8	0.0	18*
Rangpur	11.0	73.3	0.0	0*	8.9	2.2	8.9	49.1	0.0	12*
Sylhet	19.4	79.6	1.0	0.0	0.0	4.9	15.5	64.5	0.0	37
Education										
No education	22.5	58.9	16.1	0*	12.9	3.0	26.0	26.7	0*	42
Primary	14.8	77.4	7.8	0.0	1.5	0.8	20.5	41.1	4.5	85
Secondary	31.4	61.0	4.5	0.0	0.0	10.1	25.9	37.1	0.0	45
More than Secondary	20.7	71.9	4.7	0.8	2.7	5.0	17.7	34.0	0.0	78
Wealth quintile										
Lowest	17.2	37.0	45.8	0.0	45.8	0.0	17.2	78.5	0.0	5*
Second	22.2	77.9	0.0	0.0	0.0	0.0	22.2	58.8	0.0	14*
Middle	12.2	29.4	58.4	0.0	29.1	0.6	40.9	52.3	0.0	16*
Fourth	20.9	71.4	5.9	0.0	1.5	9.6	16.0	22.9	0.0	55
Highest	20.4	74.2	3.3	0.4	1.3	1.8	21.8	35.8	3.1	160
Total (18-39)	8.7	86.1	2.2	0.9	1.1	1.2	8.6	31.1	5.8	57
Total (40-69)	24.2	64.5	10.1	0.0	4.8	4.5	26.0	37.5	0.3	193
Total (25-69)	21.2	69.1	8.5	0.2	4.0	3.8	22.6	35.6	1.9	243
Total (18-69)	20.1	70.2	8.0	0.2	3.8	3.6	21.4	35.8	1.8	250

* Private includes NGO clinics and hospitals

Table NCD.12.4 source of drugs/medications for blood cholesterol: All

Percentage of people 18-69 who have ever taken medication for raised blood cholesterol and who mentioned different sources medications, by background characteristics, [Bangladesh, 2018]

Background characteristic	Government Only	Private* Only	Both government and private	Any alternative/ traditional provider	n
Age					
18-24	0.0	100.0	0.0	0.0	9*
25-39	0.0	94.1	0.7	2.9	61
40-54	0.0	97.5	0.6	0.0	91
55-69	0.0	93.5	5.9	0.0	26*
Sex					
Women	0.0	96.0	0.8	1.3	89
Men	0.0	94.4	4.6	0.0	98
Residence					
Rural	0.0	94.3	3.4	0.9	58
Urban	0.0	96.3	1.8	0.4	129
Region					
Barishal	0.0	96.3	0.0	0.6	35
Chattogram	0.0	97.7	0.9	0.4	27*
Dhaka	0.0	98.6	0.0	1.0	42
Khulna	0.0	96.0	1.6	0.0	26*
Mymensingh	0.0	87.7	2.6	0.0	8*
Rajshahi	0.0	76.7	18.0	2.4	9*
Rangpur	0.0	100.0	0.0	0.0	9*
Sylhet	0.0	100.0	0.0	0.0	31*
Education					
No education	0.0	97.2	2.8	0.0	28*
Primary	0.0	91.4	4.2	1.0	74
Secondary	0.0	96.6	1.7	0.0	37
More than Secondary	0.0	96.6	0.6	2.7	48
Wealth quintile					
Lowest	0.0	89.6	10.5	0.0	4*
Second	0.0	94.8	0.0	2.3	11*
Middle	0.0	97.0	1.3	0.0	13*
Fourth	0.0	98.5	0.0	0.2	42
Highest	0.0	94.3	3.4	0.9	117
Total (18-39)	0.0	93.2	1.0	3.3	41
Total (40-69)	0.0	95.5	3.0	0.1	146
Total (25-69)	0.0	95.1	2.7	0.7	183
Total (18-69)	0.0	95.2	2.7	0.7	187

*interpret with caution due to small sample size

Table NCD.12.5 Care seeking from traditional healers and use of traditional/herbal remedies: All

Percentage of people 18-69 who have been ever told to have raised blood cholesterol and who sought care from a traditional healer or currently using a traditional/herbal remedy , by background characteristics, [Bangladesh, 2018]

Background characteristic	For raised blood cholesterol			
	ever seen a local healer	Total Number (n)	currently taking a herbal remedy	Total Number (n)
Age				
18-24	0.0	12*	0.0	0*
25-39	4.0	88	74.6	4*
40-54	7.1	115	28.3	7*
55-69	5.2	35	9.6	0*
Sex				
Women	7.5	121	25.0	10*
Men	2.9	129	53.0	3*
Residence				
Rural	6.6	71	12.5	5*
Urban	3.3	179	75.9	8*
Region				
Barishal	17.5	45	6.6	5*
Chattogram	5.5	32*	100.0	2*
Dhaka	1.6	54	0.0	1*
Khulna	13.7	35	32.6	3*
Mymensingh	0.0	17*	0.0	0*
Rajshahi	0.0	18*	0.0	0*
Rangpur	0.0	12*	0.0	0*
Sylhet	3.4	37	74.9	2*
Education				
No education	10.3	42	51.9	4*
Primary	6.1	85	4.8	6*
Secondary	3.3	45	100.0	2*
More than Secondary	0.6	78	74.9	1*
Wealth quintile				
Lowest	45.8	5*	0.0	1*
Second	10.1	14*	0.0	1*
Middle	22.8	16*	7.9	3*
Fourth	3.8	55	100.0	2*
Highest	1.7	160	57.8	6*
Total (18-39)	1.9	57	82.0	2*
Total (40-69)	6.0	193	28.5	11*
Total (25-69)	5.2	243	33.9	13*
Total (18-69)	4.9	250	33.9	13*

*interpret with caution due to small sample size

Table NCD.12.6 Reasons for not taking medications for raised blood cholesterol: All

Percentage of people 18-69 who have been ever advised to take drugs but not taking drugs in the past 2 weeks and specified different reasons for not taking medication for raised blood cholesterol , by background characteristics, [Bangladesh, 2018]

Background characteristic	don't think drugs are necessary/Cholesterol got normal	fear or have side effects	too expensive/not available	Medicines not advised by doctor	(n)
Age					
15-24	88.5*	0.0*	0.0*	10.8*	11*
25-39	65.1	4.3	17.5	14.4	63
40-54	86.1	2.6	11.6	5.1	55
55-69	100*	0*	9.4*	5.9*	19*
Sex					
Women	80.8	0.0	8.3	17.1	79
Men	82.5	4.8	14.8	1.4	69
Residence					
Rural	76.2	3.7	16.2	9.6	45
Urban	88.0	0.6	5.8	9.6	103
Region					
Barishal	76.6*	0.7	25*	25.4*	30*
Chattogram	94.0*	0.0*	5.9*	5.3*	19*
Dhaka	78.9*	3.2*	13.1*	8.0*	28*
Khulna	86.4*	9.0*	3.1*	4.6*	18*
Mymensingh	97.2*	0.0*	0.0*	2.8*	11*
Rajshahi	81.2*	0.0*	2.3*	10.1*	16*
Rangpur	53.9*	0.0*	6.3*	39.8*	6*
Sylhet	64.3*	3.3*	25.6*	2.9*	20*
Education					
No education	71.2*	0.0*	24.4*	9.9*	29*
Primary	81.2	1.8	11.0	11.7	47
Secondary	96.3*	1.9*	0.0*	6.0*	23*
More than Secondary	83.9	4.4	7.6	8.2	49
Wealth quintile					
Lowest	100*	0.0*	0.0*	0.0*	4*
Second	62.0*	0.0*	21.3*	17.8*	11*
Middle	83.8*	6.5*	28.3*	11.6*	13*
Fourth	63.5*	7.6*	33.9*	7.5*	29*
Highest	89.8	0.5	0.3	8.7	91
Total (18-39)	80.8	0.2	7.5	11.1	42
Total (40-69)	82.1	3.6	13.9	8.7	106
Total (25-69)	80.3	2.4	12.2	10.3	142
Total (18-69)	81.6	2.3	11.4	9.6	148

Notes:*interpret data with caution due to small sample size

Chapter 13 Cardiovascular diseases history, predicted CVD risk and life-style advice

Key findings

History of cardiovascular disease

o   10.0% of adults 18-69 years of age (12.2% in women, 7.8% in men) and 11.8% of 40-69 years old adults reported ever having a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident).

Predicted 10-year cardiovascular disease risk

o   15.5% of adults aged 40-69 (14.3% of men and 16.7% of women) have a predicted 30% or more chance of having a fatal or non-fatal major cardiovascular event (myocardial infarction or stroke) in the next 10 years based on WHO/ISH risk prediction charts.

Lifestyle advice

o   The adults, who visited a health provider in the previous 12 months, most commonly reported receiving lifestyle advices from doctors and other health workers on*:* (1) "eat at least five servings of fruit and/or vegetables each day" (43.7%), (2) "reduce salt in your diet" (36.7%) and (3) "reduce fat in your diet" (20.9%).

Introduction

Cardiovascular diseases (CVDs), the most common NCD, are responsible for over 17.8 million deaths globally and of which more than three quarters are in lower middle income countries [67]. In the WHO SEA region, CVDs are estimated to cause almost 44% of all the NCD-related deaths (~8.6 million deaths) and almost half of these deaths occur in the economically productive years between 30-69 years of age [68]. Therefore, reducing the burden of CVDs is critical to achieve the target of a 25% relative reduction in risk of premature mortality from NCDs[62].

CVDs include diseases of the heart and blood vessels and vascular diseases of the brain. Atherosclerosis – a complex process involving deposits of plaques made in the blood vessels leading to the narrowing of blood vessels and formation of blood clots (thrombus) is

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[67]Roth GA, Abate D, Abate KH, et al. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2018;392(10159):1736-1788. doi:10.1016/S0140-6736(18)32203-7

[68] Global Burden of Disease Collaborative Network. Global burden of disease study 2016(GBD 2016) Results. Seattle: Institute for Health Metrics and Evaluation (IHME), 2017. http://ghdx.healthdata.org/gbd-results-tool - accessed 24 May 2018.

implicated in many cases of CVD[69]. Modification of certain behaviour (tobacco use, physical inactivity, unhealthy diet, harmful alcohol use) and managing metabolic risk factors (raised blood pressure, raised blood glucose and cholesterol) can slow down the development of atherosclerosis and overall cardiovascular risk[70].

While national health policies that address population-wide health are important tools for reducing behavioural risk factors, strategies targeted at high-risk individuals are essential in managing and reducing metabolic risks. WHO/ISH cardiovascular disease risk charts developed[71] and revised[72] for different WHO regions and sub-regions in 2007 are being used for clinical decision-making by physicians as well as for predicting the proportion of population with different levels of CVD risk for the purpose of planning of health service delivery and resource allocation[73]. These risk prediction charts take into account the age, sex, blood pressure, smoking status, total blood cholesterol and presence or absence of diabetes mellitus to compute the overall risk/probability of developing a CVD event in the next 10 years.

At the time of writing, WHO is working to revise the risk prediction charts. However, pending the availability of revised charts, this report uses 2007 risk prediction charts (SEAR D).

Bangladesh is committed to reducing CVDs burden and has included the 25% relative reduction in premature death from NCDs as one of the targets in its 3-year multisectoral action plan for 2018-2025[10] and its predecessor[39].

Current relevant policies and programs in Bangladesh for the prevention and treatment of CVDs:

- WHO PEN Package
- Multisectoral action plan for prevention and control of NCDs 2018–2025

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[69] World Health Organization. Global Atlas on Cardiovascular Disease Prevention and Control. Mendis S, Puska P, Norrving B editors. World Health Organization, Geneva; 2011.

[70] World Health Organization. (2007). Prevention of cardiovascular disease : guidelines for assessment and management of total cardiovascular risk. World Health Organization. https://apps.who.int/iris/handle/10665/43685

[71] Mendis S, Lindholm LH, Mancia G, et al. World Health Organization (WHO) and International Society of Hypertension (ISH) risk prediction charts: assessment of cardiovascular risk for prevention and control of cardiovascular disease in low and middle-income countries: *Journal of Hypertension*. 2007;25(8):1578-1582. doi:10.1097/HJH.0b013e3282861fd3

[72] Kaptoge S, Pennells L, De Bacquer D, et al. World Health Organization cardiovascular disease risk charts: revised models to estimate risk in 21 global regions. *The Lancet Global Health*. 2019;7(10):e1332-e1345. doi:10.1016/S2214-109X(19)30318-3

[73] Otgontuya D, Oum S, Buckley BS, Bonita R. Assessment of total cardiovascular risk using WHO/ISH risk prediction charts in three low and middle income countries in Asia. *BMC Public Health*. 2013;13(1):539. doi:10.1186/1471-2458-13-539

This chapter describes self-reported history of cardiovascular diseases and lifestyle advice received from doctors or health workers. Additionally, 10-year cardiovascular disease risk is predicted for Bangladesh's population. This information will help Bangladesh assess trends and progress towards the reduction in CVDs burden as well as the evaluation of current policies and programs in place.

13.1 History of Cardiovascular disease

10.0% of adults age 18-69 years reported ever having a CVD event including heart attacks or chest pain from a heart disease or a stroke (**Table 13.1**). Amongst high risk age group (i.e. 40 years old and above), 11.8% of adults reported ever having a heart attack or chest pain (**Table 13.1**). However, these data may underestimate true prevalence of heart attacks/stroke due to survivor bias (people who died from fatal cardiovascular events were excluded from the survey), recall bias, and failure to take into account asymptomatic or undiagnosed non-fatal events.

Patterns by background characteristics (Table 13.1):

Figure 13. 1 Percent of adults aged 15-69 who reported ever having a CVD event by province, Bangladesh STEPs Survey 2018
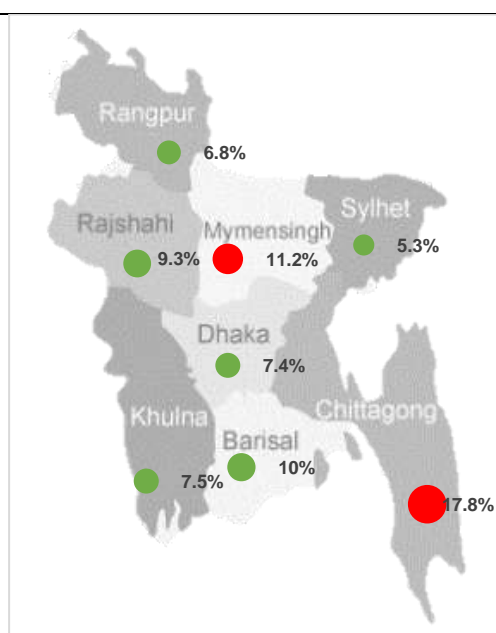
- Women have significantly higher prevalence of self-reported CVD events compared to men (12.2% vs 7.8%).
- Chattogram (17.8%) and Mymensingh (11.2%) had significantly higher self-reported prevalence of CVD events compared to other divisions (**Figure 13. 1**).
- Adults with no education were more likely to report CVD events than adults with more than secondary level education (11.6% vs 6.3%).

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13.2 Predicted 10-year cardiovascular disease risk

10-year cardiovascular disease risk at population-level was estimated using WHO/ICH risk prediction chart (2007) for

South-East Asia (SEAR D)[71]. To calculate predicted risk for fatal or non-fatal CVD event (myocardial infarction or stroke), respondents information on age, sex, systolic blood pressure, total cholesterol and the presence or absence of type 2 diabetes are utilized and combined[10].

Amongst adults aged 40-69, 15.5% of adults have a predicted 10-year CVD risk of 30% or more.
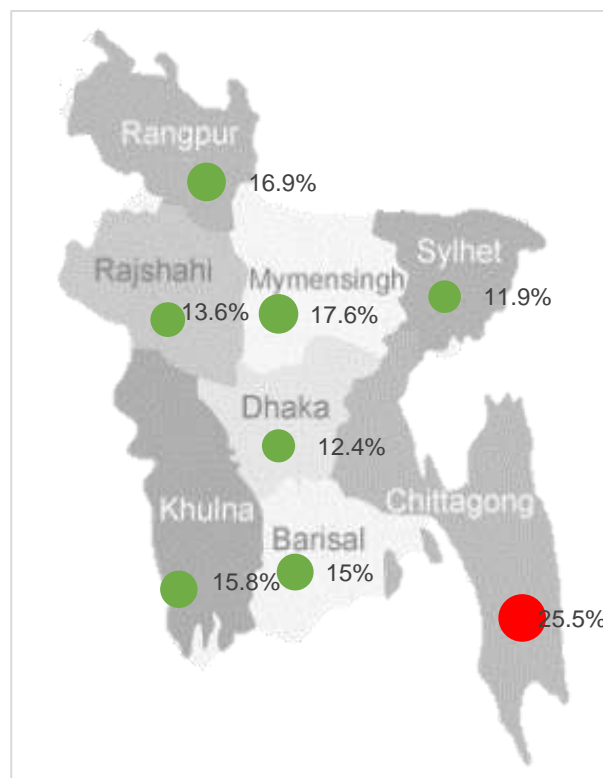
Figure 13.2 Percent adults aged 40-69 who have a 30% or higher predicted 10-year cardiovascular disease risk, Bangladesh STEPs Survey 2018

Patterns by background characteristics (Table 13.2)

- Chattogram division had the highest percentage of adults aged 40-69 with 30% or more CVD risk than almost all other provinces (24.7%) (**Figure 13.2**).

13.3 Lifestyle advice

Individual-based intervention involving life-style advice from doctors and health workers to modify key risk behavioral among high-risk individuals have an important place for overall NCD prevention and control along with population-based measured targeted at the whole population.

Amongst those who visited a doctor or health worker in the past 12 months, the three most common lifestyle advices that adults received were: (1) "eat at least five servings of fruit and/or vegetables each day" (43.7%), (2) "reduce salt in your diet" (36.7%) and (3) "reduce fat in your diet" (20.9%) (**Table 13.3 and Figure 13. 3**). Only 13.9% of adults received advice to reduce glucose beverages in the diet.

Figure 13. 3 Percent adults aged 18-69 who have received different lifestyle advice from a doctor or health worker, Bangladesh STEPs Survey 2018

Patterns by background characteristic (Table 13.3):

- The likelihood of receiving a lifestyle advice increased with age.
- A much higher percentage of men were given advice to quit using tobacco or don't start than women (40.0% vs 8.2%).
- Adults who were of the lowest and highest wealth quintile were more likely to receive some kind of life-style advice than adults who were of the middle wealth quintile (**Figure 13.4).**

Figure 13.4 Differentials in lifestyle advice received amongst adults aged 18-69 by wealth, Bangladesh STEPs Survey 2018
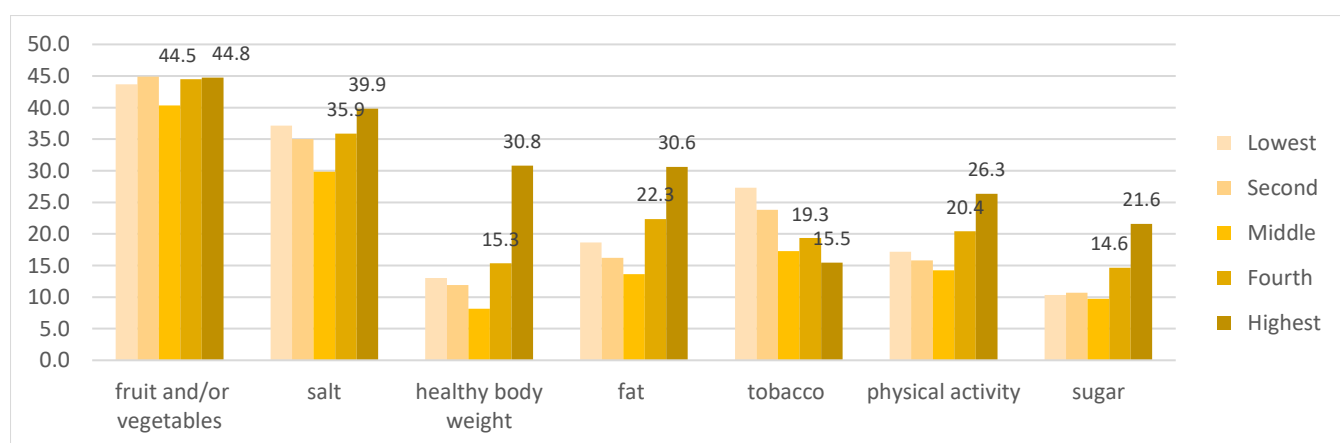
Patterns by disease and risk conditions (Table 13.4):

- Presence of a physiological risk factor increased the probability of receiving an advice to reduce salt and dietary fat, increase physical activity or quit tobacco. Similarly, a significantly higher proportion of smokers reported receiving an advice to quit or not to initiate smoking then never smokers.
- Adults with predicted 10-year cardiovascular disease risk of 30% or more received slightly more lifestyle advice than their counterparts.

List of Tables:

For more information on cardiovascular diseases, see the following tables:

Table 13.1 History of cardiovascular disease: all respondents

Percent of adults aged 18-69 who self-reported ever having a heart attack or chest pain from heart disease or stroke, by background characteristics, [Bangladesh, 2018]

Background characteristic	Ever having a heart attack or chest pain from heart disease or stroke	95 % CI		Number of respondents (N)
Age				
18-24	4.4	2.7	6.9	1026
25-39	9.2	7.4	11.5	3489
40-54	13.3	11.3	15.6	2503
55-69	16.3	12.9	20.3	1167
Sex				
Women	12.2	10.0	14.9	4381
Men	7.8	6.6	7.8	3804
Residence				
Rural	10.1	8.5	11.9	4183
Urban	9.8	7.9	12.1	4002
Division				
Barishal	9.5	7.0	12.9	986
Chattogram	17.8	13.0	23.9	1053
Dhaka Rural	7.4	5.4	10.1	997
Khulna	7.5	5.5	10.1	1040
Mymensingh	11.2	8.3	14.9	1021
Rajshahi	9.3	6.7	12.7	1066
Rangpur	6.8	4.8	9.7	1009
Sylhet	5.3	3.4	8.2	1013
No education	11.6	9.9	13.6	2476
Primary	10.0	8.0	12.5	3735
Secondary	8.3	5.7	12.1	1397
More than secondary	6.3	4.4	9.0	556
Wealth quintile				
Lowest	11.2	9.1	13.7	1639
Second	9.7	7.8	12.0	1670
Middle	8.1	6.1	10.8	1451
Fourth	10.2	7.7	13.2	1506
Highest	11.0	8.5	14.2	1919
Total (18-39)	7.4	6.0	9.1	4515
Total (40-69)	14.7	12.6	17.0	3670
Total (25-69)	11.8	10.3	13.5	7159
Total (18-69)	10.0	8.7	11.5	8185

Table 13.2 Predicted 10-year cardiovascular disease risk: all respondents

Percent of adults aged 40-69 who have different predicted risk levels for heart attacks or stroke in 10 years based on WHO/ISH risk prediction charts (2007)* for South-East Asia, by background characteristics, [Bangladesh, 2018]

Background characteristic	Percent population with 10-year risk levels of >=30%:	95% CI		Number of respondents (n)
Age				
40-54	13.8	11.7	16.2	2182
55-69	18.5	15.4	22.1	1021
Sex				
Women	16.7	13.7	20.2	1557
Men	14.3	12.0	16.9	1646
Residence				
Rural	15.2	13.0	17.7	1701
Urban	16.6	13.9	20.0	1502
Division				
Barishal	14.2	9.7	20.3	431
Chattogram	24.7	18.8	31.8	361
Dhaka Rural	12.5	9.0	17.0	329
Khulna	13.6	10.1	18.0	439
Mymensingh	16.4	11.8	22.4	447
Rajshahi	11.9	7.9	17.4	436
Rangpur	14.2	10.2	19.6	409
Sylhet	10.5	7.2	15.1	351
Education				
No education	15.1	12.9	17.7	1949
Primary	18.2	14.6	22.4	691
Secondary	15.3	9.9	22.9	239
More than secondary	11.8	7.7	17.7	309
Wealth quintile				
Lowest	14.1	11.1	17.7	721
Second	15.9	12.1	20.3	676
Middle	13.8	10.3	18.3	525
Fourth	15.6	11.6	20.6	553
Highest	18.7	14.4	24.0	728
Total (40-69)	15.5	13.6	17.6	3203

*Revised WHO CVD risk charts (2019) for LMICs are currently underway, therefore 2007 risk charts for SEAR D was used: https://www.who.int/ncds/management/WHO_ISH_Risk_Prediction_Charts.pdf?ua=1

Table 13.3 Lifestyle advice from doctors and other health workers: all respondents (By background characteristics)

Percent of adults aged 15-69 who have ever visited a doctor or health worker and received lifestyle advice on behavioural risk factors for non-communicable diseases by background characteristics, [Bangladesh, 2018]

Background characteristic	Percent adults who reported receiving lifestyle advice to:							Number of respondents
	quit using tobacco or don't start	reduce salt in your diet	eat at least five servings of fruit and/or vegetables each day	reduce fat in your diet	start or do more physical activity	maintain a healthy body weight or lose weight	reduce glucose beverages in your diet	
Age								
18-24	8.7	24.8	43.1	14.0	13.3	12.2	9.2	463
25-39	16.5	30.8	42.1	19.7	18.5	15.8	12.2	1649
40-54	25.4	43.7	45.9	27.5	24.8	19.6	18.2	1232
55-69	35.6	49.7	45.0	24.0	21.6	20.1	18.0	633
Sex								
Women	8.2	36.7	41.4	19.9	13.5	16.2	11.3	2564
Men	40.0	34.2	47.4	22.4	28.6	17.4	18.1	1413
Residence								
Rural	21.2	34.4	43.7	19.4	17.0	13.5	12.4	1931
Urban	17.6	39.8	43.6	25.2	25.8	26.1	18.3	2046
Division								
Barishal	15.5	48.9	61.9	28.6	24.8	23.3	21.8	509
Chattogram	17.3	34.9	44.5	15.0	13.2	10.4	13.6	456
Dhaka	22.6	41.7	37.9	21.6	24.7	21.6	12.7	502
Khulna	12.5	30.8	37.8	22.7	13.4	10.4	11.5	591
Mymensingh	26.7	35.8	50.8	16.8	9.7	11.3	6.8	454
Rajshahi	18.4	24.4	40.1	17.0	23.9	22.0	12.9	542
Rangpur	28.5	36.7	47.7	26.9	27.5	24.8	20.8	419
Sylhet	24.9	34.6	50.5	28.1	14.3	7.9	17.6	504
Education								
No education	28.1	39.0	44.5	18.4	16.6	12.5	11.4	1634
Primary	15.5	34.6	43.1	21.0	17.2	14.6	13.4	1292
Secondary	12.2	33.0	41.2	19.6	22.3	22.8	15.3	466
More than secondary	15.7	31.1	45.3	29.4	28.9	27.9	21.1	570
Wealth quintile								
Lowest	27.3	37.1	43.7	18.6	17.2	13.0	10.4	689
Second	23.8	35.0	44.9	16.2	15.8	11.9	10.7	728
Middle	17.3	29.8	40.3	13.6	14.2	8.1	9.8	711
Fourth	19.3	35.9	44.5	22.3	20.4	15.3	14.6	722
Highest	15.5	39.9	44.8	30.6	26.3	30.8	21.6	1127
Total (18-39)	13.6	28.6	42.5	17.6	16.6	14.5	11.1	2112
Total (40-69)	30.5	46.7	45.5	25.8	23.2	19.9	18.1	1865
Total (25-69)	23.6	38.9	43.8	22.8	20.9	17.9	15.2	3514
Total (18-69)	20.3	35.7	43.7	20.9	19.2	16.6	13.9	3977

Table 13.4 Lifestyle advice from doctors and other health workers: all respondents (by disease and risk conditions)

Percent of adults aged 18-69 who have ever visited a doctor or health worker and received lifestyle advice on behavioural risk factors for non-communicable diseases by disease and risk conditions, [Bangladesh, 2018]

Disease and risk condition	Percent adults who reported receiving lifestyle advice to:							Number of respondents
	Quit using tobacco or don't start	Reduce salt in your diet	Eat at least five servings of fruit and/or vegetables each day	Reduce fat in your diet	Start or do more physical activity	Maintain a healthy body weight or lose weight	Reduce glucose beverages in your diet	
Smoking status								
Current smokers	68.0	34.6	49.6	22.5	24.4	13.3	17.7	638
Previous smokers	42.7	49.2	51.4	30.1	32.7	23.8	23.1	291
Never smokers	7.9	34.8	41.7	19.7	16.9	16.7	12.2	3048
Blood Pressure status								
Raised blood pressure	21.8	52.5	46.8	30.4	28.5	26.3	21.5	1227
Normal blood pressure	19.7	29.1	42.5	17.4	15.3	12.7	10.5	2641
diabetes								
Raised blood glucose/ diabetes	25.5	55.7	56.7	37.7	37.0	41.0	39.2	453
Normal blood-glucose/ diabetes	20.1	33.6	42.6	18.8	17.0	12.9	10.9	3007
Cholesterol								
Raised cholesterol	22.1	44.1	47.4	25.5	23.0	22.5	16.2	1194
Normal cholesterol	20.1	32.4	42.8	18.9	17.6	13.2	13.1	2262
Nutrition Status								
Obese	15.4	50.4	46.7	48.9	40.6	57.9	22.8	350
Overweight	15.7	40.5	39.5	24.2	22.8	25.6	15.4	1011
Normal and underweight	23.4	32.9	44.3	17.0	16.2	8.8	12.6	2472
Predicted 10-year CVD risk (adults aged 40-69)								
>=30%	38.5	61.2	60.4	40.7	27.8	28.0	24.7	316
<30%	27.8	42.6	41.5	20.9	21.6	17.4	16.0	1321
Total (18-69)	20.3	35.7	43.7	20.9	19.2	16.6	13.9	3977

Chapter 14 Cervical Cancer: Screening and Treatment

Key findings

Testing for cervical cancer

o Ever tested for cervical cancer: 6.1% (4.3% in the last 5 years) and 4.3% (2.6% in the last five years) of women age 30-49 years and 18-69 years, respectively, reported ever getting a cervical cancer test.

o Main reason for testing: 49.0% of women (18-69 years) reported getting test done as they were experiencing pain or other symptom; 30.3% women reported the test as recommended by health care provider.

o 93.3% of women received back the results of their most recent test.

Source (type of facility) for the most recent test for cervical cancer (18-69 years)

o 55.6% of women got their most recent test at private clinics, NGO or community-run hospitals.

o 43.2% and 42.6% of women received their most recent test at private hospitals and government hospital respectively.

Treatment for cervical cancer

o Treatment: 74.5% of women who received abnormal or inconclusive test results received treatment

o Follow-up: 68.5% of women who received abnormal or inconclusive test results received a follow-up visit.

Introduction

Cervical cancer is the second most common cause of cancer morbidity and mortality among women in the South-east Asia Region. The burden is particularly high in low- and middle-income countries (LMICs) accounting for 85% of deaths related to cervical cancer worldwide[74,75]. *It is the second most common cancer among women in Bangladesh*[76]. Human papillomavirus (HPV) infection is the main cause of cervical cancer and when

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[74] Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*. 2018;68(6):394-424. doi:10.3322/caac.21492

[75] Ferlay J, Soerjomataram I, Dikshit R, et al. Cancer incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012: Globocan 2012. Int J Cancer. 2015;136(5):E359-E386. doi:10.1002/ijc.29210

[76] International Agency for Research on Cancer. Bangladesh: World Health Organization; 2018 [updated March 2019; cited 2019 30 April]. Available from: http://gco.iarc.fr/today/data/factsheets/populations/50-bangladesh-fact-sheets.pdf.

detected early, cervical cancer is largely preventable and treatable form of cancer[2,77]. However, lack of access to timely and effective health services (vaccination, screening and treatment); social stigma and lack of awareness has posed major barriers to the reduction of cervical cancer related morbidity and mortality in low resource settings[78].

Figure 14.1 Global Targets for the elimination of Cervical Cancer by 2030

- **90%** of girls fully vaccinated with HPV vaccine by 15 years of age.
- **70%** of women are screened with a high-precision test at 35 and 45 years of age.
- **90%** of women identified with cervical disease receive treatment and care.

It is estimated that without further intervention there would be 44.4 million cervical cancer cases diagnosed globally over the period 2020–69, with almost two-thirds of cases occurring in LMICs[79]. In May 2018, the WHO Direction-General made a global call for action to eliminate[80] cervical cancer as a public health problem [81] and proposed targets for 2030 (Figure 14.1)[82].

Current WHO recommendation for cervical cancer prevention and treatment include[83]: (1) HPV vaccination for girls aged 9-13 before they initiate sexual activity; (2) Every woman aged 30-49 should be screened for cervical cancer at least once in a life-time regardless of vaccination status and should be repeated at least every 5 years if previous results are negative; (3) Adopt the "screen-and-treat" approach where treatment is given ideally on the same day and same location after positive diagnosis of pre-cancerous lesions to prevent loss to follow-up and delayed treatment.

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[77] Franco EL, Duarte-Franco E, Ferenczy A. Cervical cancer: epidemiology, prevention and the role of human papillomavirus infection. CMAJ. 2001;164(7):1017-1025.

[78] WHO. Comprehensive cervical cancer control: a guide to essential practice – 2nd ed. 2014 Geneva.

[79] Simms KT, Steinberg J, Caruana M, et al. Impact of scaled up human papillomavirus vaccination and cervical screening and the potential for global elimination of cervical cancer in 181 countries, 2020–99: a modelling study. *The Lancet Oncology*. 2019;20(3):394-407. doi:10.1016/S1470-2045(18)30836-

[80] Elimination defined as age-adjusted incidence rate less than 4 per 100,000 women-years.

[81] Ghebreyesus, T., *Cervical Cancer: An NCD We Can Overcome*. 2018, World Health Organization: Geneva, Switzerland.

[82] WHO. [Draft] Global Strategy Towards the Elimination of Cervical Cancer as a Public Health Problem. 2019, World Health Organization: Geneva, Switzerland. [Assessed on: Sep 24, 2019] https://www.who.int/docs/default-source/documents/cervical-cancer-elimination-draft-strategy.pdf

[83] Not an exhaustive list of recommendations, please see original document for comprehensive guidelines. WHO. Comprehensive cervical cancer control: a guide to essential practice – 2nd ed. 2014 World Health Organization: Geneva, Switzerland.

In Bangladesh, the National Cervical Cancer Screening program was launched in 2005[84] and the expansion of its cervical cancer screening program has been included in the National Strategy for Cervical Cancer Prevention and Control Bangladesh (2017-2022)[85].

Current relevant policies and programs in Bangladesh for the prevention and treatment of cervical cancer:

- Introduce and scale up delivery of HPV vaccine to girls aged 9 to 13 years through a coordinated multisectoral approach including EPI.

- Implement and scale up organized cervical cancer screening programmes utilizing evidence based, cost-effective interventions through public health service delivery system across different levels of health care.

- Strengthen health systems and quality assurance mechanism to ensure quality and equitable access to cervical cancer screening services with particular attention to socioeconomically disadvantaged population groups.

- Augment management facilities for invasive cancer cervix as part of a comprehensive cancer control programme.

- Introduce palliative care services into all level of health system as part of a comprehensive cancer control programme.

- Encourage convergence with related health programmes to ensure a coordinated approach for cervical cancer control within the health system.

- Initiate and augment a structured advocacy and educational campaign for cervical cancer control. 8. Establish a Monitoring & Evaluation framework for the cervical cancer control.

- To contribute towards establishment of a National Cancer Registry comprising several hospitals based and one population based cancer registry as a ready source of data for further research.

This chapter focuses on the health service component of cervical cancer prevention and treatment. This information will help Bangladesh assess trends and progress towards the elimination of cervical cancer as well as the evaluation of current policies and programs in place.

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[84] Basu, P., et al., Evaluation of the National Cervical Cancer Screening Programme of Bangladesh and the formulation of quality assurance guidelines. BMJ Sexual & Reproductive Health, 2010. 36(3): p. 131-134

[85] National Strategy for Cervical Cancer Prevention and Control Bangladesh (2017-2022). Dhaka: Directorate General of Health Services, Health Services Division, Ministry of Health and Family Welfate, Government of the People's Republic of Bangladesh, 2017. [Accessed on Oct 3, 2019]: http://www.searo.who.int/bangladesh/cervical-cancer-strategy-english-book250118.pdf?ua=1

14.1 Testing for cervical cancer

Only 4.3% of women age 18-69 years reported ever tested for cervical cancer and 2.6% were tested within the past 5 years (**Table 14.1**). In the age recommended for screening (i.e. 30-49 years of age), 6.1% of women got ever tested for cervical cancer, and 4.3% were tested within the last 5 years.

 Amongst those who have ever been tested, 49.5% received their first testing between the age of 30-49, 17.7% were first tested between the age of 18-29 and 15.2% between 50-69 (**Table 14.1**).

Amongst women who have ever been tested for cervical cancer, 49.0% of women stated the main reason for their last test was due to experiencing pain or some other symptoms; 30.3% of women stated that it was recommended by a health care provider and 6.5% of women reported that it was recommended by other sources (**Figure 14.2**)**.** 86.6% of women who have ever been tested for cervical cancer received their test results **(Table 14.2).**

Figure 14.2 Percent women adged 18-69 who cited different reasons for seeking cervical cancer testing, Bangladesh STEPs Survey 2018

Reason	Percent
Other	6.1
Experiencing pain or other	49.0
Recommended by other sources	6.5
Recommended by health care provider	30.3
Follow up on abnormal or inconclusive results	4.4
Routine exam	2.7
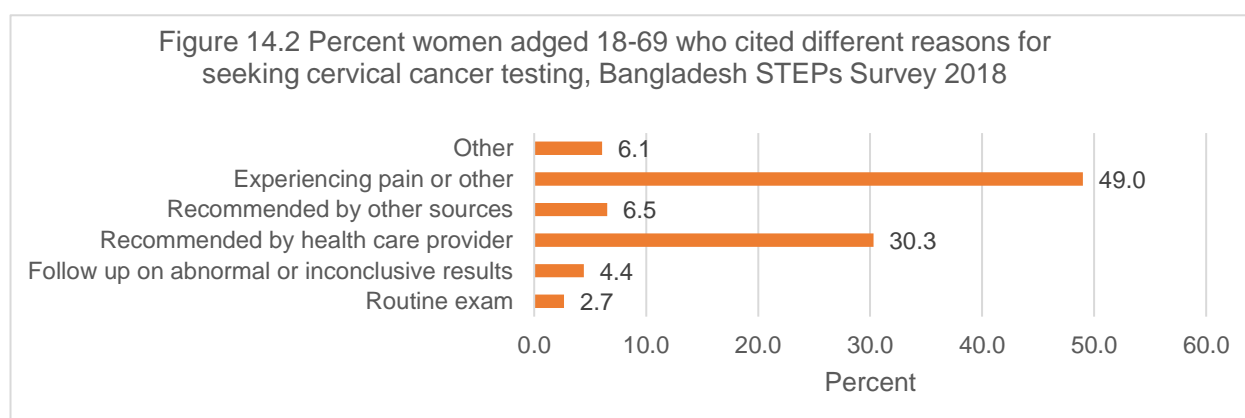
Patterns by background characteristics (Table 14.1 and 14.2):

- The highest percentage of women who were ever tested for cervical cancer was amongst women aged 50-69 and the highest percentage of women who received their last test less than 5 years ago was amongst women aged 30-49 (7.7% and 4.3% respectively).
- Khulna had the highest percentage (7.6%) of women who were tested and the lowest was in Sylhet (0.9%) **(Figure 14.3).**
- Percentage of women who have ever been tested and those who were tested within the last 5 years increased with increasing levels of education, wealth and urban living (**Figure 14.4**).

- Chattogram had the lowest percent of women who tested for cervical cancer and subsequently received their test result (62.0%) compared to all other divisions

14.2 Sources of care for cervical cancer

43.2% of women (18-69 year of age) received their most recent test at private hospitals and 42.6% received the test at government hospitals (**Table 14.3 and Figure 14.5**).

Figure 14.3 Percent of women aged 18-69 who have ever received testing for cervical cancer by division, Bangladesh STEPs Survey 2018

Figure 14.4 Percent women aged 18-69 who received their test results, Bangladesh STEPS Survey 2018

Figure 14.5 Sources of care for testing and treatment of cervical cancer amongst women aged 18-69, Bangladesh STEPs Survey 2018
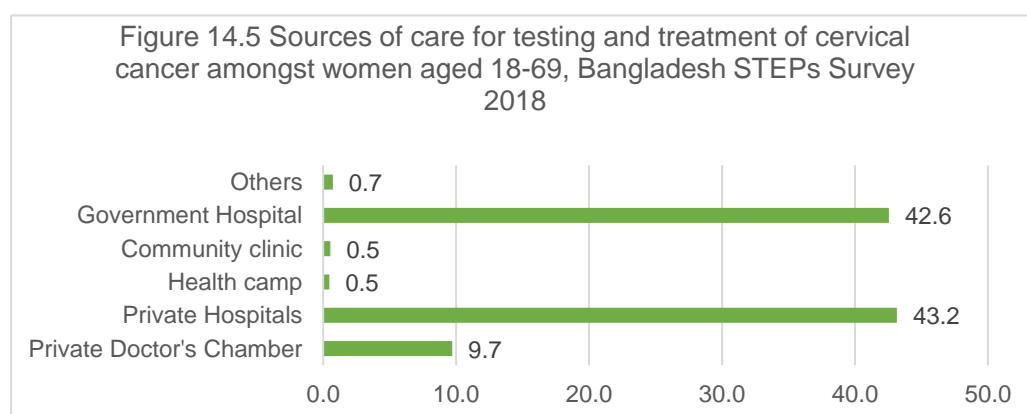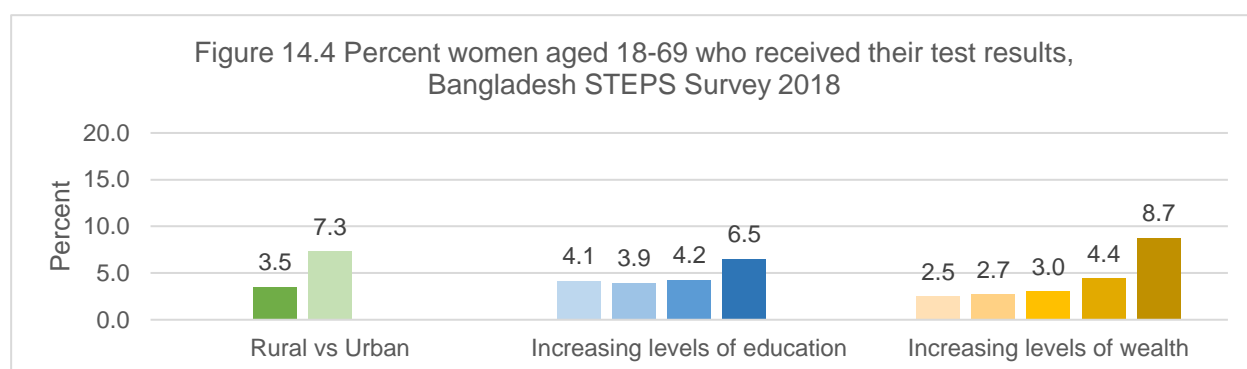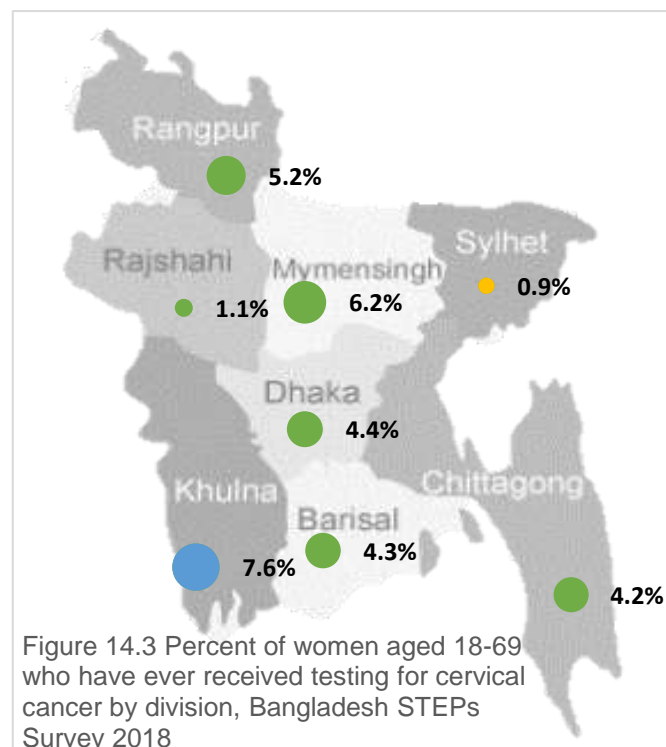
14.3 Treatment for cervical cancer

Amongst women with a cervical cancer test and those who received abnormal or inconclusive test results, 74.5% reported receiving treatment while 68.5% reported having a follow-up visit as a result of the test[86] (**Figure 14.6).**

Figure 14.6 Differentials in follow-up vs treatment for cervical cancer within same visit by residents amongst women aged 18-69, Bangladesh STEPs Survey 2018
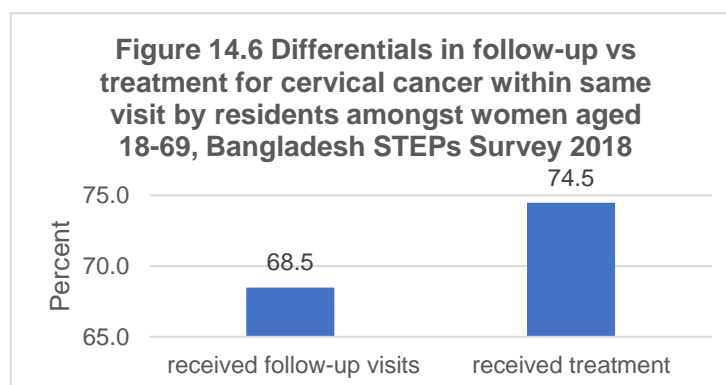
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Table Cervical Cancer.14.1 Testing for cervical cancer: All women

Table Cervical Cancer.14.2: Reasons for testing for cervical cancer

Table Cervical Cancer.14.3 Sources of care for testing and treatment of cervical cancer

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[86] This data is not presented in tables due to small sample size (n=83).

Table Cervical Cancer.14.1 Testing for cervical cancer: All women
Percent of women aged 18-69 who have ever tested for cervical cancer; timing of the last test; age of first testing, amongst women aged 18-69, by background characteristics [Bangladesh, 2018]

Background characteristic	Percent women ever tested for cervical cancer	Percent women whose most recent test was less than 5 years ago*	Number of women (n)	Amongst those who have ever been tested for cervical cancer:				
				percent who received their first test at age*			Percent who received test results from most recent test	Number of women (n)
				18-29	30-49	50-69		
Age								
18-29	1.3	1.3	1158	89.6	0.0	0.0	99.3	25**
30-49	6.1	4.3	2405	10.8	89.2	0.0	84.1	182
50-69	7.7	2.2	755	0.0	56.5	43.5	85.4	63
Residence								
Rural	3.5	1.9	2225	12.7	69.0	17.0	88.1	92
Urban	7.3	5.1	2093	26.4	60.0	12.1	83.9	178
Division								
Barishal	4.3	3.0	531	67.1	15.2	0.0	89.9	35
Chattogram	4.2	1.9	546	7.4	47.6	45.0	62.0	29**
Dhaka	4.4	2.8	515	22.3	77.7	0.0	91.5	27**
Khulna	7.6	4.0	555	27.8	68.4	3.8	92.7	66
Mymensingh	6.2	4.7	538	28.6	46.3	16.8	91.8	46
Rajshahi	1.1	1.1	564	5.8	68.8	14.9	100.0	17**
Rangpur	5.2	2.9	541	2.6	86.8	10.7	98.8	36
Sylhet	0.9	0.7	528	3.3	88.2	8.4	100.0	14**
Education								
No education	4.1	2.0	1921	7.6	61.5	28.9	90.6	95
Primary	3.9	2.4	1507	28.7	61.9	7.7	82.4	89
Secondary	4.2	2.7	432	21.7	78.3	0.0	77.1	35
More than secondary	6.5	5.6	437	20.4	75.1	4.5	91.8	49
Wealth quintile								
Lowest	2.5	1.5	962	18.4	70.3	4.5	93.4	28**
Second	2.7	2.2	888	8.4	68.4	23.2	87.8	33**
Middle	3.0	1.9	716	24.6	72.7	0.9	84.3	35
Fourth	4.4	2.0	709	9.7	43.8	46.5	76.3	35
Highest	8.7	5.2	1043	21.9	71.5	5.9	89.5	139
Total (18-69)	4.3	2.6	4318	17.7	65.7	15.2	86.6	270

* Women who refused to respond or stated "don't know" for these two questions are not presented here but included in the denominator at the time of the analysis.
** Interpret with caution due to small sample size

Table Cervical Cancer.14.2: Reasons for testing for cervical cancer: All women

Percent of women aged 18-69 who have ever received cervical cancer testing and cited different reasons for seeking the test, by background characteristics [Bangladesh, 2018]

Background characteristic	Percent whose main reason for the last test was*:						Number of women (N)
	Routine exam	Follow up on abnormal or inconclusive results	Recommended by health care provider	Recommended by other sources	Experiencing pain or other	Other	
Age							
18-29	4.4	6.0	17.7	9.2	62.7	0.0	25**
30-49	2.3	2.3	38.9	3.5	44.5	8.4	181
50-69	2.6	7.0	22.5	9.9	50.3	5.0	63
Residence							
Rural	0.7	5.1	30.5	5.6	51.4	6.6	92
Urban	6.0	3.2	29.9	8.1	44.9	5.2	177
Division							
Barishal	9.4	0.0	46.0	5.6	37.5	0.7	35
Chattogram	0.0	0.9	43.0	9.0	45.2	1.9	29**
Dhaka Rural	1.6	4.0	18.5	0.0	65.2	6.8	27**
Khulna	2.2	0.0	26.9	15.5	47.8	7.5	66
Mymensingh	0.7	22.3	35.3	2.6	24.4	14.8	46
Rajshahi	21.2	0.0	36.6	7.1	31.6	3.6	16**
Rangpur	4.3	3.2	25.0	0.0	63.8	3.7	36
Sylhet	6.6	0.0	8.4	50.9	30.7	3.3	14**
Education							
No education	1.7	4.9	29.0	6.5	55.0	3.0	95
Primary	3.9	5.9	32.7	6.2	41.9	9.4	89
Secondary	2.2	4.2	18.3	3.0	54.3	9.7	35
More than secondary	3.5	0.0	41.0	6.9	43.8	4.9	48
Wealth quintile							
Lowest	0.0	6.3	34.5	14.0	34.8	3.1	28**
Second	0.0	16.6	39.5	3.8	33.4	6.7	33
Middle	0.0	0.0	33.5	10.4	49.1	7.0	35
Fourth	3.5	0.0	18.8	5.1	72.6	0.0	35
Highest	4.6	3.6	30.7	4.6	47.0	9.3	138
Total (18-69)	2.7	4.4	30.3	6.5	49.0	6.1	269

* Women who refused to respond or stated "don't know" for these two questions are not presented here but included in the denominator at the time of the analysis. ** Interpret with caution due to small sample size

Table Cervical Cancer.14.3 Sources of care for testing and treatment of cervical cancer

Percent of women aged 18-69 who received screening/testing from difference sources by background characteristics [Bangladesh, 2018].

Background characteristics	Source of care for testing						Number of women (n)
	Private Doctor's Chamber	Private Hospitals	Health camp	Community clinic	Government Hospital	Others	
Age							
18-29	20.6	17.5	0.0	0.0	56.3	0.0	25**
30-49	11.8	47.6	0.9	1.1	35.7	1.4	182
50-69	2.5	46.5	0.0	0.0	47.4	0.0	63
Residence							
Rural	11.5	40.6	0.7	0.9	41.2	0.6	92
Urban	6.6	47.6	0.0	0.0	44.9	0.9	178
Division							
Barishal	19.5	39.6	0.0	0.0	41.0	0.0	35
Chattogram	13.5	30.0	0.0	0.0	56.5	0.0	29**
Dhaka Rural	0.0	52.0	0.0	0.0	48.0	0.0	27**
Khulna	11.8	57.6	0.0	0.0	23.3	0.9	66
Mymensingh	14.7	25.6	0.0	0.0	46.6	1.0	46
Rajshahi	0.0	49.1	0.0	0.0	50.9	0.0	17**
Rangpur	12.6	44.6	4.0	0.0	35.6	3.2	36
Sylhet	2.5	40.8	0.0	40.7	12.8	3.3	14**
Education							
No education	7.8	37.4	1.1	0.0	46.8	0.2	95
Primary	11.2	51.0	0.0	0.0	37.4	0.5	89
Secondary	6.0	33.1	0.0	0.0	57.3	3.6	35
More than secondary	16.1	54.0	0.0	0.0	29.6	0.3	49
Wealth quintile							
Lowest	14.4	33.7	0.0	4.2	32.0	0.0	28**
Second	9.7	42.5	0.0	0.0	47.8	0.0	33**
Middle	9.4	39.7	3.9	0.0	40.2	0.0	35
Fourth	9.8	33.1	0.0	0.0	57.1	0.0	35
Highest	8.4	51.8	0.0	0.0	38.2	1.7	139
Total (18-69)	9.7	43.2	0.5	0.5	42.6	0.7	270

* Women who refused to respond or stated "don't know" for these two questions are not presented here but included in the denominator at the time of the analysis. ** Interpret with caution due to small sample size

Chapter 15 Oral health

Key findings

Oral hygiene practices

- o Cleaning of teeth: Nearly all adults (99.2%) reported that they clean their teeth daily or twice in a day.
- o Cleaning materials: most of the respondents used toothbrush (65.2%) and toothpaste (56.7%).

Care seeking for oral health issues

- o Ever visited dentist: 29.0% of adults (29.1% in women, 29.0% in men) reported that they have ever visited dentist in the past.
- o Timing of recent visit: Amongst those who have ever seen a dentist less than half (45.4%) visited within last one year followed by 32.8% visited between 1-5 years and rest of them (21.8%) visited more than 5 years ago.
- o Reason for visit: among those who ever visited a dentist, only 1.1% of adults visited for a preventive visit while others (98.9%) visited for consultation or treatment.

Self-reported oral health issues

- o 38.0% of adults (40.5% in women, 35.3% in men) reported experiencing pain, swelling, bleeding or discomfort of the teeth, gums or mouth, followed by difficulty in chewing (27.2%) and difficulty in speaking (13.2%).

Sources of care for oral health issues

- o Visited health facility: More than half (51.7%) of adults who experienced any oral health issue (49.8% in women, 54.2% in men) reported that they visited health facility for their oral health issues.
- o Source of care: Among those who visited health facility, 47.1% of adults visited medical shops, village doctors and other alternative sources and 36.0% visited private chamber or clinics. Only 11.3% of adults visited only government health facilities and 8.7% visited private facilities.

Reason for not seeking care for oral health issues

- o Main demand side reason: more than half 63.5% of adults reported that they didn't think it was required.
- o Main supply-side reasons: 37.1% said services were too expensive.

Introduction

Oral diseases are of the most common noncommunicable diseases affecting 3.6 billion people worldwide in 2016. Amongst those, the majority of oral diseases (2.4 billion) are caries of the permanent teeth, followed by periodontal diseases and caries of deciduous teeth [87].

Oral health implies being free of chronic oro-facial pain, oral and pharyngeal cancers, oral tissue lesions, birth defects such as cleft lip and palate, and other diseases and disorders that affect the oral, dental and craniofacial tissues[88]. It is integral and essential to general health and quality of life and have significant economic implications from both direct treatment costs and costs incurred due to loss of productivity[89].

Most oral diseases and conditions share modifiable risk factors (such as tobacco use, alcohol consumption and unhealthy diets high in free sugars) common to the other NCDs. Rapidly increasing levels of oral disease, have been observed in LMICs in parallel with changes in living conditions and the increasing adoption of unhealthy lifestyles. However, unequal distribution of oral health professionals, lack of appropriate health facilities, lack of awareness and socio-economic inequalities in most LMICs means that access to primary oral health services is often low[90,91].

Oral health care systems often focus on disease treatment which require intensive health care resources and personnel's that are often in critical shortage in LMICS, while attention on primary prevention and oral health promotion is lacking[92].

South-East Asia Regional oral health strategy suggested two overall targets for 2025: (1) A 25% relative reduction of premature mortality from oral

Figure 15. 1 Strategy for oral health in South-East Asia (2013 - 2020)

5 priority action areas:

(1) Integrating oral diseases into prevention and control of NCDs
(2) Addressing oral cancer
(3) Promoting oral health through fluorides
(4) Increasing and diversifying the health workforce
(5) Oral health through school health

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[87] Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*. 2017;390(10100):1211-1259. doi:10.1016/S0140-6736(17)32154-2

[88] P.E.Petersen. World Oral Health Report 2003. Geneva: World Health Organization.

[89] Listl, S. *et al*. Global economic impact of dental diseases. *J. Dent. Res.* **94**, 1355–1361 (2015)

[90] Hosseinpoor AR, Itani L, Petersen PE. Socio-economic Inequality in Oral Healthcare Coverage: Results from the World Health Survey. *J Dent Res*. 2012;91(3):275-281. doi:10.1177/0022034511432341

[91] Kandelman D, Arpin S, Baez RJ, Baehni PC, Petersen PE. Oral health care systems in developing and developed countries: Oral health care systems. *Periodontology 2000*. 2012;60(1):98-109. doi:10.1111/j.1600-0757.2011.00427.x

[92] Listl, S. *et al*. Global economic impact of dental diseases. *J. Dent. Res.* **94**, 1355–1361 (2015)

cancer (2) A 25% relative reduction of prevalence of dental caries. It also highlighted 5 priority action areas (**Figure 15. 1**) [93].

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Bangladesh's oral health situation/policy:

▪ Bangladesh Essential Health Service Package (ESP)[94]

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This chapter focuses on oral hygiene practices, reported oral health issues and access and usage of oral health services. This information will help Bangladesh to assess trends and progress of the national oral health status as well as the evaluation of current policies and programs in place that are related to oral health.

15.1 Oral hygiene practices
Almost all adults age 18-69 in Bangladesh practice daily or twice a day teeth-cleaning, in which only 65.2% of adults reported using toothbrush and 56.7% uses toothpaste (**Table 15.1**). Additionally 22.6% of adults reported using other methods such as tooth powder, plastic toothpicks or thread and 22.2% reported using charcoal (**Table 15.1**).

Patterns by background characteristics (Table 15.1)

- Adults who are older, less educated and of the lowest household wealth were less likely to use toothpaste or toothbrush for cleaning their teeth compared to their counterparts. While the opposite relationship is seen for use of other materials or charcoal.
- Residents of Sylhet were least likely to use toothpaste or toothbrush and most likely to use other materials compared to other divisions.

15.2 Care seeking for oral health issues with dentist
29.0% of adults reported ever visiting a dentist (**Table 15.2**). Amongst those 45.4% reported their last visit to be within the past one year and all (98.9%) reported the reason for visit to be for a consultation/treatment (**Table 15.2**). It is clear that the utilization of dental services is primarily for treatment of oral health issues rather than prevention.

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[93] World Health Organization Regional Office for South-East Asia. Strategy for oral health in South-East Asia, 20-13-202. New Delhi, India: World Health Organization Regional Office for South-East Asia, 2013.
[94] Ministry of Health and Family Welfare of Bangladesh. Bangladesh essential health service package (ESP). Dhaka, Bangladesh; 2016.

Patterns by background characteristics (Table 15.3):

- A higher percentage of adults who were older, and were urban residents with higher household wealth reported ever visiting a dentist compared to their counterparts (

Figure 15.2 Differentials in percent of aged 18-69 who have ever visited a dentist by age, residence and wealth, Bangladesh STEPs Survey 2018
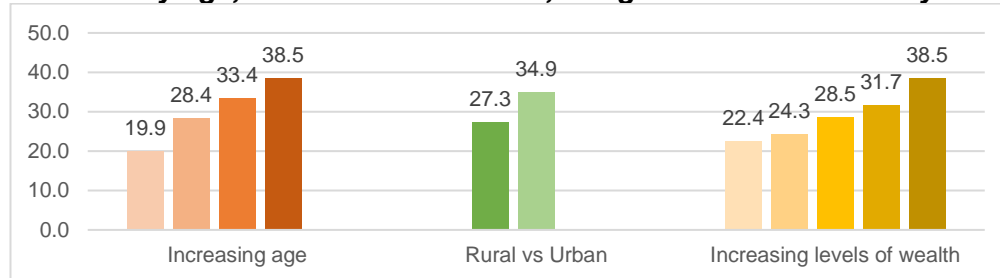
- **Figure 15.2).**

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- Percentage of adults who have ever visited a dentist was lowest in Rangpur (16.4%) and the highest was 37.1% in Barishal (**Figure 15. 3**).

Figure 15. 3 Percentage of adults aged 18-69 who have ever visited a dentist by division, Bangladesh STEPs Survey 2018
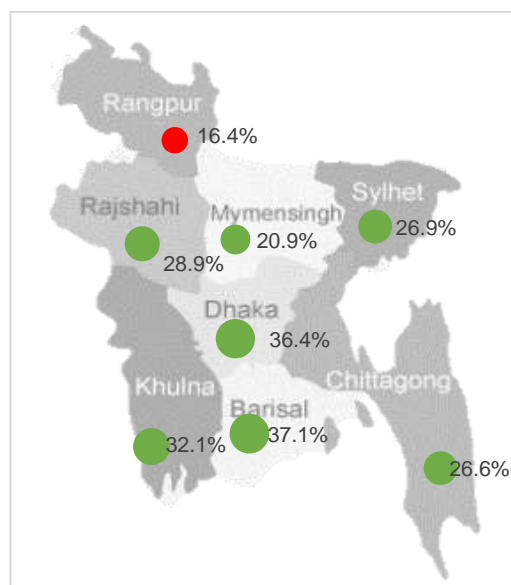
15.3 Self-reported oral health issues

38.0% of adults aged 18-69 reported pain, swelling, bleeding or discomfort of the teeth, gum or mouth in the past 12 months **(Table 15.3)**. 27.2% reported having difficulties with chewing followed by difficulty in speaking (12.2%) **(Table 15.3).**

Patterns by background characteristics (Table 15.3):

- For reported oral health issues including pain, swelling, bleeding or discomfort of the teeth, gum or mouth, difficulty chewing, persistent wound, more adults who are women, older, and have lower levels of education and household wealth are more likely to report oral health issues.

15.4 Sources of care for oral health issues

Amongst adults who reported existing oral health issues, over half (51.7%) stated that they visited a health facility for it (**Table 15.4**). Within the types of health facilities visited, the most common source was medicine shops, village doctors and others (47.1%), followed by private chambers or clinics (36.0%) while only 11.3% accessed government health facilities only (**Table 15.4**).

Patterns by background characteristics (Table 15.4):

- Amongst adults with oral health issues, more adults who are urban residents with higher levels of household wealth have visited a health facility for oral health issues compared to their counterparts.

- A higher percentage of urban residents access private health facilities (12.5% vs 7.4%) and private chambers or clinics (45.7% vs 32.7%), while more rural residents tend to access medicine shops, village doctors and other sources for oral health issues(51.7% vs 33.5%) (**Table 15.4).**

- Adults with higher levels of education and wealth were more likely to access government health facilities, private chambers and clinics, and less likely to access medicine shops, village doctors and other sources for oral health issues (**Figure 15.4** and

- **Figure 15.5).**

Figure 15.4 Differentials in different sources of care for oral health issues by education amongst adults aged 18-69, Bangladesh STEPs Survey 2018
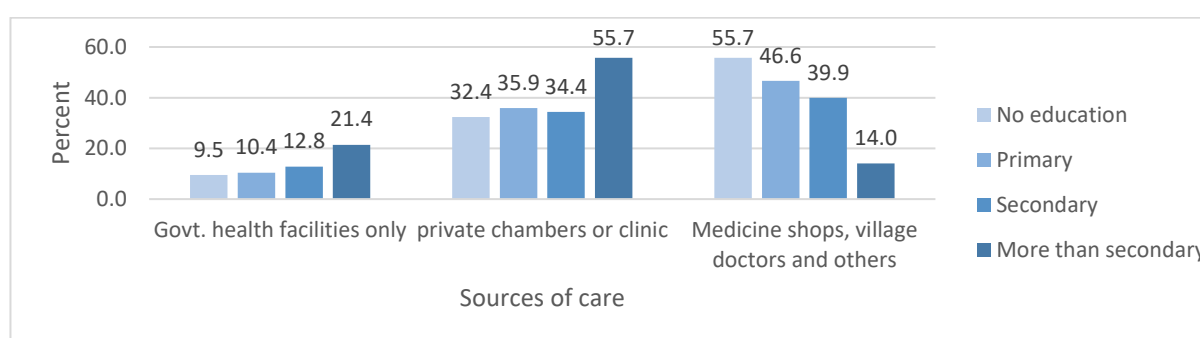
Figure 15.5 Differentials in different sources of care for oral health issues by education amongst adults aged 18-69, Bangladesh STEPs Survey 2018
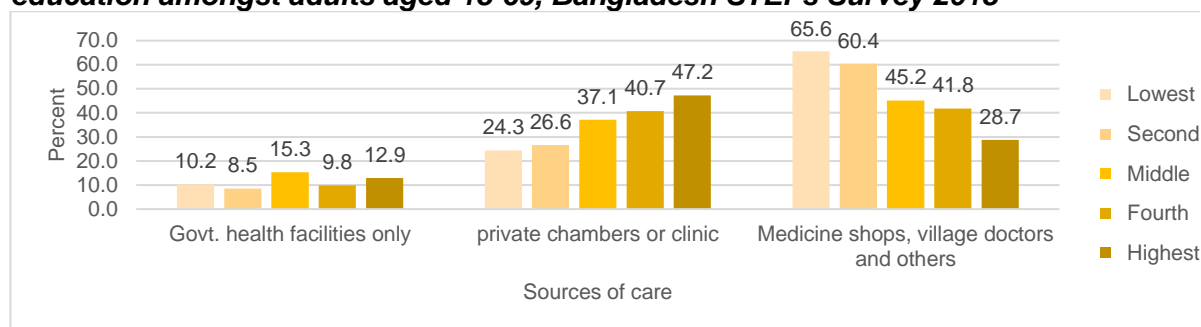
- Mymensingh had the highest percentage of adults who accessed government health facilities (25.6%) for oral health issues and lowest use of private chamber and clinics(19.2%). While use of medicine shops, village doctors and other sources was highest in Sylhet (64.7%), followed by Rangpur (57.4%) and Chattogram (57.1%) (**Table 15.4)**

15.5 Reasons for not seeking care for oral health issues

The most common reason for not seeking care from the service demand side amongst adults with existing oral health issues was "Not serious enough to require treatment" (63.5%); from the service supply side, the most common reasons was "too expensive" (37.1%) (**Table 15.6**).

Patterns by background characteristics (Table 15.6):

- Adults who were younger were more likely to report "don't think it's required" as their reason for not seeking care, and less likely to find services "too expensive", followed by also more likely to report "don't know how/where to get treatment".

- Adults with lower levels of education and household wealth were less likely to state "don't think it's required", and more likely to find care services "too expensive" and "health center too far"**(** *Figure 15.6* and *Figure 15.7*).

- On the service supply side, Sylhet and Chattogram had the highest reporting of care services being too expensive, 47.7% and 46.9% respectively. Mymensingh and Rajshahi had the highest reporting of health center being too far, 14.8% and 10.3% respectively.

Figure 15.6 Differentials in reasons for not seeking care amongst adults aged 15-69 with existing oral health issues by education, Bangladesh STEPs Survey 2018
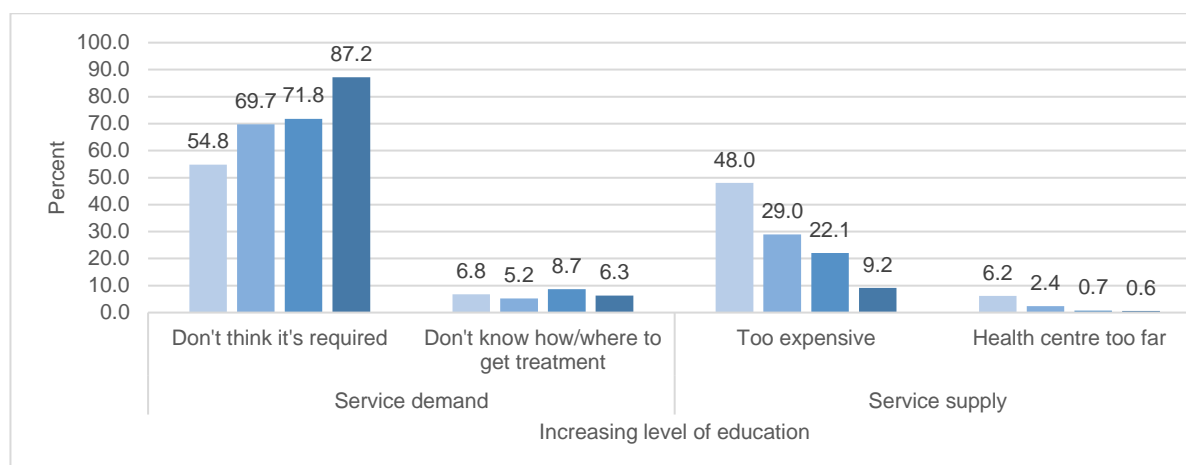
Figure 15.7 Differentials in reasons for not seeking care amongst adults aged 15-69 with existing oral health issues by wealth, Bangladesh STEPs Survey 2018
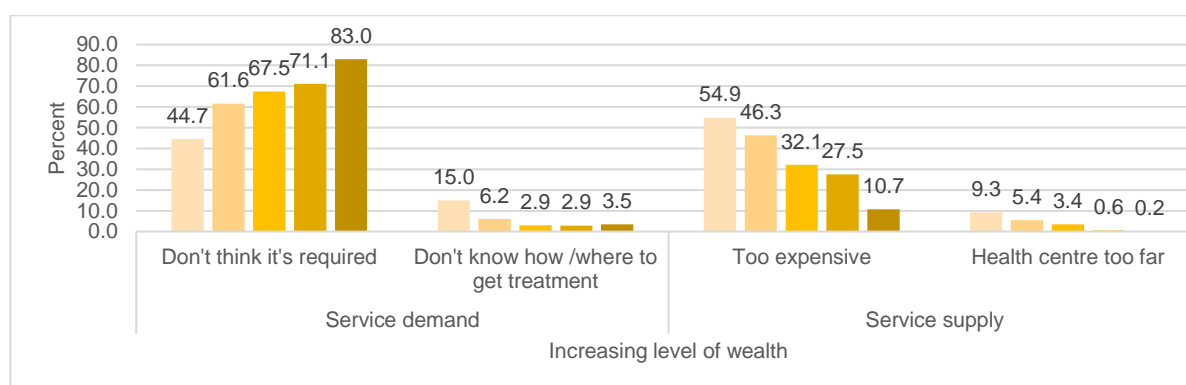
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Table 15.1 Oral hygiene practices: all respondents

Table 15.2 Care seeking for oral health issues through visiting a dentist: all respondents

Table 15.3 Self-reported oral health issues/problems: all respondents

Table 15.4 Care seeking for oral health issues through different health facilities: all respondents with existing oral health issues

Table 15.5 Reason for not seeking care for oral health issues: respondents with existing oral health issues

Table 15.1 Oral hygiene practices: all respondents

Percent distribution of respondents age 18-69 years with different oral hygiene practices, by background characteristics, [Bangladesh, 2018]

Background characteristic	Cleaning of teeth			Number of respondents (N)	Percent of respondents using different cleaning materials on usual basis among those who cleaned their teeth						Number of respondents (N)
	Daily[1]	Non-daily[2]	Never		Toothpaste	Toothbrush	Wooden toothpicks[3]	Charcoal	Chewstick/ Miswak/ Dattiwan	Others[4]	
Age											
18-24	100.0	0.0	0.0	1026	74.5	82.6	2.1	17.3	9.3	15.9	1025
25-39	99.4	0.3	0.2	3489	62.2	73.1	4.1	18.2	14.0	22.2	3483
40-54	98.8	0.9	0.3	2503	45.1	52.0	7.8	27.3	19.4	26.5	2499
55-69	98.0	1.2	0.9	1167	31.3	36.9	7.5	32.7	24.3	28.5	1157
Sex											
Women	99.8	0.2	0.0	4381	52.3	61.9	3.5	26.3	9.1	22.3	4378
Men	98.6	0.8	0.6	3804	61.2	68.7	6.3	17.9	22.4	22.9	3786
Residence											
Rural	99.2	0.5	0.3	4183	51.5	60.8	5.0	24.3	17.0	24.4	4172
Urban	99.3	0.5	0.2	4002	74.5	80.5	4.5	14.7	11.1	16.4	3992
Division											
Barishal	99.9	0.1	0.0	986	54.2	59.9	0.6	33.0	17.8	15.6	986
Chattogram	98.2	1.0	0.8	1053	50.3	52.8	1.4	35.4	2.4	15.7	1044
Dhaka Rural	99.3	0.5	0.2	997	69.5	75.0	4.1	15.9	14.8	25.6	995
Khulna	99.8	0.2	0.0	1040	56.1	76.1	3.3	10.8	16.3	6.8	1039
Mymensingh	99.6	0.3	0.0	1021	43.2	53.7	4.0	33.4	16.4	27.1	1019
Rajshahi	98.6	0.9	0.5	1066	64.0	74.2	12.3	10.3	34.2	24.0	1061
Rangpur	99.9	0.1	0.1	1009	56.1	71.1	5.8	23.6	24.9	24.1	1007
Sylhet	99.9	0.1	0.0	1013	35.2	41.2	10.2	22.1	5.2	55.3	1013
Education											
No education	98.6	0.9	0.5	3678	35.0	44.4	5.4	33.1	18.2	28.1	3662
Primary	99.6	0.2	0.2	2533	63.6	73.6	4.0	18.4	13.5	22.1	2530
Secondary	99.8	0.2	0.0	888	82.0	87.9	3.4	11.0	11.3	12.5	887
More than secondary	99.6	0.3	0.2	1065	90.4	95.3	6.2	4.7	16.4	14.0	1064
Wealth quintile											
Lowest	99.0	0.7	0.2	1639	33.3	46.4	4.2	33.1	22.4	27.6	1635
Second	98.9	0.5	0.6	1670	43.9	55.2	4.8	30.2	14.3	25.2	1663
Middle	99.1	0.4	0.6	1451	56.0	66.0	4.6	19.9	17.3	25.3	1444
Fourth	99.3	0.7	0.0	1506	66.8	71.8	6.3	17.1	13.9	20.4	1505
Highest	99.7	0.2	0.1	1919	83.5	86.9	4.5	10.5	10.3	14.3	1917
Total (18-69)	99.2	0.5	0.3	8185	56.7	65.2	4.9	22.2	15.6	22.6	8164

[1] Once, or more than once a day; [2] Once/2-3 times a month or Once/2-6 times a week; [3] Neem stick; [4] Plastic toothpicks /Thread (Dental floss) / tooth powder

Table 15.2 Care seeking for oral health issues through visiting a dentist: all respondents

Percent distribution of respondents age 18-69 who ever visited a dentist, timing of and reasons for last visit, by background characteristics, [Bangladesh, 2018]

Background characteristic	Ever visited a dentist	Number of respondents (n)	Timing of most recent visit among those ever visited (year)			Reason for most recent visit among those ever visited		Number of respondents (n)
			<1	1–5	>5	consultation/ treatment	preventative	
Age								
18-24	19.9	1026	55.1	30.4	14.6	99.0	1.0	223
25-39	28.4	3489	45.1	35.2	19.7	99.1	0.9	1039
40-54	33.4	2503	42.8	35.7	21.6	99.5	0.5	856
55-69	38.5	1167	41.3	27.5	31.3	98.1	1.9	423
Sex								
Women	29.1	4381	46.6	30.3	23.1	98.1	1.9	1375
Men	29.0	3804	44.1	35.4	20.5	99.8	0.2	1166
Residence								
Rural	27.3	4183	43.9	34.3	21.8	99.2	0.8	1174
Urban	34.9	4002	49.3	28.8	21.9	98.2	1.8	1367
Division								
Barishal	37.1	986	42.0	37.5	20.5	99.7	0.3	361
Chattogram	26.6	1053	50.2	30.2	19.6	95.9	4.1	285
Dhaka Rural	36.4	997	46.2	29.9	23.9	99.5	0.5	371
Khulna	32.1	1040	53.7	22.6	23.7	99.9	0.1	348
Mymensingh	20.9	1021	36.1	42.2	21.7	99.8	0.2	246
Rajshahi	28.9	1066	34.2	44.1	21.7	99.5	0.5	379
Rangpur	16.4	1009	46.2	39.4	14.4	99.6	0.4	212
Sylhet	26.9	1013	45.3	31.7	23.0	99.6	0.4	339
Education								
No education	27.2	3678	47.5	29.8	22.7	99.0	1.0	998
Primary	31.2	2533	45.1	33.2	21.7	99.2	0.8	822
Secondary	29.0	888	43.2	30.2	26.6	98.4	1.6	306
More than secondary	30.5	1065	41.5	43.5	15.0	98.5	1.5	410
Wealth quintile								
Lowest	22.4	1639	50.3	28.9	20.8	99.5	0.5	343
Second	24.3	1670	45.3	31.7	23.0	100.0	0.0	425
Middle	28.5	1451	42.8	32.6	24.6	99.3	0.7	431
Fourth	31.7	1506	43.6	34.6	21.7	97.7	2.3	509
Highest	38.5	1919	45.8	34.4	19.7	98.7	1.3	833
Total (18-69)	29.0	8185	45.4	32.8	21.8	98.9	1.1	2541

Table 15.3 Self-reported oral health issues/problems: all respondents

Percent distribution of respondents age 18-69 who reported experiencing different oral health problems in the past 12 months, by background characteristics, [Bangladesh, 2018]

Background characteristic	Oral health issues							Number of respondents (N)
	Pain, swelling, bleeding or discomfort of the teeth, gums or mouth	Difficulty in chewing	Difficulty in speaking	Persistent wound	Patch in mouth	Days not at work due to teeth/ mouth	Reduced participation in social activities	
Age								
18-24	29.6	19.7	10.5	6.1	5.0	2.3	2.9	1026
25-39	36.2	24.8	10.4	7.7	5.2	2.6	2.4	3489
40-54	44.1	33.9	17.0	10.8	7.8	4.9	4.5	2503
55-69	46.9	35.8	19.2	9.2	4.2	4.9	3.2	1167
Sex								
Women	40.5	31.9	16.7	9.6	5.4	2.9	2.5	4381
Men	35.3	22.4	9.5	6.6	5.6	3.9	3.6	3804
Residence								
Rural	37.6	26.9	13.6	8.2	5.2	3.5	3.1	4183
Urban	39.1	28.0	11.6	8.1	6.6	3.0	2.9	4002
Division								
Barishal	41.5	30.7	11.6	13.5	6.0	3.1	1.4	986
Chattogram	40.5	31.7	18.3	9.8	5.1	3.7	4.6	1053
Dhaka Rural	39.2	27.6	12.2	9.8	5.7	2.9	2.2	997
Khulna	33.6	24.1	13.2	4.8	2.9	3.2	2.2	1040
Mymensingh	40.2	24.4	15.1	7.3	4.1	5.8	12.0	1021
Rajshahi	37.2	25.8	8.1	3.8	7.0	2.1	0.6	1066
Rangpur	31.5	21.7	8.2	7.2	5.8	1.6	0.5	1009
Sylhet	38.2	28.7	16.7	9.6	8.6	6.4	1.9	1013
Education								
No education	42.2	31.6	16.7	9.6	6.5	4.8	3.8	3678
Primary	37.3	27.0	11.8	7.9	4.3	2.9	2.5	2533
Secondary	33.8	21.4	9.6	6.3	6.6	1.9	2.9	888
More than secondary	28.9	18.1	7.5	5.9	3.9	1.0	2.0	1065
Wealth quintile								
Lowest	40.1	28.0	13.7	6.9	5.3	3.6	3.8	1639
Second	37.7	28.2	14.9	8.8	7.2	4.4	4.6	1670
Middle	34.5	25.1	13.6	7.8	4.8	3.3	2.3	1451
Fourth	38.2	28.9	13.6	8.5	4.3	3.1	2.4	1506
Highest	39.3	25.7	9.9	8.9	6.1	2.4	2.3	1919
Total (18-69)	38.0	27.2	13.2	8.2	5.5	3.4	3.1	8185

Table 15.4 Care seeking for oral health issues through different health facilities: all respondents with existing oral health issues

Percent distribution of respondents age 18-69 who reported seeking care from different types of health facilities amongst those with reported existing oral health issues, by background characteristics, [Bangladesh, 2018]

Background characteristic	Visited health facility for existing oral health issues	Number of respondents (N)	Source of care for oral health issues[1]					n
			Govt. health facilities only	Private health facilities only	Both govt. & private health facilities	Private Chamber/ clinic	Medicine shops, village doctors and others[2]	
Age								
18-24	51.4	249	7.9	4.4	0.0	38.2	50.4	123
25-39	53.0	1025	12.8	13.0	0.0	34.7	44.8	539
40-54	49.3	886	15.0	7.4	0.8	35.6	44.5	440
55-69	52.2	467	7.7	6.0	0.5	36.9	51.0	225
Sex								
Women	49.8	1543	9.3	8.3	0.0	36.9	47.7	760
Men	54.2	1084	13.9	9.2	0.6	35.0	46.3	567
Residence								
Rural	50.0	1372	11.3	7.4	0.3	32.7	51.7	637
Urban	57.2	1255	11.4	12.5	0.3	45.7	33.5	690
Division								
Barishal	39.0	339	14.2	2.1	0.0	47.2	41.2	147
Chattogram	47.8	371	10.6	11.7	0.0	21.7	57.1	179
Dhaka Rural	64.0	326	13.1	12.6	0.9	48.6	27.8	204
Khulna	51.8	264	8.3	6.8	0.0	42.7	50.2	138
Mymensingh	31.5	376	25.6	4.6	0.0	19.2	49.2	139
Rajshahi	55.6	323	8.3	5.1	0.0	37.1	58.6	172
Rangpur	50.8	259	7.1	3.9	0.0	31.6	57.4	140
Sylhet	54.6	369	5.7	4.7	0.0	27.2	64.7	208
Education								
No education	48.6	1349	9.5	5.4	0.0	32.4	55.7	602
Primary	55.5	781	10.4	10.8	0.9	35.9	46.6	442
Secondary	51.7	233	12.8	16.4	0.0	34.4	39.9	124
More than secondary	56.7	254	21.4	10.0	0.0	55.7	14.0	155
Wealth quintile								
Lowest	44.6	565	10.2	2.9	0.0	24.3	65.6	219
Second	44.3	577	8.5	5.0	0.6	26.6	60.4	256
Middle	51.0	425	15.3	9.8	0.0	37.1	45.2	222
Fourth	56.6	483	9.8	9.1	0.3	40.7	41.8	263
Highest	63.0	577	12.9	14.9	0.5	47.2	28.7	367
Total (18-69)	51.7	2627	11.3	8.7	0.3	36.0	47.1	1327

[1] This is a multiple choice questions, statistics for "private chamber/clinics" and "medicine shops, village doctors and others" are non-exclusive to other categories. [2]Other includes alternative medicines, ayurvedic/homeopathic/Unani providers and traditional healers and others.

Table 15.5 Reason for not seeking care for oral health issues: respondents with existing oral health issues

Percent distribution of respondents age 18-69 that gave different reasons for not seeking care for existing oral health issues, by background characteristics, [Bangladesh, 2018]

Background characteristic	Service demand					Service supply			Number of respondents (n)
	Don't think it's required	Don't know how /where to get treatment	Didn't have time	Fear of procedure	Family member did not allow	Too expensive	Health centre too far	Poor service	
Age									
18-24	74.9	9.2	1.3	5.0	0.8	19.9	0.4	0.0	126
25-39	64.8	7.9	7.9	1.0	1.3	35.7	3.4	0.4	486
40-54	57.8	5.3	4.8	2.2	0.5	46.4	4.9	0.5	446
55-69	57.8	4.0	3.2	2.6	0.4	44.0	8.9	2.0	242
Sex									
Women	56.6	8.5	2.1	3.2	1.0	45.9	6.8	1.0	783
Men	73.9	4.0	9.2	1.1	0.5	23.9	0.5	0.2	517
Residence									
Rural	62.1	7.4	5.1	1.9	0.7	39.9	5.1	0.7	735
Urban	69.1	4.0	4.3	4.2	1.3	26.1	1.0	0.6	565
Division									
Barishal	65.4	6.4	7.6	4.0	0.7	44.1	0.5	0.0	192
Chattogram	61.8	2.7	7.3	3.8	0.5	46.9	2.5	2.4	192
Dhaka	66.0	2.3	3.0	1.7	1.0	24.1	0.0	0.4	122
Khulna	73.6	0.9	2.5	0.8	1.9	29.0	1.1	0.0	126
Mymensingh	57.9	33.9	4.8	1.9	0.4	41.2	14.8	0.1	237
Rajshahi	72.6	0.7	0.7	1.2	0.8	24.7	10.3	0.0	151
Rangpur	50.1	0.8	3.9	2.3	0.0	40.4	1.9	0.0	119
Sylhet	58.4	3.5	10.3	2.3	2.0	47.7	3.6	0.1	161
Education									
No education	54.8	6.8	4.1	3.3	0.4	48.0	6.2	0.9	747
Primary	69.7	5.2	4.9	0.6	1.9	29.0	2.4	0.0	339
Secondary	71.8	8.7	6.2	2.8	0.4	22.1	0.7	1.5	109
More than secondary	87.2	6.3	9.1	1.7	0.0	9.2	0.6	1.0	99
Wealth quintile									
Lowest	44.7	15.0	2.7	3.1	0.7	54.9	9.3	0.0	346
Second	61.6	6.2	3.9	0.9	0.6	46.3	5.4	1.4	321
Middle	67.5	2.9	8.7	3.9	1.1	32.1	3.4	0.7	203
Fourth	71.1	2.9	5.1	2.0	1.5	27.5	0.6	1.1	220
Highest	83.0	3.5	5.7	2.3	0.0	10.7	0.2	0.2	210
Total (18-69)	63.5	6.7	4.9	2.4	0.8	37.1	4.3	0.7	1300

* interpret with caution due to small sample size

Chapter 16 Policy Recommendations

This second nationally representative survey provides essential information on key indicators of NCD risk factors and creates an opportunity for policy makers, program managers, academicians, development partners and researchers to adopt necessary interventions to combat the burden of NCDs in Bangladesh. Inadequate intake of fruit and vegetables, use of tobacco, low physical activity, obesity (especially central), high blood pressure, diabetes mellitus, extra salt intake, dyslipidemia and binge drinking among drinkers are identified risk factors for NCDs in Bangladeshi adults. Majority (70.9%) has at least one risk factor and substantial proportion of people have two or more risk factors. Based on these findings, the specific recommendations are:

1. To build mass awareness on the risk factors of NCDs, multidimensional and multilateral collaborative health education interventions are warranted through mass media, campaigns and school curricula.

2. To raise awareness of the people on non-communicable diseases, comprehensive population-based approach using community-oriented health care system for NCD prevention is essential to in Bangladesh

3. Effective strategies to promote accessibility and availability of fruits and vegetables round the year for all people should be devised and implemented.

4. To promote empowering environment for physical activity in both urban and rural settings, appropriate measures should be undertaken, with emphasis on physical activity, leisure time physical activity in particular,

5. For early detection and treatment of hypertension or high blood pressure, initiatives and health programs for periodic checkup of blood pressure should be launched throughout the country.

6. To reduce the prevalence of diabetes mellitus, early diagnosis and prompt treatment through primary health care system should be established throughout the country.

7. To establish national database on NCD risk factors, digital NCD surveillance system must be developed under the leadership of relevant public health institute.

8. To reduce tobacco consumption behavior of the people, adequate enforcement of the Act is necessary. Necessary amendment of the Act is also required to match with the provisions of WHO Framework Convention on Tobacco Control and close all the loop holes in the tobacco control program.

9. To prevent obesity and dyslipidemia, relevant health information communication and health education interventions are indispensable to implement throughout the country with special emphasis on the urban people.

10. Diseases specific screening programs also should be launched for early detection NCDs like cervical cancer among the females.

11. To improve oral health status of the people, awareness building interventions on dental care, oral hygiene and healthcare utilization should be commenced in the country with special emphasis on the rural people.

12. To reduce the risk of NCDs, drug abuse, alcohol addiction, special measures and interventions focused on lifestyle modification and behavior change communication are necessary to be portrayed in the country.

Map of Bangladesh showing study sites of STEPS Bangladesh 2018
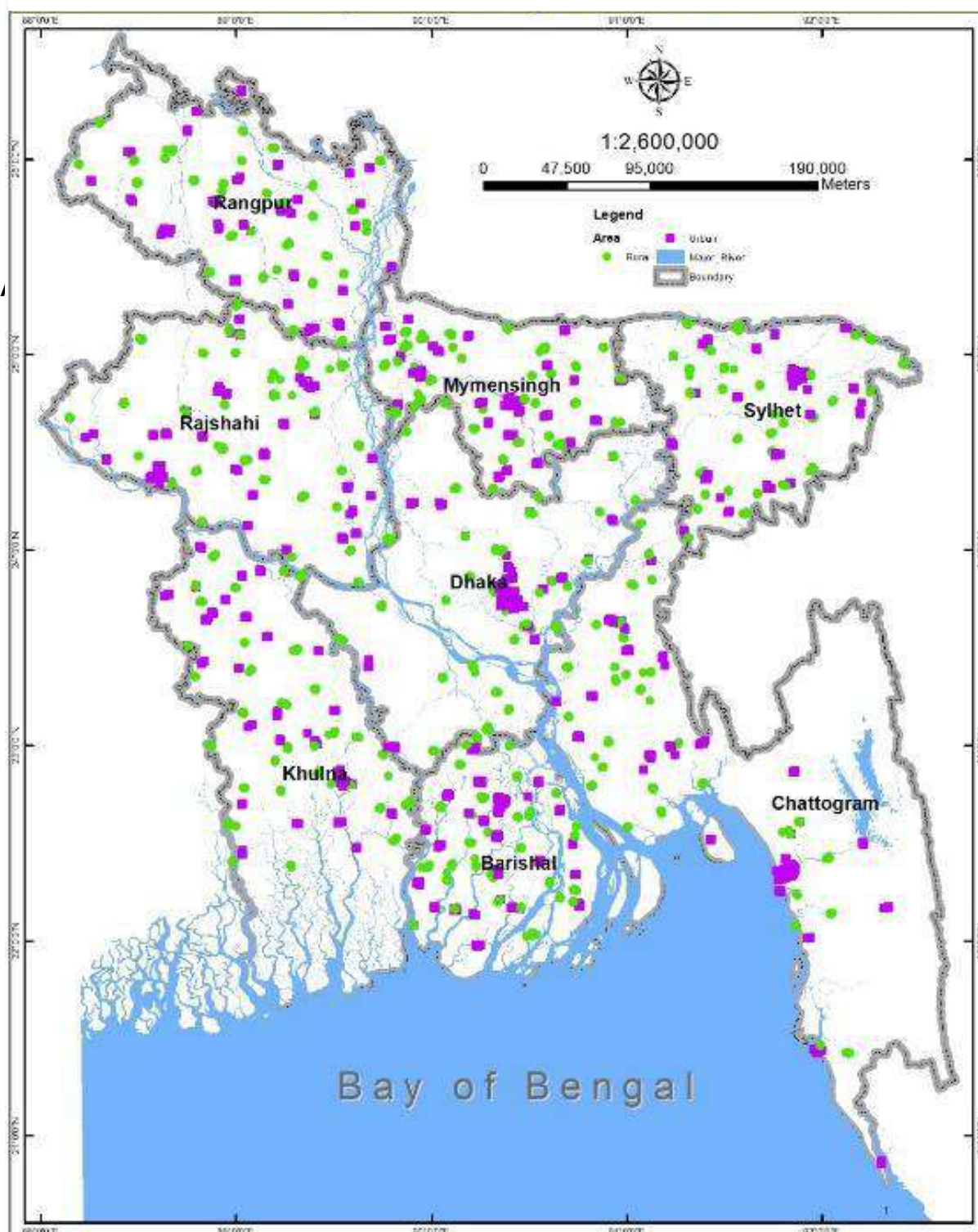
STEP Survey for NCD Risk Factors in Bangladesh, 2018

**Survey Instrument
(English)**

Date: 21 February 2018

(Version 2.0)

National Institute of Preventive and Social Medicine, (NIPSOM)
Mohakhali, Dhaka-1212
www.nipsom.gov.bd

Instructions

Parenthesis in Third bracket [...] = Instruction for Interviewer. Need not to read out to the respondents

Right side of the Column indicate the Question Code = Example C1, TP1, etc.

Blue words in the Question = Need to emphasize when read out to the respondents

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Survey Information

Location and Date	Response	Code
PSU ID	└─┴─┴─┴─┴─┴─┘	I1
Interviewer ID	└─┴─┴─┘	I3

Household Information

[THE HOUSEHOLD SCREENING RESPONDENT SHOULD BE 18 YEARS OF AGE OR OLDER AND YOU MUST BE CONFIDENT THAT THIS PERSON CAN PROVIDE ACCURATE INFORMATION ABOUT ALL MEMBERS OF THE HOUSEHOLD. IF NEEDED, VERIFY THE AGE OF THE HOUSEHOLD SCREENING RESPONDENT TO MAKE SURE HE/SHE IS 18 YEARS OF AGE OR OLDER.

THE HOUSEHOLD SCREENING RESPONDENT CAN BE LESS THAN 18 YEARS OLD, ONLY IF NO HOUSEHOLD MEMBERS AGED 18 YEARS AND ABOVE ARE AVAILABLE.]

INTRO:

National Institute of Preventive and Social Medicine (NIPSOM) under the Ministry of Health and Family Welfare (MOHFW) of Bangladesh is going to implement the STEPS Survey for NCD Risk Factors among 18-69 years old adults in Bangladesh and your household has been selected scientifically for participation. It is very important that each participant in the survey should participate for the success of this survey. All information gathered for this survey will be kept strictly confidential. I have a few questions to find out who in your household is/are eligible to participate.

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Survey Information

Location and Date	Response	Code
PSU ID	└─┴─┴─┴─┴─┴─┘	I1
Interviewer ID	└─┴─┴─┘	I3

Household Information

[THE HOUSEHOLD SCREENING RESPONDENT SHOULD BE 18 YEARS OF AGE OR OLDER AND YOU MUST BE CONFIDENT THAT THIS PERSON CAN PROVIDE ACCURATE INFORMATION ABOUT ALL MEMBERS OF THE HOUSEHOLD. IF NEEDED, VERIFY THE AGE OF THE HOUSEHOLD SCREENING RESPONDENT TO MAKE SURE HE/SHE IS 18 YEARS OF AGE OR OLDER.

THE HOUSEHOLD SCREENING RESPONDENT CAN BE LESS THAN 18 YEARS OLD, ONLY IF NO HOUSEHOLD MEMBERS AGED 18 YEARS AND ABOVE ARE AVAILABLE.]

INTRO:

National Institute of Preventive and Social Medicine (NIPSOM) under the Ministry of Health and Family Welfare (MOHFW) of Bangladesh is going to implement the STEPS Survey for NCD Risk Factors among 18-69 years old adults in Bangladesh and your household has been selected scientifically for participation. It is very important that each participant in the survey should participate for the success of this survey. All information gathered for this survey will be kept strictly confidential. I have a few questions to find out who in your household is/are eligible to participate.

HH4. Now I- would like to collect information about male/female who live in this household and who are 18–69 years old. Let's start listing the male/female from oldest to youngest.

What is the {FILL: oldest/next oldest} person's full name?

What is his/her Age?

	Name	Age in Years	Gender	
Male HH ---------- 1 Female HH ---------- 2			Male	Female
1	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
2	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
3	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
4	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
5	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
6	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
7	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
8	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
9	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2
10	------------------------------------	---------- ----------	⌊_⌋ 1	⌊_⌋ 2

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Informed Consent—1 (for step 1 & 2)

Dear Participant,

My name is (Interviewer's name) .... I am a professional interviewer from National Institute of Preventive and Social Medicine (NIPSOM) which is under the Ministry of Health and Family Welfare, Bangladesh. NIPSOM is implementing a survey titled 'STEPS survey for NCD risk factors in Bangladesh 2018' with technical assistance from World Health Organization (WHO). The information revealed from this survey will be used for planning public health policies and strategies by the Government of Bangladesh to combat Non-Communicable Diseases (NCDs) in Bangladesh. This survey is currently taking place in several countries around the world.

Your household have been selected randomly to participate in this survey. You have been also selected randomly as the participant for this survey. So, I would like to interview you. Your responses are very important to us and the country. Your answers will represent many other persons. The interview will last approximately 45 minutes. Your participation in this survey is entirely voluntary. There will be no penalty and you will not lose any services that you would normally receive if you do not participate in this survey.

Information you will provide will be totally confidential and will not be disclosed to anyone including your family members. It will only be used for research purposes. Your name, address, and other personal information will be removed, and only a code will be used to connect your name and your answers without identifying you. You may be contacted by the survey team again only if it is necessary to complete the information on the survey.

Your participation is voluntary and you can withdraw from the survey after having agreed to participate. No monetary compensation will be provided to you for participating this Survey. You can withdraw your consent from the survey after having agreed to participate. You are free to refuse to answer any question that is asked in the questionnaire. If you have any question(s) about this survey you may ask me or contact [Prof. Dr Md. Ziaul Islam, Head, Department of Community Medicine, NIPSOM and Mohakhali, Dhaka 1212, Bangladesh, Mob.01726693778].

Signing this consent form indicates that you have understood what will be expected from you and are you are willing to participate in this survey.

Read by Participant		Interviewer	
Agreed		Refused	

I hereby provide INFORMED CONSENT to take part in Steps 1 and 2 of the STEPS survey for NCD risk factors in Bangladesh 2018.

Signature and Name of the participant:
Date:

Signature and Name of the Enumerator:
Date:

OR

Finger print	Witness
	1. Name _____
	Relation _____
	Signature _____
	2. Name _____
	Relation _____
	Signature _____

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Consent and Name	Response	Code
Consent has been read and obtained	Yes 1 No 2 [If 'No', END the Interview]	I5
Family Full name	………………………………………..	I8
Family Nick name	…………………………………….	I9
Additional Information that may be helpful		
Contact number of respondent	1. ……………………………… [Enter '88' if refused and '99' if not available] [if 88 or 99 go to 'I11a']	I10
Do you have alternate phone number?	1. Yes 2. No [if No go to 'I11a']	I10a
Alternate phone number	2. ……………………………… [Enter '88' if refused and '99' if not available]	I10b
NID (Smart card) number	………………………………………………… Not found 77 [go to 'I11b'] Refused 88	I11a
NID (Old) number	………………………………………………… Not found 77 [go to 'I11c'] Refused 88	I11b
Birth Certificate Number	………………………………………………… Not found 77 Refused 88	I11c

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Step 1   Demographic Information

CORE: Demographic Information

	Question	Response	Code
1	Sex of the respondent	Male 1 Female 2	C1
2	What is your date of birth? *Don't Know 77 77 7777*	dd mm year **[If Known, Go to C4]**	C2 (a-c)
3	How old are you?	Years	C3
4	Years of education you have completed (excluding pre-school)?	Years If Don't know enter '77' and Refuse enter '88'	C4

EXPANDED: Demographic Information

5	What is the **highest level of education** you have completed?	No formal schooling 1 Less than primary school 2 Primary school completed 3 Secondary school completed 4 Higher secondary school completed 5 College/University completed 6 Post graduate degree 7 Refused 88	C5
6	What is your religion?	Islam 1 Hinduism 2 Christianity 3 Buddhism 4 Others (Please specify..........) C6other Refuse 88	C6
7	What is your **marital status**?	Never married 1 Currently married 2 Separated 3 Divorced 4 Widowed 5 Refused 88	C7
8	Which of the following best describes your **main work** status over the past 12 months?	Government Employee 1 Non-Government Employee 2 Business (Small) 3 Business (Large) 4 Agriculture (land owner and farmer) 5 Agriculture labourer (other's land) 6 Industrial Labourer 7 Day labourer 8 Transport labourer 9 Other Self Employed 10 Student 11 Home maker/Household work 12 Retired 13 Unemployed (able to work) 14 Unemployed (unable to work) 15	C8/C8others

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		Paid domestic worker 16 Blacksmith/Goldsmith/Tati 17 Others (Please specify................) C8others Refuse 88	
9a	In total, how many persons live in this household (including infants)? [INCLUDE ANYONE WHO CONSIDERS THIS HOUSEHOLD AS THEIR USUAL PLACE OF RESIDENCE AND STAYED LAST NIGHT AT HOME]	Number of People └──┴──┘ Enter '77' if not known and '88' for refused.	C9a
9b	How many people aged 18–69 years, including yourself, live in your household? (include both males and females) Number of people aged 18 years cannot be less than 1 or bigger than total person in the household.	Number of People └──┴──┘ Enter '77' if not known and '88' for refused.	C9b

EXPANDED: Demographic Information

	Question	Response	Code
10	Please ask / observe - whether this household or any person who lives in the household has the following items:		
	a. [Electricity]	Yes 1 No 2 Refuse 88	Cex1a
	b. [Flush toilet]	Yes 1 No 2 Refuse 88	Cex1b
	c. [Land Phone]	Yes 1 No 2 Refuse 88	Cex1c
	d. [Mobile phone]	Yes 1 No 2 Refuse 88	Cex1d
	e. [Television]	Yes 1 No 2 Refuse 88	Cex1e
	f.		
	g. [Refrigerator]	Yes 1 No 2 Refuse 88	Cex1g
	h. [Car]	Yes 1 No 2 Refuse 88	Cex1h
	i. [Moped/scooter/motorcycle/Auto-Rickshaw]	Yes 1 No 2 Refuse 88	Cex1i
	j. [Washing machine]	Yes 1 No 2 Refuse 88	Cex1j
	k. [Bicycle]	Yes 1 No 2	Cex1k

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				Refuse	88	
	l.	[Sewing machine]		Yes No Refuse	1 2 88	Cex1l
	m.	[Almirah / wardrobe]		Yes No Refuse	1 2 88	Cex1m
	n.	[Table]		Yes No Refuse	1 2 88	Cex1n
	o.	[Khat/Chowki]		Yes No Refuse	1 2 88	Cex1o
	p.	[Chair or Bench]		Yes No Refuse	1 2 88	Cex1p
	q.	[Watch or Clock]		Yes No Refuse	1 2 88	Cex1q
	r.	[Computer/ Laptop/Tab]		Yes No Refuse	1 2 88	Cex1r
	s.	[Domestic Animal (Cow/Buffalo/Goat)]		Yes No Refuse	1 2 88	Cex1s
	t.	[Shallow Machine/Power Tiller/Tractor]		Yes No Refuse	1 2 88	Cex1t
	u.	[Rickshaw]		Yes No Refuse	1 2 88	Cex1u
11	What is the main material of the roof of the main house? [record observation] **Instruction:** If One HH has more houses then, need to add that house's roof where respondent consider as his main house.		Katcha (bamboo/thatched/straw/gunny) Tin, Tiles or similar materials Cement/concrete		1 2 3	Cex2
12	What is the type of this family? **Instruction:** Nuclear Family: Family having husband and wife or husband-wife with their child (first generation). Joint family: Family having husband-wife, their child, their parents or siblings (second or more generation).		Nuclear Family Joint Family		1 2	Cex3

CORE: Diet

The next questions I will ask about the **fruits** and **vegetables** that you usually eat;
I have a nutrition card/picture here that shows you some examples of local fruits and vegetables;
Each picture represents the size of a serving;
To answer these questions, please think of a typical week.

	Question	Response		Code
13	In a _typical week_, on how many _days_ do you eat _fruit_? (USE SHOWCARD – 01)	Number of Days	L__L__L [If Zero days, go to D3]	D1
		Don't Know	77	
14	How many _servings_ of fruit do you eat on _one_ of those days? (USE SHOWCARD – 02)	Number of servings	L__L__L . L__L	D2
		Don't Know	77	
15	In a _typical week_, on how many _days_ do you eat _vegetables_? (USE SHOWCARD – 03)	Number of Days	L__L__L [If Zero days, go to Dx1]	D3
		Don't Know	77	
16	How many _servings_ of vegetables do you eat on _one_ of those days? (USE SHOWCARD – 04)	Number of servings	L__L__L . L__L	D4
		Don't Know	77	
17	What do you think is the desirable or recommended number of _fruit and vegetable servings_ one should eat _every day_ to be healthy?	Number of servings	L__L__L . L__L	Dx1
		Don't Know		

Dietary salt

With the next questions, I would like to learn more about salt in your diet. Dietary salt includes ordinary table salt, unrefined salt such as sea salt, iodized salt, salty stock cubes and powders, bit salt, testing salt and salty sauces etc. and salty sauces such as soya sauce or fish sauce (Use show card5 to 8).
The following questions are on _adding salt to the food right before you eat_ it, on _eating processed foods_ that are high in salt such as Fast food, Chips, Dried fish, Salty fish, Pickles, Chana Chur, Jhal Muri and questions on controlling your salt intake. Please answer the questions even if you consider yourself to eat a diet low in salt.

	Question	Response		Code
18	How often do you _add salt_ to your food _right before you eat_ it or as you are eating it? [SELECT ONLY ONE] [USE SHOWCARD – 05]	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77		D5a
19	How often do you _add salty sauce such as soya sauce_ to your food right before you eat it or as you are eating it? [SELECT ONLY ONE] [USE SHOWCARD – 06]	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77		D5b

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	Question	Response		Code
20	How often do you eat <u>processed food high in salt</u>? Processed food high in salt means foods that have been altered from their natural state, such as packaged salty snacks (such as Chips, Chanachur, Jhal Muri), canned salty food including pickles and preservatives, salty food prepared at a fast food restaurant, cheese, processed meat, dried fish, salty fish etc. (USE SHOWCARD – 07)	Always Often Sometimes Rarely Never Don't know	1 2 3 4 5 77	D7
21	How much <u>salt</u> do you think you consume? **Instruction:** Count all sources of salt that respondent consume. Like for meal preparation, extra salt intake and others.	Far too much Too much Just the right amount Too little Far too little Don't know	1 2 3 4 5 77	D8a
22	How much <u>salty sauce</u> do you think you consume? **Instruction:** Count all sources of sauce that respondent consume. Like for meal preparation, extra sauce intake and others.	Far too much Too much Just the right amount Too little Far too little Don't know	1 2 3 4 5 77	D8b

EXPANDED: Diet			
	Question	Response	Code
23	How much <u>extra salt</u> do you take in a typical day? [USE SHOW CARD – 08]	⊔⊔.⊔ Teaspoonful (TSF) Don't know 77	Dx2
24	How important to you is <u>lowering the salt</u> in your diet?	Very important 1 Somewhat important 2 Not at all important 3 Don't know 77	D9
25	What is the maximum amount of salt do you think a person should take in a day from all sources? [USE SHOW CARD – 08]	⊔⊔.⊔ Teaspoonful (TSF) Don't know 77	Dx3
26	What do you think that too much salt or salty sauce in your diet can do to your health? [Multiple response]	Nothing, more salt is good for one's health 1 Increase blood pressure 2 Kidney disease 3 Asthma 4 Cancer 5 Tuberculosis 6 Others (Please specify..........) Dx4other Don't know 77	Dx4/ Dx4other

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	Question	Response	Code
27	Currently are you doing anything on regular basis to control your salt intake?	Yes 1 No 2 *[If 'No' go to Dx6]* Don't know 77	Dx5
28	Do you do any of the following on a regular basis to **control your salt intake**? *(RECORD FOR EACH)*		
	Limit consumption of processed foods	Yes 1 No 2	D11a
	Look at the salt or sodium content on food labels	Yes 1 No 2	D11b
	Buy low salt/sodium alternatives	Yes 1 No 2	D11c
	Use spices other than salt when cooking	Yes 1 No 2	D11d
	Avoid eating foods prepared outside of a home	Yes 1 No 2	D11e
	Stop/Reduce added salt	Yes 1 No 2	D11f
	Do other things specifically to control your salt intake	Yes 1 **If Yes, go to D11other** No 2	D11g
	Other (please specify)	└─┴─┴─┴─┴─┴─┴─┘	D11other

	Question	Response	Code
29	What type of **OIL** is most often used to cook food in your house ? [ANSWER ONLY ONE OPTION]	Soybean Oil 1 Palm Oil 2 Sunflower Oil 3 Mustard Oil 4 Rice bran oil 5 Dalda 6 Ghee/Butter 7 Not specific 8 Other 9 Others (Please specify..........) Dx6other	Dx6/ Dx6other
30	On often do you eat in a restaurant or take away in a week? (any of the meals (Breakfast, Lunch, Dinner))	└─┴─┘ Times Don't Know 77	Dx7
30a	On an average how many times in a day do you eat snacks such as singara, samucha, puri, chips, chanachur, fuchka, chotpoti, jhal muri, salted biscuits, etc.?.	└─┴─┘ Times Don't Know 77	Dx8

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CORE: Physical Activity

Next, I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.

Think first about the time you spend doing work. Think of work as the things that you have to do such as paid or unpaid work, study/training, household chores, harvesting food/crops, fishing or hunting for food, seeking employment. In answering the following questions, **'vigorous-intensity activities'** are activities that require hard physical effort and cause large increases in breathing or heart rate, **'moderate-intensity activities'** are activities that require moderate physical effort and cause small increases in breathing or heart rate.

	Question	Response	Code
Work			
31	Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like carrying or lifting heavy loads, digging or construction work, reaping paddy, washing clothes, fishing by nets etc, for at least 10 minutes continuously? [USE SHOWCARD – 9]	Yes 1 No 2 [If No, go to P4]	P1
32	In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Number of days ☐ Don't know 77 [If Don't know, go to P4]	P2
33	How much time do you spend doing vigorous-intensity activities at work on a typical day?	Hours: minutes ⌑⌑⌑ : ⌑⌑⌑ hrs mins	P3 (a-b)
34	Does your work involve moderate-intensity activity that causes small increases in breathing or heart rate such as brisk walking, carrying light loads, washing clothes for at least 10 minutes continuously? [USE SHOWCARD – 10]	Yes 1 No 2 [If No, go to P7]	P4
35	In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Number of days ☐ Don't know 77 [If Don't know, go to P7]	P5
36	How much time do you spend doing moderate-intensity activities at work on a typical day?	Hours: minutes ⌑⌑⌑ : ⌑⌑⌑ hrs mins	P6 (a-b)
Travel to and from places			
The next questions exclude the physical activities at work that you have already mentioned. Now I would like to ask you about the usual way you travel to and from places. For example, to work, for shopping, to market, to place of worship.			
37	Do you walk or use a bicycle (pedal cycle) for at least 10 minutes continuously to get to and from places?	Yes 1 No 2 [If No, go to P 10]	P7
38	In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?	Number of days ☐ Don't know 77 [If Don't know, go to P10]	P8
39	How much time do you spend walking or bicycling for travel on a typical day?	Hours: minutes ⌑⌑⌑ : ⌑⌑⌑ hrs mins	P9 (a-b)

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CORE: Physical Activity, Continued		
Question	**Response**	**Code**
Recreational activities		
The next questions exclude the work and transport activities that you have already mentioned. Now I would like to ask you about sports, fitness and recreational activities (leisure).		
40	Do you do any <u>vigorous-intensity</u> sports, fitness or recreational *(leisure)* activities that cause large increases in breathing or heart rate like *[running, football, Kabaddi, Dariabandha, Gollachut]* for at least <u>10 minutes</u> continuously? *[USE SHOWCARD – 11]*	Yes 1 No 2 *[If No, go to P 13]*	P10
41	In <u>a typical week</u>, on how many <u>days</u> do you do vigorous-intensity sports, fitness or recreational *(leisure)* activities?	Number of days ☐ Don't know 77 *[If Don't know, go to P13]*	P11
42	<u>How much time</u> do you spend doing vigorous-intensity sports, fitness or recreational activities on <u>a typical day</u>?	Hours: minutes ☐☐ : ☐☐ hrs mins	P12 (a-b)
43	Do you do any <u>moderate-intensity</u> sports, fitness or recreational *(leisure)* activities that cause a small increase in breathing or heart rate such as brisk walking, *running on treadmill*, cycling, swimming, volleyball, jogging for at least <u>10 minutes</u> continuously? *[USE SHOWCARD – 12]*	Yes 1 No 2 *[If No, go to P16]*	P13
44	In <u>a typical week</u>, on how many <u>days</u> do you do moderate-intensity sports, fitness or recreational *(leisure)* activities?	Number of days ☐ Don't know 77 *[If Don't know, go to P16]*	P14
45	<u>How much time</u> do you spend doing moderate-intensity sports, fitness or recreational *(leisure)* activities on a <u>typical day</u>?	Hours : minutes ☐☐ : ☐☐ hrs mins	P15 (a-b)

EXPANDED: Physical Activity		
Sedentary behaviour		
The following question is about sitting or reclining at work, at home, getting to and from places, or with friends including time spent sitting at a desk, sitting with friends, traveling in car, bus, train, reading, playing cards or watching television, but do not include time spent sleeping. *[USE SHOWCARD – 13]*		
46	<u>How much time</u> do you usually spend sitting or reclining on <u>a typical day</u>?	Hours: ☐☐ hrs Minutes : ☐☐ mins	P16 (a-b)

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CORE: Tobacco Use

Now I am going to ask you some questions about tobacco use.

	Question	Response		Code
47	Do you currently smoke any tobacco products, such as cigarettes, bidis, hookah, cigars or pipes? [USE SHOWCARD – 14]	Yes	1	T1
		No	2 [If No, go to T8; Skip TP4 to TP7]	
48	Do you currently smoke tobacco products daily?	Yes	1	T2
		No	2	
49	How old were you when you first started smoking?	Age (years) └──┴──┘ If Known, go to T5a/T5aw		T3
		Don't know	77	
50	Do you remember how long ago it was? (RECORD ONLY 1, NOT ALL 3) **Don't know 77**	In Years └──┴──┘ If Known, go to T5a/T5aw		T4/T4type
		OR in Months └──┴──┘ If Known, go to T5a/T5aw		
		OR in Weeks └──┴──┘ If Known, go to T5a/T5aw		
51	On average, how many of the following products do you smoke each day/week? [IF LESS THAN DAILY, RECORD WEEKLY] [RECORD FOR EACH TYPE] [USE SHOWCARD – 14] Don't Know 7777		DAILY↓ WEEKLY↓	
		Manufactured cigarettes	└─┴─┴─┘ └─┴─┴─┘ [If Daily is '0' then ask weekly]	T5a/ T5aw
		Bidis	└─┴─┴─┘ └─┴─┴─┘ [If Daily is '0' then ask weekly]	T5b/ T5bw
		Hookah/Dhaba	└─┴─┴─┘ └─┴─┴─┘ [If Daily is '0' then ask weekly]	T5c/ T5cw
		Pipes full of tobacco	└─┴─┴─┘ └─┴─┴─┘ [If Daily is '0' then ask weekly]	T5d/ T5dw
		Hand-rolled cigarettes	└─┴─┴─┘ └─┴─┴─┘ [If Daily is '0' then ask weekly]	T5e/ T5ew
		Cigars, Cheroots, Cigarillos	└─┴─┴─┴─┴─┘ └─┴─┴─┴─┴─┘ [If Daily is '0' then ask weekly]	T5f/ T5fw
		Number of Shisha sessions	└─┴─┴─┴─┴─┘ └─┴─┴─┴─┴─┘ [If Daily is '0' then ask weekly]	T5g/ T5gw
		Other	└─┴─┴─┴─┴─┘ └─┴─┴─┴─┴─┘ If Other, go to T5other, else go to T6	T5h/ T5hw
		Other (please specify):	└─┴─┴─┴─┴─┴─┘	T5other
52	During the past 12 months, have you tried to stop smoking?	Yes	1	T6
		No	2	
53	During any visit to a doctor or other health worker in the past 12 months, were you advised to quit smoking tobacco?	Yes	1 [If T2=Yes, go to T12; if T2=No, go to T9]	T7
		No	2 [If T2=Yes, go to T12; if T2=No,go to T9]	
		No visit during the past 12 months	3 [If T2=Yes, go to T12; if T2=No, go to T9]	
54	In the past, did you ever smoke any	Yes	1	T8

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	tobacco products? [USE SHOWCARD – 14]	No 2 [If No, go to T12]			
55	In the past, did you ever smoke daily?	Yes 1 [If T1=Yes, go to T12, else go to T10] No 2[If T1=Yes, go to T12, else go to T10]			T9

EXPANDED: Tobacco Use

	Questions	Response			Code
56	How old were you when you stopped smoking?	Age (years) └──┴──┘ If Known, go to T12 Don't Know 77			T10
57	How long ago did you stop smoking? (RECORD ONLY 1, NOT ALL 3) Don't Know 77	Years ago, └──┴──┘ If Known, go to T12 OR Months ago └──┴──┘ If Known, go to T12 OR Weeks ago └──┴──┘			T11/T11type
58	Do you currently use any smokeless tobacco products such as Betel quid with zarda, zarda only or zarda with supari, Betel quid with sadapata, pan masala with tobacco, sadapata chewing, gul, Khoinee, Nossi, gutka? [USE SHOWCARD–15]	Yes 1 No 2 [If No, go to T15]			T12
59	Do you currently use smokeless tobacco products such as Betel quid with zarda, zarda only or zarda with supari, Betel quid with sadapata, pan masala with tobacco, sadapata chewing, gul, Khoinee, Nossi, gutka daily?	Yes 1 No 2 [If No, go to T14aw]			T13

			DAILY↓	WEEKLY↓	
60	On average, how many times do you use following tobacco products in a day/week? (IF LESS THAN DAILY, RECORD WEEKLY) (RECORD FOR EACH TYPE, USE SHOWCARD) Don't Know 7777	Betel quid with zarda, zarda only or zarda with supari?	└──┴──┴──┘	└──┴──┴──┴──┘ [If Daily is '0' then ask weekly]	T14a/ T14aw
		Betel quid with sadapata	└──┴──┴──┘	[If Daily is '0' then ask weekly]	T14b/ T14bw
		Pan masala with tobacco	└──┴──┴──┘	[If Daily is '0' then ask weekly]	T14c/ T14cw
		Sadapata chewing	└──┴──┴──┘	[If Daily is '0' then ask weekly]	T14d/ T14dw
		Gul	└──┴──┴──┘	[If Daily is '0' then ask weekly]	T14e/ T14ew
		Khoinee	└──┴──┴──┘	[If Daily is '0' then ask weekly]	T14f/ T14fw
		Nossi	└──┴──┴──┘	[If Daily is '0' then ask weekly]	T14g/ T14gw
		Other	└──┴──┴──┘	└──┴──┴──┘	T14h/

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			[If Other, go to T14other, if T13=No, go to TP1a]	T14hw
		Other (Please specify):	L⌐⌐⌐⌐⌐⌐⌐⌐	T14other
61	In the past, did you ever use smokeless tobacco products such as zarda, sadapata, gul, khoinee, snuff, chewing tobacco, or betel quid?	Yes 1 No 2		T15

Electronic Cigarettes

The next questions are about using electronic cigarettes. Electronic cigarettes include any product that uses batteries or other methods to produce a vapor which contains nicotine. They have various other names such as e-cigarette, vape-pen, e-shisha, e-pipes.

	Question	Response	Code
62	Before today, have you ever heard of electronic cigarettes?	Yes 1 No 2 *[If 'No' go to A1]* Refused 88 *[go to A1]*	ECx1
63	Which one of the following is an electronic cigarette? [USE SHOWCARD – 17]	Pipes full of tobacco 1 E-cigarette 2 Shisha 3 Hukka 4	ECx2
64	Do you currently use electronic cigarettes on a daily basis?	Daily 1 *[go to A1]* Less than daily 2 *[go to A1]* Not at all 3 Refused 88	ECx3
65	Have you ever, even once, used an electronic cigarette?	Yes 1 No 2 Refused 88	ECx4

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CORE: Alcohol Consumption

The next questions I will ask you about the consumption of alcohol.

	Question	Response		Code
80	Have you **ever** consumed any alcohol such as beer, wine, spirits, tari, cholai, ram, bangla, chuani, keru, vodka, jeen etc? [USE SHOWCARD – 18]	Yes No	1 2 *[If No, go to D1]*	A1
81	Have you consumed any alcohol within the past 12 months?	Yes No	1 *[If Yes, go to A4]* 2	A2
82	Have you stopped drinking due to health reasons, such as a negative impact on your health or on the advice of your doctor or other health worker?	Yes No	1 *[If Yes, go to D1]* 2 *[If No, go to D1]*	A3
83	During the past 12 months, how frequently have you had at least one standard alcoholic drink? [READ RESPONSES] [USE SHOWCARD – 19]	Daily 5-6 days per week 3-4 days per week 1-2 days per week 1-3 days per month Less than once a month	1 2 3 4 5 6	A4
84	Have you consumed any alcohol within the past 30 days?	Yes No	1 2 *[If No, go to H1]*	A5
85	During the past 30 days, on how many occasions did you have at least one standard alcoholic drink?	Number Don't know	└─┴─┘ *[If Zero, go to* 77 *H1]*	A6
86	During the past 30 days, when you drank alcohol, how many standard drinks on average did you have during one drinking occasion? [USE SHOWCARD –19]	Number Don't know	└─┴─┘ 77	A7
87	During the past 30 days, what was the largest number of standard drinks you had on a single occasion, counting all types of alcoholic drinks together?	Largest number Don't Know	└─┴─┘ 77	A8
88	During the past 30 days, how many times did you have six or more standard drinks in a single drinking occasion?	Number of times Don't Know	└─┴─┘ 77	A9
89	During each of the past 7 days, how many standard drinks did you have each day? [USE SHOWCARD – 20] Don't Know 77	Monday	└─┴─┘	A10a
		Tuesday	└─┴─┘	A10b
		Wednesday	└─┴─┘	A10c
		Thursday	└─┴─┘	A10d
		Friday	└─┴─┘	A10e
		Saturday	└─┴─┘	A10f
		Sunday	└─┴─┘	A10g

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CORE: Alcohol Consumption, continued

I have just asked you about your consumption of alcohol during the past 7 days. The questions were about alcohol in general, while the next questions refer to your consumption of homebrewed alcohol, alcohol brought over the border/from another country, any alcohol not intended for drinking or other untaxed alcohol. Please only think about these types of alcohol when answering the next questions.

	Question	Response	Code
90	During the past 7 days, did you consume any homebrewed alcohol or any alcohol brought over the border/from another country, any alcohol not intended for drinking or other untaxed alcohol? (USE SHOWCARD-20)	Yes 1 No 2 [If No, go to H1]	A11
91	On average, **how many standard drinks** of the following did you consume **during the past 7 days**? (USE SHOWCARD-20) Don't Know 77	Homebrewed beer or wine, e.g. beer, palm or fruit wine └_I_┘	A12a
		Alcohol brought over the border/from another country └_I_┘	A12b
		Alcohol not intended for drinking, e.g. alcohol-based medicines, perfumes, after shaves └_I_┘	A12c
		Choani └_I_┘	A12d
		Other untaxed alcohol in the country └_I_┘	A12e
		Other (Please specify)	A12other

CORE: History of Raised Blood Pressure

	Question	Response	Code
92	Have you ever had your blood pressure measured by a doctor or other health worker?	Yes 1 No 2 [If No, go to H6]	H1
93	Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?	Yes 1 No 2 [If No, go to H6]	H2a
94	Have you been told this in the past 12 months?	Yes 1 No 2	H2b
95	Have you ever taken drugs/medications for raised blood pressure prescribed by a doctor/health worker?	Yes 1 No 2[If No, go to Hx2]	Hx1
96	In the past two weeks, have you taken any drugs (medication) for raised blood pressure prescribed by a doctor or other health worker (not including the traditional herbal remedy)?	Yes 1 No 2[If No, go to Hx2]	H3

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	Question	Response		Code
97	Where do you usually go for <u>treatment</u> or advice for your raised blood pressure? [MULTIPLE RESPONSE] *[Appear only If H2a=yes]*	Govt. Community Clinic (CC) Govt. Union Health and Govt. Family Welfare Center Govt. Upazila Health Complex Govt. District Sadar Hospital Govt. Medical College Hospital Govt. Specialized Hospital NGO Clinic NGO Hospital Private Hospital Private Chamber/clinic Medicine Shop Village doctor Alternative Medicine practitioner (Homeo, Ayurveda, Unani) Traditional Healer Others (Please specify) Don't know	1 2 3 4 5 6 7 8 9 10 11 12 13 14 Hx2other 77	Hx2 / Hx2other
98	Where do you usually get your drugs for raised blood pressure? [MULTIPLE RESPONSE] *[Appear only If Hx1=yes]*	Govt. Upazila Health Complex Govt. District Sadar Hospital Govt. Medical College Hospital Govt. Specialized Hospital NGO Hospital NGO Clinic Private Hospital Private Chamber/Clinic Medicine shop Village doctor Alternative Medicine Practitioner (Homeo, Ayurveda, Unani) Traditional healer Others (Please specify) Don't know	1 2 3 4 5 6 7 8 9 10 11 12 Hx3other 77	Hx3 / Hx3other
	Question	Response		Code
99	What is the most important reason for which you are <u>not currently taking medications</u>? (Yes, to last 12 months/ever treatment and no to current treatment) [MULTIPLE RESPONSE] *[Appear If H2a=yes and (Hx1=No or H3=No]*	Don't think taking drug is necessary Too expensive Got side-effect or afraid of side-effect Blood pressure is now normal Medicine is not available Medicine not advised Others (Please specify)	1 2 3 4 5 6 Hx4other	Hx4/ Hx4other
100	Have you ever consulted a <u>traditional healer</u> for raised blood pressure or hypertension?	Yes 1 No 2*[If No, go to H6]*		H4
101	Are you currently taking any traditional remedy for your raised blood pressure?	Yes 1 No 2		H5

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	CORE: History of Diabetes		
102	Have you ever had your <u>blood sugar</u> (Diabetes) measured by a doctor or other health worker?	Yes 1 No 2 *[If No, go to H12]*	H6
103	Have you ever been <u>told</u> by a doctor or other health worker that you <u>have diabetes</u>?	Yes 1 No 2 *[If No, go to H12]*	H7a
104	Were you told this in the <u>past 12 months</u>?	Yes 1 No 2	H7b
105	Have you ever taken <u>drugs/medications</u> for diabetes prescribed by a doctor/health worker?	Yes 1 No 2 *[If No, go to Hx6]*	Hx5
106	In the <u>past two weeks</u>, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?	Yes 1 No 2 *[If No, go to Hx6]*	H8
107	Are you <u>currently</u> taking insulin for diabetes prescribed by a doctor or other health worker?	Yes 1 No 2	H9
108	Where do you usually go for treatment and advice for your <u>diabetes</u>? (Only to those who said yes in the last two weeks) [MULTIPLE RESPONSE] [Appear only *If H7a=yes*]	Govt. Community Clinic (CC) 1 Govt. Union Health and Govt. Family Welfare Center 2 Govt. Upazila Health Complex 3 Govt. District Sadar Hospital 4 Govt. Medical College Hospital 5 Govt. Specialized Hospital 6 NGO Clinic 7 NGO Hospital 8 Private Hospital 9 Private Chamber/clinic 10 Medicine Shop 11 Village doctor 12 Alternative Medicine practitioner (Homeo, Ayurveda, Unani) 13 Traditional Healer 14 Others(Please specify) Hx6other Don't know 77	Hx6/ Hx6other
109	Where do you usually get your <u>drugs</u> for diabetes? [MULTIPLE RESPONSE] [Appear only *If Hx5=yes*]	Govt. Upazila Health Complex 1 Govt. District Sadar Hospital 2 Govt. Medical College Hospital 3 Govt. Specialized Hospital 4 NGO Hospital 5 NGO Clinic 6 Private Hospital 7 Private Chamber/Clinic 8 Medicine shop 9 Village doctor 10 Alternative Medicine Practitioner (Homeo, Ayurveda, Unani) 11 Traditional healer 12 Others (Please specify) Hx7other Don't know 77	Hx7/ Hx7other
110	What is the most important <u>reason</u> you are <u>not currently taking medications</u> for diabetes (Yes, to last 12 months/ever treatment and no to current treatment) [MULTIPLE RESPONSE]	Don't think taking drug is necessary 1 Too expensive 2 Got side-effect or afraid of side-effect 3 Blood sugar is now normal 4	Hx8/ Hx8other

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	[Appear If H7a=yes and (Hx5=No or H8=No or H9=No]	Medicine is not available	5	
		Medicine not advised	6	
		Others (Please specify....)	Hx8other	
111	Have you ever consulted a traditional healer for diabetes?	Yes	1	H10
		No	2 [If No, go to H12]	
112	Are you currently taking any traditional remedy for your diabetes?	Yes	1	H11
		No	2	

CORE: History of Raised Total Cholesterol		
Question	**Response**	**Code**
113 Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?	Yes 1 No 2 [If No, go to H17]	H12
114 Have you ever been told by a doctor or other health worker that you have raised cholesterol?	Yes 1 No 2 [If No, go to H17]	H13a
115 Were you told in the past 12 months?	Yes 1 No 2	H13b
116 Have you ever taken drugs/medications for raised blood cholesterol prescribed by a doctor/health worker?	Yes 1 No 2[If No, go to Hx10]	Hx9
117 In the past two weeks, have you taken any oral treatment (medication) for raised total cholesterol prescribed by a doctor or other health worker?	Yes 1 No 2[If No, go to Hx10]	H14
118 Where do you usually go for treatment and care advice for your raised blood cholesterol? (Only to those who said yes in the last two weeks) [MULTIPLE RESPONSE] [Appear only If H13a=yes]	Govt. Community Clinic (CC) 1 Govt. Union Health and Govt. Family Welfare Center 2 Govt. Upazila Health Complex 3 Govt. District Sadar Hospital 4 Govt. Medical College Hospital 5 Govt. Specialized Hospital 6 NGO Clinic 7 NGO Hospital 8 Private Hospital 9 Private Chamber/clinic 10 Medicine Shop 11 Village doctor 12 Alternative Medicine practitioner (Homeo, Ayurveda, Unani) 13 Traditional Healer 14 Others(Please specify) Hx10other Don't know 77	Hx10/ Hx10other

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| 119 | Where do you usually get your drugs for raised blood cholesterol?

[MULTIPLE RESPONSE]
[Appear only If Hx9=yes] | Govt. Upazila Health Complex 1
Govt. District Sadar Hospital 2
Govt. Medical College Hospital 3
Govt. Specialized Hospital 4
NGO Hospital 5
NGO Clinic 6
Private Hospital 7
Private Chamber/Clinic 8
Medicine shop 9
Village doctor 10
Alternative Medicine Practitioner (Homeo, Ayurveda, Unani) 11
Traditional healer 12
Others (Please specify) 13
Don't know Hx11other 77 | Hx11/
Hx11other |

CORE: History of Raised Total Cholesterol, Continue

	Question	Response	Code
120	What is the most important reason you are not currently taking medications to lower our cholesterol level? (Yes, to last 12 months/ever treatment and no to current treatment) [MULTIPLE RESPONSE] **[Appear If H13a=yes and (Hx9=No or H14=No]**	Don't think taking drug is necessary 1 Too expensive 2 Got side-effect or afraid of side-effect 3 Blood Lipid Profile is now normal 4 Medicine is not available 5 Medicine not advised 6 Others specify 7	Hx12/ Hx12other
121	Have you ever consulted a traditional healer for raised cholesterol?	Yes 1 No 2 *[If No, go to H17]*	H15
122	Are you currently taking any traditional remedy for your raised cholesterol?	Yes 1 No 2	H16

CORE: History of Cardiovascular Diseases

123	Have you ever had a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident)?	Yes 1 No 2	H17
124	Are you currently taking aspirin regularly to prevent or treat heart disease?	Yes 1 No 2	H18
125	Are you currently taking statin group of drugs (Lovastatin/Simvastatin/Atorvastatin or any other statin) regularly to prevent or treat heart disease?	Yes 1 No 2	H19

CORE: Lifestyle Advice

	Question	Response	Code
126	During the <u>past 12 months</u>, have you visited a doctor or other health worker?	Yes 1 No 2 **If No and C1=1, go to O6** **If No and C1=2, go to CX1**	H20
127	During any of your visits to a doctor or other health worker in the <u>past 12 months</u>, were you advised to do any of the following? (RECORD FOR EACH)		
128	Quit using tobacco or don't start	Yes 1 No 2	H20a

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129	Reduce salt in your diet	Yes 1 No 2	H20b
130	Eat at least five servings of fruit and/or vegetables each day	Yes 1 No 2	H20c
131	Reduce fatty food in your diet	Yes 1 No 2	H20d
132	Start or do more physical activity	Yes 1 No 2	H20e
133	Maintain a healthy body weight or lose weight	Yes 1 No 2	H20f
134	Reduce sugary beverages in your diet	Yes 1 *If C1=1 go to O6* No 2 *If C1=1 go to O6*	H20g

Cervical Cancer

CORE and EXPANDED:
[Expanded questions are in Shaded]

The next questions I will ask about cervical cancer prevention. Screening tests for cervical cancer prevention can be done in different ways, including Visual Inspection with Acetic Acid/Vinegar (VIA), Pap Smear and Human Papillomavirus (HPV) test. VIA is an inspection of the surface of the uterine cervix after acetic acid (or vinegar) has been applied to it. For both pap smear and HPV test, a doctor or nurse uses a swab to wipe from inside your vagina, take a sample and send it to a laboratory. It is even possible that you were given the swab yourself and asked to swab the inside of your vagina. The laboratory checks for abnormal cell changes if a pap smear is done and for the HP virus if an HPV test is done.

	Question	Response	Code
135	Have you ever had a <u>screening</u> test for cervical cancer, using any of these methods described above?	Yes 1 No 2 *If CX1=2 go to CX11* Don't Know 77	CX1

The next questions CX2 – CX10 are administered only to those that ever had a screening test for cervical cancer (CX1=1). If CX1=2, go to CX11.

136	At what age were you <u>first tested</u> for cervical cancer?	Age __ __ (years) Don't Know 77 Refused 88	CX2
137	When was your <u>last (most recent) test</u> for cervical cancer?	Less than 1 year ago 1 1-2 years ago 2 3-5 years ago 3 More than 5 years ago 4 Don't know 77 Refused 88	CX3
138	What is the **main reason** you had your **last** test for cervical cancer?	Part of a routine check-up 1 Next step following the abnormal or inconclusive result of test 2 Recommendation of healthcare provider 3 Recommendation of other source 4 Experiencing pain or other symptoms 5 Other (Please specify) CX4other Don't know 77	CX4 / CX4other

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		Refused	88	
139	Where did you receive your last test for cervical cancer? [INSERT COUNTRY-SPECIFIC CATEGORIES]	Private Doctor's chamber 1 Private hospital 2 Health camp 3 Community clinic 4 Govt. Hospital 5 Others 6 Other (Please specify) CX5other Don't know 77 Refused 88		CX5 / CX5other

	Question	Response	Code
140	What was the result of your **last (most recent)** test for cervical cancer? [Please verify from the Medical Report]	Did not receive result 1 *If CX6=1, go to next section* Normal / Negative 2 *If CX6=2, go to next section* Abnormal /Positive 3 Suspect cancer 4 Inconclusive 5 Don't know 77 Refused 88	CX6
141	Did you have any follow-up visits because of your test results?	Yes 1 No 2 Don't know 77 Refused 88	CX7
142	Did you receive any treatment to your cervix because of your test result?	Yes 1 No 2 *[If No, go to CX10]* Don't know 77 Refused 88	CX8
143	Did you receive treatment **during the same visit** as your last test for cervical cancer?	Yes 1 No 2 Don't know 77 Refused 88	CX9
144	What is the **main** reason you did not receive treatment?	Was not told I needed treatment 1 Did not know how/where to get treatment 2 Embarrassment 3 Too expensive 4 Didn't have time 5 Health centre too far away 6 Poor service quality 7 Fear of procedure 8 Social stigma 9 Cultural beliefs 10	CX10

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		Family member did not allow it	11	
		Don't know	77	
		Refused	88	

	Question	Response		Code
145	What is the **main** reason you have never had a cervical cancer test?	Did not know how/where to get test	1	CX11/ CX11o ther
		Embarrassment	2	
		Too expensive	3	
		Didn't have time	4	
		Health centre too far away	5	
		Poor service quality	6	
		Fear of procedure	7	
		Social stigma	8	
		Cultural beliefs	9	
		Family member did not allow it	10	
		Other (Please specify)	CX11other	
		Don't know	77	
		Refused	88	

Oral Health

Oral Health

The next questions I will ask about your oral health status and related behaviours.

	Question	Response		Code
153	During the past 12 months, did your teeth, gums or mouth cause any **pain, swelling, bleeding or discomfort**?	Yes	1	O6
		No	2	
154	How long has it been since you last **saw a dentist**?	Less than 6 months	1	O7
		6-12 months	2	
		More than 1 year but less than 2	3	
		2 or more years but less than 5 years	4	
		5 or more years	5	
		Never received dental care	6 *If Never, go to O9*	
155	What was the **main reason for your last visit** to the dentist?	Consultation / advice	1	O8
		Pain or trouble with teeth, gums	2	
		Treatment / Follow-up	3	
		Routine check-up / treatment	4	
		Others	5 If *Other, go to O8other*	

		Other (Please specify)	⌊ ⌊ ⌊ ⌊ ⌊ ⌊ ⌋		O8other
156	How **often do you clean** your teeth?	Never Once a month 2-3 times a month Once a week 2-6 times a week Once a day Twice or more a day	1 If *Never, go to O13a* 2 3 4 5 6 7		O9
157	Do you use **toothpaste** to clean your teeth?	Yes No	1 2	*If No, go to O12a*	O10
158	Do you use **toothpaste** containing **fluoride**?	Yes No Don't know	1 2 77		O11

Do you use any of the following to **clean your teeth**? *(RECORD FOR EACH)*

159	Toothbrush	Yes No	1 2		O12a
160	Wooden toothpicks	Yes No	1 2		O12b
161	Plastic toothpicks	Yes No	1 2		O12c
162	Thread (Dental floss)	Yes No	1 2		O12d
163	Charcoal	Yes No	1 2		O12e
164	Chewstick / Miswak	Yes No	1 2		O12f
165	Other	Yes No	1 2	*If Yes, go to O12other*	O12g
166	Other (Please specify)	⌊ ⌊ ⌊ ⌊ ⌊ ⌊ ⌋			O12other

Have you **experienced any of the following problems** during the past 12 months because of the **state of your teeth, gums or mouth**? *(RECORD FOR EACH)*

167	Difficulty in chewing foods	Yes No	1 2		O13a
168	Difficulty with speech/trouble pronouncing words	Yes No	1 2		O13b
170	Have a persistent wound and/or swelling in the mouth for more than three weeks	Yes No	1 2		O13c
171	Have a red or red and white patch in the mouth	Yes No	1 2		O13d
176	Days not at work because of teeth or mouth	Yes No	1 2		O13e
179	Reduced participation in social activities	Yes No	1 2		O13f
179a	Have you taken treatment or advice for this?	If Yes to any above	Yes 1 No 2 [Skip O15]		O14

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179b	Where did you go for treatment or advice? [Multiple response]	Govt. Community Clinic (CC)	1	Ox1/Oxother
		Govt. Union Health and Govt. Family Welfare Center	2	
		Govt. Upazila Health Complex	3	
		Govt. District Sadar Hospital	4	
		Govt. Medical College Hospital	5	
		Govt. Specialized Hospital	6	
		NGO Clinic	7	
		NGO Hospital	8	
		Private Hospital	9	
		Private Chamber/clinic	10	
		Medicine Shop	11	
		Village doctor	12	
		Alternative Medicine practitioner (Homeo, Ayurveda, Unani)	13	
		Traditional Healer	14	
		Others (Please specify)	O15other	
		Don't know	77	
179c	Why you did not take treatment or advice	Not serious enough to required treatment	1	Ox2/Ox2 others
		Did not know how/where to get treatment	2	
		Too expensive	3	
		Didn't have time	4	
		Health centre too far away	5	
		Poor service quality	6	
		Fear of procedure	7	
		Family member did not allow it	8	
		Others(Please specify)	O17others	
		Refused	88	

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Step 2   Physical Measurements

CORE: Blood Pressure

	Question	Response		Code
181	Reading 1	Systolic (mmHg)	⌊_⌊_⌊_⌋	M4a
		Diastolic (mmHg)	⌊_⌊_⌊_⌋	M4b
		Heart rate (beats per minute)	⌊_⌊_⌊_⌋	M16a
181	Reading 2	Systolic (mmHg)	⌊_⌊_⌊_⌋	M5a
		Diastolic (mmHg)	⌊_⌊_⌊_⌋	M5b
		Heart rate (beats per minute)	⌊_⌊_⌊_⌋	M16b
182	Reading 3	Systolic (mmHg)	⌊_⌊_⌊_⌋	M6a
		Diastolic (mmHg)	⌊_⌊_⌊_⌋	M6b
		Heart rate (beats per minute)	⌊_⌊_⌊_⌋	M16c
183	During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?	Yes 1 No 2		M7

CORE: Height and Weight

	Question	Response		Code
184	**For women:** Are you pregnant? If C1=2	Yes 1 If *Yes, End Interview.* No 2		M8
185	Height	in Centimetres (cm) ⌊_⌊_⌊_⌋ . ⌊_⌋		M11
186	Weight *If too large for scale 666.6*	in Kilograms (kg) ⌊_⌊_⌊_⌋ . ⌊_⌋		M12

CORE: Waist

	Question	Response		Code
187	Waist circumference	in Centimeters (cm) ⌊_⌊_⌊_⌋ . ⌊_⌋		M14

EXPANDED: Hip Circumference

	Question	Response		Code
188	Hip circumference	in Centimeters (cm) ⌊_⌊_⌊_⌋ . ⌊_⌋		M15

Annexure C

Questionnaire (Bangla)

STEPS Survey for NCD Risk Factors in Bangladesh, 2017—18

ন্যাশনাল ইনিষ্টিটিউট অব প্রিভেনটিভ এন্ড সোশ্যাল মেডিসিন (নিপসম)
মহাখালী, ঢাকা-১২১২
www.nipsom.gov.bd

STEPS কিউ বাই কিউ ম্যানুয়াল

ভূমিকাঃ এই কিউ বাই কিউ ম্যানুয়ালটিতে তে STEPS Survey for NCD Risk Factors in Bangladesh, 2017—18 এ ব্যবহৃত প্রতিটি প্রশ্নের সংক্ষিপ্ত ব্যাখ্যা দেয়া হয়েছে।

| উদ্দেশ্যঃ | এই কিউ বাই কিউ ম্যানুয়ালটির উদ্দেশ্য হচ্ছে, সুপারভাইজার ও তথ্য সংগ্রহকারী কে প্রতিটি প্রশ্নের উদ্দেশ্য সম্পর্কে বিস্তারিত তথ্য প্রদান করা। |

তথ্য সংগ্রহকারীকে প্রতিটি প্রশ্ন যথাযথ ভাবে উত্তর দাতার নিকট উপস্থাপন করে সঠিক উত্তর গ্রহণ করায় সহায়তা করা।

উত্তরদাতা যখন কোন প্রশ্ন সম্পর্কে স্পষ্ট ভাবে জানতে চায় অথবা 'জানি না' উত্তর দেয় তখন তথ্য সংগ্রহকারী কে সহায়তা করা।

তথ্য সংগ্রহকারী ও সুপারভাইজারদের নিজস্ব ব্যাখ্যা থেকে বিরত থাকতে সহায়তা করা।

কলামগুলোর নির্দেশনাঃ নিচের টেবিলটি কিউ বাই কিউ ম্যানুয়ালের কলামগুলো সম্পর্কে নির্দেশনা প্রদান করে।

কলাম	ব্যাখ্যা
প্রশ্ন	প্রতিটি প্রশ্ন অংশগ্রহণকারীকে পড়ে শুনাতে হবে
উত্তর	এই কলামে সম্ভাব্য উত্তরগুলো থাকবে যেখানে তথ্য গ্রহনকারী উত্তরগুলো পূরণ করবে। স্কিপ গুলো উত্তরের ডান দিকে থাকবে এবং তথ্য গ্রহনের সময় তা গুরুত্ব সহকারে অনুসরণ করতে হবে।
কোড	এই কলামটি এমনভাবে তৈরি করা হয়েছে যেন তা হেডহেন্ড, ডাটা এনালাইসিস সিনট্যাক্স, ডাটা বুক, ফ্ল্যাট শিটের সাথে সামঞ্জস্যপূর্ণ থাকে।
[তৃতীয় বন্ধনীতে...] লিখিত বাক্য	তথ্য সংগ্রহকারীর জন্য নির্দেশনা সমূহ, উত্তরদাতাকে পড়ে শুনানোর প্রয়োজন নাই।
প্রশ্নের আভারলাইন যুক্ত শব্দ	তথ্য প্রদানকারীকে বিশেষ গুরুত্বদিয়ে পড়ে শুনাতে হবে।

জরিপের তথ্যাবলী

পি এস ইউ এবং সাক্ষাৎকারের বিবরণ	উত্তর	কোড
পি এস ইউ আই ডি নাম্বার (PSU ID) **নির্দেশনাঃ** *প্রদানকৃত তালিকা থেকে PSU ID টি লিখুন।*	|__|__|__|__|	I1
তথ্য সংগ্রহকারীর ID নাম্বার **নির্দেশনাঃ** *তথ্য সংগ্রহকারীর নিজের ID নাম্বার লিখুন।অথবা ট্যাবে এ প্রদর্শিত আপনার ID নাম্বারটি সঠিক কি না তা নিশ্চিত হউন।*	|__|__|__|__|	I3

খানা সম্পর্কিত তথ্যাবলী

।খানা সম্পর্কে তথ্য প্রদানকারীর বয়স অবশ্যই ১৮ বছর বা তার বেশি হতে হবে এবং আপনাকে অবশ্যই নিশ্চিত হতে হবে যে সেই ব্যক্তি খানাটি সম্পর্কে সঠিক তথ্য দিতে পারবেন।

।যদি প্রয়োজন হয়, খানা সম্পর্কিত তথ্য প্রদানকারীর বয়স যাচাই করুন এবং নিশ্চিত হউন যে, তার বয়স ১৮ বছর বা তার বেশি।

ভূমিকা:

গণপ্রজাতন্ত্রী বাংলাদেশ সরকারের স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়ের অধীনে ন্যাশনাল ইনস্টিটিউট অব প্রিভেনটিভ এ্যান্ড সোশ্যাল মেডিসিন (নিপসম) সারা বাংলাদেশে ১৮ থেকে ৬৯ বছরের প্রাপ্তবয়স্কদের মধ্যে জাতীয় পর্যায়ে অসংক্রামক রোগের ঝুঁকি সমূহের ব্যাপ্তি নির্ণয়ের একটি গুরুত্বপূর্ণ জরিপকাজ পরিচালনা করছে এবং আপনার পরিবার এতে অংশ গ্রহনের জন্য বৈজ্ঞানিক পদ্ধতিতে নির্বাচিত হয়েছে।এই জরিপের সাফল্যের জন্য নির্বাচিত সকলের অংশ গ্রহণ খুবই গুরুত্বপূর্ণ।সংগৃহীত সকল তথ্যই গুরুত্ব দিয়ে গোপন রাখা হবে।আপনার খানার মধ্যে, যে/ যারা এই জরিপে অংশগ্রহনের জন্য উপযুক্ত তা জানার জন্য আমি কয়েকটি প্রশ্ন করব।

নির্দেশনাঃ
- খানার তথ্য প্রদানকারীকে জরিপ সম্পর্কে ভূমিকা প্রদান করতে হবে
- খানা সম্পর্কে তথ্যপ্রদানকারীর বয়স ১৮ বছর বা উর্ধ্বে হতে হবে এবং আপনাকে অবশ্যই নিশ্চিত হতে হবে যে সেই ব্যক্তি পরিবারটি সম্পর্কে সঠিক তথ্য দিতে পারবেন।(তবে ব্যতিক্রম যে, যদি কোন খানায় ১৮ বছর বয়সের উর্ধ্বে কোন সদস্য একেবারেই না পাওয়া যায়, সেক্ষেত্রে ১৮ বছর বয়সের নিচে কোন সদস্য হতে তথ্য সংগ্রহ করা যাবে।
- আপনি খানার তথ্য প্রদানকারীকে ভূমিকাটি গড়ে শোনান।জরিপ সম্পর্কে তথ্যপ্রদানকারীর যে কোন প্রশ্নের উত্তর দিন।যদি তথ্যপ্রদানকারী দ্বিধাগ্রস্ত থাকেন তবে তাকে অংশগ্রহণের লক্ষ্যে রাজী করানোর জন্য চেষ্টা করুন, এক্ষেত্রে প্রয়োজন সুপারভাইজারের সাহায্য নিন।

খানাঃ খানা হচ্ছে কিছু ব্যক্তির একসাথে বসবাস যারা কিনা একে অপরের সাথে সম্পর্কের বাঁধনে আবদ্ধ অথবা নির্ভরশীল এবং একসাথে (এক হাড়িতে) আহার করে।একজন ব্যক্তি কিংবা একাধিক ব্যক্তির সমন্বয়ে খানা হতে পারে।অন্য ভাবে, যখন কিছু ব্যক্তি একটি পরিবারের সম্পর্কের বাঁধনে আবদ্ধ হয়ে একসাথে বসবাস করে এবং এক হাড়িতে আহার করে তাকে খানা বলে।ক্ষেত্র বিশেষে, একটি বাড়িতে/ গৃহে একাধিক খানা থাকতে পারে।অনুরূপভাবে, একটি খানায় একাধিক গৃহের লোক থাকতে পারে।খানা সুস্পষ্টভাবে পরিবার থেকে পৃথক, পরিবারে রক্তের সম্পর্কের একাধিক ব্যক্তি থাকতে পারে কিন্তু খানা হতে হলে এক সাথে বসবাস ও এক হাড়িতে আহার অপরিহার্য।

জরিপের উদ্দিষ্ট জনগোষ্ঠী (Target Population)

- জরিপের উদ্দিষ্ট জনগোষ্ঠী হল, জরিপের নির্ধারিত অঞ্চলে বসবাসকারী ১৮—৬৯ বছরের সব অসামরিক ও অপ্রাতিষ্ঠানিক নাগরিক (পুরুষ ও মহিলা) যারা STEPS জরিপের খানার সদস্য হওয়ার শর্ত পূরন করেন।
- যে সকল ব্যক্তি জরিপ বাস্তবায়নকারী দেশে বসবাসকারী হিসেবে বিবেচিত হবেনঃ (ক) দেশের নাগরিক এবং বসবাসকারী, অথবা (খ) দেশে বসবাসকারী অ-নাগরিক, কিন্তু যারা দেশকে তাদের স্বাভাবিক আবাসস্থল হিসেবে বিবেচনা করেন (অর্থাৎ তারা খানা সম্পর্কিত প্রশ্নাবলী সম্পন্ন করার পূর্বের ৱয়তে বাস্তবায়নকারী দেশে অবস্থান করছেন।)।
- যারা স্পষ্টভাবে জরিপ থেকে বাদ যাবেঃ খানা সম্পর্কিত প্রশ্নাবলী সম্পন্ন করার সময়, (ক) অ-নাগরিক যারা কয়েক সপ্তাহের জন্য বাস্তবায়নকারী দেশে অবস্থান করছেন (যেমনঃ পর্যটক, বন্ধু/আত্মীয় দেখতে এসেছেন) ইত্যাদি, (খ) নাগরিকরা যাদের স্বাভাবিক আবাসস্থল সামরিক ঘাটি, অথবা (গ) প্রাতিষ্ঠানিকভাবে বসবাসকারী নাগরিক- হাসপাতাল, কারাগার, নার্সিং হোমস এবং অন্য আরও প্রতিষ্ঠান।

খানায় বসবাসকারীদের সম্পর্কে নির্দেশিকা (Household Residence Guidelines)

- খানা সংক্রান্ত প্রশ্নপত্র পূরণের সময়, নমুনা খানায় অন্তর্ভুক্ত ১৮—৬৯ বছরের অসামরিক, অ-প্রাতিষ্ঠানিক পুরুষ ও মহিলা যারা জরিপের উদ্দিষ্ট জনগোষ্ঠী সংক্রান্ত শর্ত পূরন করে এবং যদি নমুনা খানাটি তাদের স্বাভাবিক আবাসস্থল হয়।
- যে ব্যক্তি জরিপের নমুনা খানায় স্বাভাবিক ভাবে বসবাস করছে ও তার আর কোন আবাসস্থল নেই, তাকেই ঐ খানার স্বাভাবিক বসবাসকারী বলা হয়। যদি কোন ব্যক্তি নমুনা খানায় আসে এবং পুনরায় আর পুরনো খানায় যাওয়ার সম্ভাবনা নেই, সেও ঐ খানার স্বাভাবিক বসবাসকারী হিসেবে বিবেচিত হবেন। একইভাবে, একজন ব্যক্তি যিনি সাম্প্রতিককালে নমুনা খানা থেকে চলে গেছেন এবং আর ফিরে আসার কোন সম্ভাবনা নেই, তিনি খানার স্বাভাবিক সদস্য হিসাবে বিবেচিত হবেন না।
- কোন ব্যক্তির একাধিক বাসস্থান হলে, ঐ খানাটিই তার 'স্বাভাবিক' বাসস্থান হিসেবে বিবেচিত হবে যেখানে সে গত ১২ মাসের কমপক্ষে অর্ধেক সময় অবস্থান করেছেন।

HH4. এখন আমি এই খানায় বসবাসকারী ১৮—৬৯ বছর বয়সী পুরুষ / মহিলা - দের বিষয়ে তথ্য সংগ্রহ করতে চাই।
[বয়সে বড় থেকে ছোট ক্রমে পুরুষ / মহিলা-দের তালিকা তৈরি করুন।]
[খানা সদস্যদের সম্পূর্ণ নাম এবং ডাক নাম (যদি থাকে) সহ লিপিবদ্ধ করুন।]
[তাদের বয়স কত?]

পুরুষ HH ---------- ১				
মহিলা HH ---------- ২				
	নাম	বয়স	লিঙ্গ	
			পুরুষ	মহিলা
1		-------- --------	১	২
2		-------- --------	১	২
3		-------- --------	১	২
4		-------- --------	১	২
5		-------- --------	১	২
6		-------- --------	১	২
7		-------- --------	১	২
8		-------- --------	১	২
9		-------- --------	১	২
10		-------- --------	১	২

এই খানায় ১৮—৬৯ বছর বয়সের সদস্যদের (এটি পুরুষ না কি মহিলা খানা তার উপর নির্ভর করে) সম্পর্কে তথ্য সংগ্রহ করা।খানা সংক্রান্ত রেজিস্টারের উপর ভিত্তি করে একজনকে ব্যক্তিগত সাক্ষাৎকারের জন্য নির্বাচিত করা হবে। সম্পূর্ণ নামটি জিজ্ঞাসা করুন (ডাক নাম সহ), যেন ঐ নামে তাকে সনাক্ত করা যায়। যদি একই খানায় সদস্যদের মধ্যে নামের মিল থাকে অথবা উত্তরদাতা পূর্ণ নাম বলতে অস্বীকার করে সেক্ষেত্রে ডাক নাম বা অন্য নাম সনাক্তকরনের জন্য লিখতে হবে।যদি উত্তরদাতার সঠিক জন্ম তারিখ বলতে বা প্রমাণ দিতে না পারেন, সেক্ষেত্রে বিশেষ কোন ইভেন্ট অনুসন্ধানের ভিত্তিতে অনুমান করে লিখুন (নিচের ইভেন্ট ক্যালেন্ডার টি অনুসরণ করুন)।

ইভেন্ট ক্যালেন্ডার

সন	ঘটনা	বয়স
১৯৪৭	ব্রিটিশ শাসন হতে স্বাধীনতা	৭০ বৎসর
১৯৫২	৫২ এর ভাষা আন্দোলন	৬৫ বৎসর
১৯৬৫	৬৫ সালের পাক-ভারত যুদ্ধ	৫২ বৎসর
১৯৭১	৭১ এর স্বাধীনতা যুদ্ধ	৪৬ বৎসর
১৯৮৮	৮৮ এর বন্যা	২৯ বৎসর
১৯৯১	৯১ এর সংসদ নির্বাচন	২৬ বৎসর
১৯৯৮	৯৮ এর বন্যা	১৯ বৎসর

অবহিতক্রমে সম্মতি—১

মহোদয়/মহোদয়া,

আমার নাম (তথ্য সংগ্রহকারীর নাম) ....। আমি গণপ্রজাতন্ত্রী বাংলাদেশ সরকারের স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়াধীন ন্যাশনাল ইন্সটিটিউট অব প্রিভেনটিভ এ্যান্ড সোশ্যাল মেডিসিন (নিপসম) থেকে আগত একজন পেশাদার তথ্য সংগ্রহকারী।নিপসম, বিশ্ব স্বাস্থ্য সংস্থার কারিগরি সহায়তায় বাংলাদেশে 'STEPS survey for NCD risk factors in Bangladesh 2017 – 18' বাস্তবায়ন করছে।জরিপ থেকে প্রাপ্ত তথ্য বাংলাদেশ সরকারকে অসংক্রামক রোগ নিয়ন্ত্রনে প্রয়োজনীয় ব্যবস্থা গ্রহনের বিষয়ে সহায়তা করবে। এই জরিপটি বিশ্বের আরো অন্যান্য দেশে পরিচালিত হচ্ছে।

আপনি এবং আপনার খানা এই জরিপে অংশগ্রহণের জন্য বৈজ্ঞানিক (দৈবচয়ন) পদ্ধতিতে নির্বাচিত হয়েছেন। আমি আপনার একটি সাক্ষাৎকার নিতে চাই।আপনার উত্তর আমাদের কাছে এবং সমাজের জন্য খুবই গুরুত্বপূর্ণ।আপনার দেয়া উত্তরের মাধ্যমে অন্যান্য ব্যক্তিদের মতামতের প্রতিফলন ঘটবে।সাক্ষাৎকারটি সম্পন্ন করতে আনুমানিক ৪৫ মিনিট সময় লাগবে।এই জরিপে আপনার অংশগ্রহণ সম্পূর্ণ ঐচ্ছিক।আপনি জরিপে অংশগ্রহণ না করলে কোন ধরনের ব্যক্তিগত বা পেশাগত সমস্যার সম্মুখীন হবেন না।

আপনার দেয়া উত্তর সম্পূর্ণ গোপন রাখা হবে এবং আপনার নাম দিয়ে আপনার উত্তর সনাক্ত করা হবে না।আপনার ব্যক্তিগত উত্তর অন্যের কাছে প্রকাশ করা হবে না এমন কি আপনার পরিবারের অন্য কারো কাছেও না।তথ্যগুলো শুধুমাত্র গবেষণার কাজে ব্যবহৃত হবে।আপনার নাম, ঠিকানা ও ব্যাক্তিগত তথ্য আলাদা করে ফেলা হবে এবং কোডের মাধ্যমে আপনার উত্তর সনাক্ত করা হবে।

আপনি সাক্ষাৎকারের যে কোন সময় আপনার সম্মতি প্রত্যাহার করতে পারবেন এমনকি যে কোন প্রশ্নের উত্তর নাও দিতে পারেন। আপনি এই জরিপে অংশগ্রহণ করলে, আমরা আপনার একটি ব্যক্তিগত সাক্ষাৎকার এবং আপনার উচ্চতা, ওজন ও রক্তচাপের পরিমাপ করব।আপনার যদি এই জরিপ সম্পর্কে আরও কোন প্রশ্ন থাকে তাহলে আমাকে অথবা অধ্যাপক ডা জিয়াউল ইসলাম, বিভাগীয় প্রধান, প্রিভেনটিভ এন্ড সোশ্যাল মেডিসিন বিভাগ, নিপসম, মোবাইলঃ ০১৭২৬৬৯৩৭৭৮ এর সাথে যোগাযোগ করতে পারেন।

এই পত্রে সম্মতি ও স্বাক্ষর প্রদানের মাধ্যমে এটাই প্রতীয়মান হয় যে আপনি এই সম্মতি পত্রটি পড়েছেন, বুঝেছেন এবং জরিপের উদ্দেশ্য সম্পর্কে অবহিত হয়ে স্বেচ্ছায় ও স্ব-প্রণোদিত হয়ে এই জরিপে অংশ গ্রহণ করেছেন।

সম্মতি পত্রটি		তথ্য প্রদানকারী সম্মত হয়েছেন	
তথ্য প্রদানকারী নিজে পড়েছেন			
তথ্য সংগ্রহকারী পড়ে শুনিয়েছেন		তথ্য প্রদানকারী প্রত্যাখ্যান করেছেন	

আমি অবহিতক্রমে (STEPS survey for NCD risk factors in Bangladesh 2017 – 18) এই জরিপের ধাপ—১ এবং ধাপ—২ এ অংশগ্রহনে সম্মতি প্রদান করছি।

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অংশগ্রহণকারীর নাম ও স্বাক্ষর: তথ্য সংগ্রহকারীর নাম ও স্বাক্ষর:

তারিখ: তারিখ:

অথবাঃ

আঙ্গুলের ছাপঃ	সাক্ষী
	নামঃ _____
	সম্পর্কঃ _____
	স্বাক্ষর _____
	নামঃ _____
	সম্পর্কঃ _____
	স্বাক্ষর _____

সম্মতি, সাক্ষাৎকারের ভাষা এবং নাম	উত্তর	কোড
সম্মতি পত্রটি পড়ে শুনানো হয়েছে এবং সম্মতি নেয়া হয়েছে। *নির্দেশনাঃ* উপযুক্ত উত্তরটি নির্বাচন করুন।	হ্যাঁ ১ না ২ *উত্তর 'না' হলে সাক্ষাৎকার শেষ করুন।*	۱۵

তথ্য প্রদানকারীর পারিবারিক পূর্ণনাম *নির্দেশনাঃ* *তথ্যপ্রদানকারীর পূর্ণ নাম লিখুন (তথ্যপ্রদানকারীকে জরিপের গোপনীয়তার ব্যাপারে নিশ্চিত করুন, এই তথ্য শুধুমাত্র পুনঃ তদারকির জন্য প্রয়োজন।)*	....।	I8
তথ্য প্রদানকারীর পারিবারিক ডাক নাম	....।	I9
অতিরিক্ত সাহায্যকারী তথ্য		
তথ্য প্রদানকারীর মোবাইল নং *নির্দেশনাঃ* *তথ্যপ্রদানকারীর মোবাইল নাম্বার টি লিখুন (তথ্যপ্রদানকারীকে জরিপের গোপনীয়তার ব্যাপারে নিশ্চিত করুন, এই তথ্য শুধুমাত্র পুনঃ তদারকির জন্য প্রয়োজন।) তথ্যপ্রদানকারী মোবাইল ব্যবহার না করলে পাশের বাড়ি বা নিকটস্থ আত্নীয়ের নাম্বার নিন যাতে করে পরবর্তীতে তাঁর সাথে যোগাযোগ করা যায়।*	১।........................ *[জানাতে অসম্মতি হলে '৮৮' এবং না থাকলে '৯৯' লিখুন]* *[যদি '৮৮' বা '৯৯' হয় তবে 'I11a' তে যান]*	I10
আপনার কি অন্যকোন মোবাইল নাম্বার আছে?	হ্যাঁ ১ না ২ *[যদি না হয় I11a এ যান]*	I10a
অন্য আরেকটি মোবাইল নাম্বার	২।........................ *[জানাতে অসম্মতি হলে '৮৮' এবং না থাকলে '৯৯' লিখুন]*	I10b
জাতীয় পরিচয়পত্রের (স্মার্ট কার্ড) নাম্বার। *নির্দেশনাঃ* *তথ্যপ্রদানকারীর নতুন জাতীয় পরিচয় পত্রের (যদি থাকে) নাম্বার টি লিখুন (তথ্যপ্রদানকারীকে জরিপের গোপনীয়তার ব্যাপারে নিশ্চিত করুন, এই তথ্য শুধুমাত্র পুনঃ তদারকির জন্য প্রয়োজন।)*	.... পাওয়া যায়নি ৭৭ *[I11b এ যান]* জানাতে অসম্মতি ৯৯	I11a
জাতীয় পরিচয়পত্রের (পুরাতন কার্ড) নাম্বার *নির্দেশনাঃ* *তথ্যপ্রদানকারীর পুরনো জাতীয় পরিচয় পত্রের (যদি থাকে) নাম্বার টি লিখুন (তথ্যপ্রদানকারীকে জরিপের গোপনীয়তার ব্যাপারে নিশ্চিত করুন, এই তথ্য শুধুমাত্র পুনঃ তদারকির জন্য প্রয়োজন।)*	.... পাওয়া যায়নি ৭৭ *[I11 c এ যান]* জানাতে অসম্মতি ৯৯	I11b
জন্ম সনদের নাম্বার *নির্দেশনাঃ* *তথ্যপ্রদানকারীর জন্ম সনদের (যদি থাকে) নাম্বার টি লিখুন (তথ্যপ্রদানকারীকে জরিপের গোপনীয়তার ব্যাপারে নিশ্চিত করুন, এই তথ্য শুধুমাত্র পুনঃ তদারকির জন্য প্রয়োজন।)।*	.... পাওয়া যায়নি ৭৭ জানাতে অসম্মতি ৯৯	I11c

মূল: ডেমোগ্রাফিক তথ্যাবলী		
প্রশ্নাবলী	**উত্তর**	**কোড**
১	উত্তর দাতার লিঙ্গ *নির্দেশনাঃ* *উত্তরদাতা পুরুষ/মহিলা তা নির্বাচন করুন।*	পুরুষ ১ মহিলা ২	C1
২	আপনার জন্ম তারিখ কত? (জানা নাই হলে ৭৭ ৭৭ ৭৭৭৭ লিখুন) *নির্দেশনাঃ* *উত্তরদাতার সঠিক জন্মতারিখ জাতীয় পরিচয় পত্র/ জন্ম সনদ দেখে লিখুন।অসামঞ্জস্যপূর্ণ জন্ম তারিখ থাকলে, মন্তব্য অংশে টীকা লিখুন। যদি জানা না থাকে তাহলে ৭৭ ৭৭ ৭৭৭৭ লিখুন।*	|_|_| |_|_| |_|_|_|_| দিন মাস সাল **যদি জানা থাকে, C4 এ যান**	C2 (a-c)
৩	আপনার বয়স কত? *নির্দেশনাঃ* *সঠিক বয়স জানা না থাকলে 'ইভেন্ট ক্যালেন্ডার ব্যবহার করে এবং তথ্য প্রদানকারীর সাহায্য নিয়ে আনুমানিক বয়স নির্ধারণ করতে হবে।*	|_|_| বছর	C3
৪	আপনি সর্বমোট কত বছর প্রাতিষ্ঠানিক শিক্ষা গ্রহণ করেছেন (কোন শ্রেণী পাশ করেছেন)? (প্রথম শ্রেণীর নিচে এবং উপানুষ্ঠানিক শিক্ষা অন্তর্ভুক্ত হবে না) *নির্দেশনাঃ* *তথ্য প্রদানকারী সর্বমোট কত বৎসর প্রাতিষ্ঠানিক শিক্ষা সম্পন্ন করেছেন তা লিপিবদ্ধ করুন (প্রথম শ্রেণীর নিচে এবং উপানুষ্ঠানিক শিক্ষা অন্তর্ভুক্ত হবে না)।*	|_|_| বছর	C4
	সাধারণ শিক্ষা ও মাদ্রাসা শিক্ষার সমমান নিচে দেয়া হলোঃ ০১ প্রাথমিক এবতেদায়ী ৫ ০২ মাধ্যমিক দাখিল ১০ ০৩ উচ্চ মাধ্যমিক আলিম ১২ ০৪ স্নাতক ফাজিল ১৬ ০৫ স্নাতকোত্তর কামিল ১৮		

250

বর্ধিত: ডেমোগ্রাফিক তথ্যসমূহ			
৫	আপনি সর্বোচ্চ কতদূর পর্যন্ত গড়াশোনা করেছেন? **নির্দেশনাঃ** যদি উত্তরদাতা মাধ্যমিক পর্যায়ের প্রথম বর্ষে কিছুমাস ক্লাস করে থাকেন কিন্তু এক বছর শেষ করেন নি, তাহলে 'প্রাথমিক শিক্ষা শেষ করেছেন ' নির্বাচন করুন/আর যদি প্রাথমিক শিক্ষার কিছু বছর গড়াশোনা করে থাকেন তাহলে 'প্রাথমিক শিক্ষা শেষ করেননি' নির্বাচন করুন।	কোন প্রাতিষ্ঠানিক শিক্ষা নেই — ১ প্রাথমিক/ সমতুল্য শিক্ষা শেষ করেননি — ২ প্রাথমিক/ সমতুল্য শিক্ষা শেষ করেছেন — ৩ মাধ্যমিক/ সমতুল্য শিক্ষা শেষ করেছেন — ৪ উচ্চ মাধ্যমিক/ সমতুল্য শিক্ষা শেষ করেছেন — ৫ কলেজ/বিশ্ববিদ্যালয়/ সমতুল্য শিক্ষা শেষ করেছেন — ৬ স্নাতকোত্তর ডিগ্রী অর্জন করেছেন — ৭ জানাতে অসম্মতি — ৮৮	C5
৬	আপনি কোন ধর্মের অনুসারী? **নির্দেশনাঃ** উত্তরদাতার যে ধর্মের অনুসারী তা নির্বাচন করুন।	ইসলাম — ১ হিন্দু — ২ খ্রিষ্টান — ৩ বৌদ্ধ — ৪ অন্যান্য — ৫ অন্যান্য নির্দিষ্ট করুন (.............) C6other অসম্মতি — ৮৮	C6
৭	আপনার বৈবাহিক অবস্থা কি? **নির্দেশনাঃ** উত্তরদাতার উপযুক্ত বৈবাহিক অবস্থা নির্বাচন করুন।	অবিবাহিত — ১ বিবাহিত — ২ পৃথক — ৩ তালাকপ্রাপ্ত — ৪ বিপত্নিক/ বিধবা — ৫ অসম্মতি — ৮৮	C7
৮	গত ১২ মাসে আপনার প্রধান পেশা কি ছিল? **নির্দেশনাঃ** যদি তথ্য প্রদানকারী গত ১২ মাসে একাধিক পেশায় নিযুক্ত থাকেন তা হলে তিনি যে পেশাটিতে বেশি সময় ব্যয় করেছেন এবং প্রধান হিসেবে বিবেচনা করেন তা লিপিবদ্ধ করুন। এই প্রশ্নের মুল উদ্দেশ্য হচ্ছে তথ্য প্রদানকারীর পেশা ও অন্য প্রশ্নের উত্তরের সাথে সম্পর্ক দেখা।যেমনঃ তার পেশার সাথে অসংক্রামক রোগের ঝুঁকির সম্পৃক্ততা। সঠিক উত্তরটি নির্বাচন করুন।	সরকারী কর্মচারী — ১ বেসরকারী কর্মচারী — ২ ব্যবসা (ছোট) — ৩ ব্যবসা (বড়) — ৪ কৃষি কাজ (জমির মালিক এবং কৃষক) — ৫ ক্ষেত মজুর — ৬ কারখানার শ্রমিক — ৭ দিনমজুর — ৮ পরিবহন শ্রমিক — ৯ অন্যান্য স্ব-নিয়োগ — ১০ ছাত্র/ছাত্রী — ১১ গৃহ-কর্ম — ১২ অবসরপ্রাপ্ত — ১৩ বেকার, কর্মক্ষম — ১৪ বেকার, কর্মক্ষম নন — ১৫ পারিশ্রমিক প্রাপ্ত গৃহকর্মী — ১৬ কামার/কুমার/তাঁতী — ১৭ অন্যান্য — ১৮ অন্যান্য (নির্দিষ্ট করুন) C8other অসম্মতি — ৮৮	C8
৯	শিশু সহ এই খানায় সর্বমোট কত জন বাস করে? **নির্দেশনাঃ** যারা এই খানা কে তাদের স্বাভাবিক বাসস্থান হিসেবে গণ্য করেন তাদের সকল কে (শিশু সহ) গণ্য করুন।	⌊_⌋ জন জানি না হলে '৭৭' আর অসম্মতি হলে '৮৮' লিখুন।	C9a
১০	আপনি সহ আপনার খানায় ১৮ থেকে ৬৯ বছর বয়সের মধ্যে কতজন সদস্য (পুরুষ ও মহিলা সহ) বাস করেন? **নির্দেশনাঃ** ১৮ থেকে ৬৯ বছরের সকল পুরুষ ও মহিলার সংখ্যা।	সদস্য সংখ্যা ⌊_⌋_⌋ জন	C9b

বর্ধিত: ডেমোগ্রাফিক তথ্যসমূহ			
	প্রশ্ন	উত্তর	কোড
১০	অনুগ্রহ করে জিজ্ঞাসা/ পর্যবেক্ষণ করুন (প্রয়োজন হলে) এই খানায় বা এই খানায় যারা বাস করেন তাদের কারও নিচের সামগ্রী গুলো আছে কি না: **নির্দেশনাঃ** *খানার অর্থ-সামাজিক অবস্থা নির্ণয় করার জন্য এই প্রশ্ন গুলো পৃথক পৃথক ভাবে জিজ্ঞাসা করুন অথবা পর্যবেক্ষণ করে লিপিবদ্ধ করুন।*		
	a. বিদ্যুৎ	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1a
	b. ফ্লাশ পায়খানা	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1b
	c. [ল্যান্ড ফোন]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1c
	d. [মোবাইল ফোন]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1d
	e. [টেলিভিশন]	হ্যাঁ ১ না ২ জানা নাই ৭৭ জানাতে অসম্মতি ৮৮	Cex1e
	f.		
	g. [রেফ্রিজারেটর]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1g
	h. [প্রাইভেট কার]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1h
	i. [মপেড/স্কুটার/মোটর সাইকেল/অটো রিক্সা]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1i
	j. [ওয়াশিং মেশিন]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1j
	k. [বাই সাইকেল?]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1k
	l. [সেলাই মেশিন]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1l
	m. [আলমিরা / ওয়্যারড্রোব]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1m
	n. [টেবিল]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1n
	o. [চৌকি/ খাট]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1o
	p. [চেয়ার/ বেঞ্চ]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1p
	q. [ঘড়ি]	হ্যাঁ ১ না ২ জানাতে অসম্মতি ৮৮	Cex1q
	r. [কম্পিউটার/লেপটপ/ট্যাব]	হ্যাঁ ১ না ২	Cex1r

			জানাতে অসম্মতি	৮৮	
	s.	[গৃহপালিত পশু (গরু, মহিষ, ছাগল ইত্যাদি)]	হ্যাঁ না জানাতে অসম্মতি	১ ২ ৮৮	Cex1s
	t.	[শ্যালো মেশিন/পাওয়ার টিলার/ট্রাক্টর]	হ্যাঁ না জানাতে অসম্মতি	১ ২ ৮৮	Cex1t
	u.	[রিক্সা]	হ্যাঁ না জানাতে অসম্মতি	১ ২ ৮৮	Cex1u

১১	প্রধান ঘরের ছাদ/চাল মূলত কি দিয়ে নির্মিত? (পর্যবেক্ষণ করে লিখুন) ***নির্দেশনাঃ*** *যদি একটি খানায় একাধিক পৃথক ঘর থাকে তবে বসবাসের জন্য প্রধান ঘরটির ছাদ / চাল প্রধানত কি দিয়ে নির্মিত তা পর্যবেক্ষণ করে লিখুন।*	কাঁচা (বাঁশ/তালপাতা/খড়/চট টিন/ টালি/ অনুরূপ সামগ্রী সিমেন্ট/কনক্রিট	১ ২ ৩	Cex2
১২	এই পরিবারের ধরণ কি? ***নির্দেশনাঃ*** *একক পরিবারঃ যে পরিবারে শুধু স্বামী-স্ত্রী অথবা স্বামী-স্ত্রী ও তাদের সন্তান বাস করে (এক প্রজন্মের বসবাস)।* *যৌথ পরিবারঃ যে পরিবারে স্বামী-স্ত্রী, তাদের সন্তান সহ পিতা মাতা ও ভাই বোন সহ একাধিক প্রজন্মের সদস্য বসবাস করে।*	একক পরিবার যৌথ পরিবার	১ ২	Cex3

মূল: খাদ্যাভ্যাস

আমি আপনাকে পরবর্তীতে যে প্রশ্নগুলো জিজ্ঞাসা করতে যাচ্ছি তা হল সচরাচর আপনি যে সকল ফলমূল ও শাক সজ্জি খেয়ে থাকেন সেই বিষয়ে। আমার কাছে দেশীয় ফল এবং শাক-সজ্জির কিছু ছবি আছে। প্রতিটি ছবি এক একটি প্রমান মাপের সমান। উত্তর দেওয়ার সময় সাধারণ ১টি সপ্তাহের কথা চিন্তা করুন। মাসে ১—২ বার হলে '০০' হবে।

	প্রশ্নাবলী	উত্তর	কোড
১৩	সচরাচর সপ্তাহের কত দিন আপনি ফল খান? [শো-কার্ড – ০১ দেখান] *নির্দেশনাঃ* *তথ্য প্রদানকারীকে শো-কার্ডে প্রদর্শিত ফলগুলো দেখিয়ে চিন্তা করতে বলুন। এখানে প্যাকেটজাত ফলের জুস গ্রহণযোগ্য নয় তবে বাসায় ব্লেন্ড করা ফলের জুস গ্রহণযোগ্য। সাধারণ সপ্তাহ বলতে ধর্মীয় বা অন্য কোন বিশেষ উপলক্ষ ব্যতীত একটি স্বাভাবিক একটি সপ্তাহ বুঝায়। মাসে ১—২ বার হলে '০০' হবে।*	দিনের সংখ্যা ☐☐ দিন **যদি '০০' দিন হয়, D3-এ যান** জানিনা ৭৭	D1
১৪	সেই দিনগুলির একদিনে কতটুকু ফল খেয়েছেন? [শো-কার্ড – ০২ দেখান] *নির্দেশনাঃ* *তথ্য প্রদানকারীকে যেকোন একদিনের কথা স্মরণ করতে বলুন এবং শো-কার্ডে প্রদর্শিত প্রমান পরিমানগুলো দেখে পরিমাপ করতে বলুন।*	সার্ভিংস সংখ্যা ☐☐.☐ জানিনা ৭৭	D2
১৫	সচরাচর সপ্তাহের কত দিন আপনি শাক-সজ্জি খান? [শো- কার্ড – ০৩ দেখান] *নির্দেশনাঃ* *তথ্য প্রদানকারীকে শো-কার্ডে প্রদর্শিত ফলগুলো দেখিয়ে চিন্তা করতে বলুন। এখানে আলু শাক-সজ্জি হিসেবে গন্য হবে না। কাটা ও রান্না করা শাক সজ্জির প্রমান পরিমাণ আলাদা করে দেখান। মাছের সাথে রান্না করা সজ্জির ক্ষেত্রে শুধু সজ্জির পরিমান করতে হবে। সাধারণ সপ্তাহ বলতে ধর্মীয় বা অন্য কোন বিশেষ উপলক্ষ ব্যতীত একটি স্বাভাবিক সপ্তাহ বুঝায়।*	দিনের সংখ্যা ☐☐ দিন **যদি '০০' দিন হয়, Dx1-এ যান** জানিনা ৭৭	D3
১৬	সেই দিনগুলির একদিনে কতটুকু শাক-সজ্জি খেয়েছেন? [শো- কার্ড – ০৪ দেখান] *নির্দেশনাঃ* *তথ্য প্রদানকারীকে যেকোন একদিনের কথা স্মরণ করতে বলুন এবং শো-কার্ডে প্রদর্শিত প্রমান পরিমানগুলো দেখে পরিমাপ করতে বলুন।*	সার্ভিংস সংখ্যা ☐☐.☐ জানিনা ৭৭	D4
১৭	একজনের প্রতিদিন কি পরিমান ফল-মূল ও শাক সজ্জি খাওয়া উচিত বলে আপনি মনে করেন? *নির্দেশনাঃ* *একজন ব্যক্তির একদিনে ফল-মূল ও শাক সজ্জি সমেত প্রমান পরিমানে কতটুকু খাওয়া উচিত সেই সম্পর্কে তথ্য প্রদানকারী কি মনে করেন তা লিপিবদ্ধ করুন।*	সার্ভিংস সংখ্যা ☐☐.☐ জানিনা ৭৭	Dx1

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খাদ্যে লবণ

পরবর্তী প্রশ্নগুলোর মাধ্যমে আমরা আপনার খাদ্যে লবণের ব্যবহার সম্পর্কে জানব। খাদ্য লবণ হচ্ছেঃ সাধারণ লবণ, অপরিশোধিত বা সামুদ্রিক লবণ, আয়োডিন যুক্ত লবণ, বিট লবণ, টেস্টিং সল্ট, লবণযুক্ত পাউডার ও লবণ যুক্ত সস (যেমনঃ সয়া সস, ফিস সস, টমেটো সস, অন্যান্য)। পরবর্তী প্রশ্নগুলো পাতে লবণ খাওয়া, বাড়িতে খাবার রান্নার সময় লবণের ব্যবহার, প্রক্রিয়াজাত খাবার যেখানে প্রচুর লবণ থাকে এবং লবণ খাওয়া কমানো সম্পর্কে জিজ্ঞাসা করা হবে। আপনি খাবারে কম লবণ খান হিসেবে বিবেচনা করলেও দয়া করে প্রশ্নগুলির উত্তর দিন।

নির্দেশনাঃ
তথ্য প্রদানকারীকে এই প্রারম্ভিক বক্তব্যটি পড়ে শুনান এবং কেবল লবণ সম্পর্কেই চিন্তা করতে বলুন। এই বিষয়ে সতর্ক থাকবেন যে তথ্য প্রদানকারী যেন যথেষ্ট সময় নিয়ে সঠিক উত্তর দিতে পারে। তথ্য প্রদানকারীকে প্রশ্ন করার সময় প্রাসঙ্গিক শো-কার্ড দেখাতে কখনোই ভুলবেন না।

	প্রশ্নাবলী		উত্তর		কোড
১৮	খাবার গ্রহণের পূর্বে অথবা খাওয়ার সময় আপনি কি মাত্রায় পাতে অতিরিক্ত/ আলগা/ কাঁচা লবণ খান? [যেকোন একটি নির্বাচন করুন] **[শো-কার্ড – ০৫ দেখান।]** *নির্দেশনাঃ* *তথ্য প্রদানকারীকে উত্তরগুলো পড়ে শুনান এবং তার সাথে সামঞ্জস্যপূর্ণ একটি উত্তর লিপিবদ্ধ করুন। শো-কার্ডে প্রদর্শিত লবণের চিত্রগুলো ব্যাখ্যা করে বুঝিয়ে দিন যাতে করে তথ্য প্রদানকারী সঠিক উত্তরটি বলতে পারেন।*		সবসময় ১ প্রায়সই ২ মাঝে মাঝে ৩ কদাচিৎ ৪ কখনো না ৫ জানি না ৭৭		D5a
১৯	খাবার গ্রহণের পূর্বে অথবা খাওয়ার সময় আপনি কি মাত্রায় লবণ যুক্ত সস (টমেটো সস, টমেটো কেচাপ, চিলি সস, ফিস সস, সয়া সস) খান? [যেকোন একটি নির্বাচন করুন] **[শো-কার্ড – ০৬ দেখান]** *নির্দেশনাঃ* *তথ্য প্রদানকারীকে উত্তরগুলো পড়ে শুনান এবং তার সাথে সামঞ্জস্যপূর্ণ একটি উত্তর লিপিবদ্ধ করুন। শো-কার্ডে প্রদর্শিত লবণ যুক্ত সসের চিত্রগুলো ব্যাখ্যা করে বুঝিয়ে দিন যাতে করে তথ্য প্রদানকারী সঠিক উত্তরটি বলতে পারেন।*		সবসময় ১ প্রায়সই ২ মাঝে মাঝে ৩ কদাচিৎ ৪ কখনো না ৫ জানি না ৭৭		D5b
২০	আপনি অতিরিক্ত লবণযুক্ত প্রক্রিয়াজাত খাবার কি মাত্রায় খান ? অতিরিক্ত লবণযুক্ত প্রক্রিয়াজাত খাবার হচ্ছে, ঐ সকল খাবার যেগুলোর স্বাভাবিক অবস্থা পরিবর্তিত হয়েছে যেমনঃ লবণযুক্ত প্যাকেটজাত স্ন্যাক্স যেমনঃ চিপস, চানাচুর, ঝাল মুড়ি, কৌটা জাত লবণযুক্ত খাবার যেমনঃ আচার, প্রিজারভেটিভস, লবণাক্ত ফাস্টফুড যেমনঃ পনির; প্রক্রিয়াজাত মাংশ, শুটকি মাছ, লবণ দেয়া মাছ ইত্যাদি। **[শো-কার্ড – ০৭ দেখান]** *নির্দেশনাঃ* *তথ্য প্রদানকারীকে উত্তরগুলো পড়ে শুনান এবং তার সাথে সামঞ্জস্যপূর্ণ একটি উত্তর লিপিবদ্ধ করুন।*		সবসময় ১ প্রায়সই ২ মাঝে মাঝে ৩ কদাচিৎ ৪ কখনো না ৫ জানি না ৭৭		D7

	প্রশ্নাবলী	উত্তর	কোড
২১	আপনি কি পরিমান লবণ খান বলে মনে করেন? *নির্দেশনাঃ* *তথ্য প্রদানকারীকে উত্তরগুলো পড়ে শুনান এবং তার সাথে সামঞ্জস্যপূর্ণ একটি উত্তর লিপিবদ্ধ করুন।*	অত্যধিক বেশি ১ খুব বেশি ২ স্বাভাবিক পরিমান ৩ খুব কম ৪ সামান্য পরিমান ৫ জানি না ৭৭	D8a
২২	আপনি কি মাত্রায় লবণাক্ত সস (টমেটো সস, টমেটো কেচাপ, চিলি সস, সয়া সস, ফিস সস) খান? *নির্দেশনাঃ* *তথ্য প্রদানকারীকে উত্তরগুলো পড়ে শুনান এবং তার সাথে সামঞ্জস্যপূর্ণ একটি উত্তর লিপিবদ্ধ করুন।*	অত্যধিক বেশি ১ খুব বেশি ২ স্বাভাবিক পরিমান ৩ খুব কম ৪ সামান্য পরিমান ৫ জানি না ৭৭	D8b

বর্ধিতঃ খাদ্যাভ্যাস

	প্রশ্নাবলী	উত্তর	কোড
২৩	আপনি প্রতিদিন কি পরিমান অতিরিক্ত/ পাতে/ আলগা লবণ খান? [শো-কার্ড – ০৮ দেখান] *নির্দেশনাঃ* *এক্ষেত্রে তথ্য প্রদানকারী একদিনে সর্বমোট কি পরিমান পাতে অতিরিক্ত/ আলগা/ কাঁচা লবণ খান তা লিপিবদ্ধ করুন। তথ্য প্রদানকারী যদি আঙুলের চিমটি দিয়ে বা কোটা শুঁকিয়ে পাতে লবণ খান, সেক্ষেত্রে তার পরিমান শো-কার্ড অনুযায়ী চা-চামচে রূপান্তরিত করে একদিনের পরিমান লিখুন।*	⎕ . ⎕ চা চামচ জানি না ৭৭	Dx2
২৪	আপনি খাবারে লবণের পরিমান কমানো কতটুকু গুরুত্বপূর্ণ মনে করেন? *নির্দেশনাঃ* *এক্ষেত্রে তথ্য প্রদানকারীর উপলব্ধি লিপিবদ্ধ করুন।*	খুবই গুরুত্বপূর্ণ ১ কিছুটা গুরুত্বপূর্ণ ২ মোটেই গুরুত্বপূর্ণ নয় ৩ জানি না ৭৭	D9
২৫	সুস্থ থাকার জন্য একজন মানুষকে সকল উৎস থেকে প্রতিদিন কি পরিমান লবণ খাওয়া উচিত বলে আপনি মনে করেন? [শো-কার্ড – ০৮ দেখান] *নির্দেশনাঃ* *এটি প্রদানকারীর জ্ঞান সম্পর্কিত। উপযুক্ত উত্তরটি লিপিবদ্ধ করুন।*	⎕ . ⎕ চা চামচ জানি না ৭৭	Dx3
২৬	খাবারে অতিরিক্ত লবণ বা লবণ যুক্ত সস স্বাস্থ্যের কি ধরনের ক্ষতি করতে পারে বলে আপনি মনে করেন? *নির্দেশনাঃ* *এটি তথ্য প্রদানকারীর জ্ঞান সম্পর্কিত। উপযুক্ত উত্তরটি লিপিবদ্ধ করুন।*	কিছু হয় না, লবণ শরীরের জন্য ভাল ১ রক্তচাপ বৃদ্ধি ২ কিডনির রোগ ৩ হাগানি ৪ ক্যান্সার ৫ যক্ষা ৬ অন্যান্য নির্দিষ্ট করুন (...) Dx4other জানি না ৭৭	Dx4
২৭	আপনি লবণ গ্রহণের মাত্রা নিয়ন্ত্রণের জন্য বর্তমানে নিয়মিতভাবে কি কিছু করছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি লিপিবদ্ধ করুন।*	হ্যাঁ ১ না ২ *না হলে Dx6 এ যান* জানি না ৭৭	Dx5
২৮	লবণ গ্রহণের মাত্রা নিয়ন্ত্রণের জন্য আপনি নিম্নের কোন কোনটি নিয়মিত ভাবে পালন করেন? *নির্দেশনাঃ* *প্রত্যেকটির অংশগুলোর উত্তর উল্লেখ করুন। নিম্নের প্রতিটি অংশ তথ্য প্রদানকারীর শুধুমাত্র লবণ খাওয়া কমানোর জন্য প্রযোজ্য, অন্য কোন উদ্দেশ্য গণ্য হবে না।*		
	প্রক্রিয়াজাত খাবার কম খাওয়া	হ্যাঁ ১ না ২	D11a
	খাদ্যের উপাদানের তালিকায় লবণ/সোডিয়ামের পরিমান দেখা	হ্যাঁ ১	D11b

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			না ২	
	কম লবণ/ সোডিয়ামযুক্ত বিকল্প খাবার ক্রয় করা		হ্যাঁ ১	D11c
			না ২	
	রান্নার সময় লবণের পরিবর্তে বিভিন্ন মশলা ব্যবহার করা		হ্যাঁ ১	D11d
			না ২	
	বাহিরের তৈরি খাবার উপেক্ষা করা		হ্যাঁ ১	D11e
			না ২	
	অতিরিক্ত লবণ খাওয়া বন্ধ করা/কমিয়ে দেওয়া		হ্যাঁ ১	D11f
			না ২	
	অতিরিক্ত লবণ খাওয়া নিয়ন্ত্রনের জন্য অন্যান্য কিছু করা		হ্যাঁ ১	D11g
			না ২	
	অন্যকিছু নির্দিষ্ট করুন (......)			D11other
২৯	আপনার বাড়িতে খাবার রান্নায় কোন ধরনের তেল ব্যবহার করেন? [যে কোন একটি নির্দিষ্ট করুন] *নির্দেশনাঃ* *সচরাচর যে তেল দিয়ে রান্না করা হয় তা নির্বাচন করুন।*		সয়াবিন তেল ১ পাম ওয়েল ২ সানফাওয়ার তেল ৩ সরিষার তেল ৪ ধানের তুষের তেল ৫ ডালডা ৬ মাখন/ঘি ৭ নির্দিষ্ট কোনটি নয় ৮ অন্যান্য ৯ অন্যান্য (নির্দিষ্ট করুন) ১০	Dx6
৩০	আপনি সপ্তাহে গড়ে কয়বার বাইরের তৈরী খাবার খান? (সকালের নাস্তা, দুপুরের খাবার, রাতের খাবার)। *নির্দেশনাঃ* *উপযুক্ত উত্তরটি লিখুন।*		সংখ্যা জানিনা ৭৭	Dx7
৩১	আপনি দিনে গড়ে কয়বার বাইরের তৈরী স্ন্যাক্স খান? সঙ্গাড়া, সমুচা, পুরি, চপস, চানাচুর, ফুচকা, চটপটি, ঝালমুড়ি, সলটেড বিস্কুট।		সংখ্যা জানিনা ৭৭	Dx8

মূল: শারীরিক পরিশ্রম সংক্রান্ত তথ্য

এরপর আমি আপনাকে সপ্তাহে আপনি বিভিন্ন ধরনের শারীরিক পরিশ্রমে যে সময় কাটান সে সম্পর্কিত কিছু প্রশ্ন করবো। আপনি নিজেকে শারীরিকভাবে সক্ষম মনে না করলেও, অনুগ্রহ করে এই প্রশ্নগুলোর উত্তর দিন।প্রথমে আপনি কাজ করার জন্য যে সময় ব্যয় করেন তা বলুন। কাজগুলো হতে পারে টাকার বিনিময়ে বা বিনামূল্যের কাজ।গড়াগুলা, প্রশিক্ষণ, গৃহস্থালীর কাজ, খাদ্য-শস্যের চাষাবাদ, মাছ ধরা বা খাদ্যের জন্য শিকার করা অথবা চাকুরী খোঁজা।এখানে 'অতি মাত্রার কাজ' বলতে সেই কাজগুলোকে বোঝায় যে কাজগুলো করতে বেশি পরিমানে শারীরিক পরিশ্রমের প্রয়োজন হয় এবং কাজগুলো করার ফলে শ্বাস প্রশ্বাস অথবা হৃদস্পন্দন অনেক বেড়ে যায় এবং 'মধ্যম মাত্রার কাজ' বলতে সেই কাজগুলোকে বোঝায় যে কাজগুলো করতে মাঝারি পরিমানের শারীরিক পরিশ্রমের প্রয়োজন হয় এবং কাজগুলো করার ফলে শ্বাস প্রশ্বাস অথবা হৃদস্পন্দন সামান্য বেড়ে যায়।

নির্দেশনাঃ
উপরের ভূমিকাটি তথ্য প্রদানকারীকে পড়ে শুনান। এই অংশটি বাদ দেয়া যাবে না।তথ্য প্রদানকারীকে প্রথমে অবশ্যই তার দৈনন্দিন কাজগুলো সম্পর্কে চিন্তা করবে (পারিশ্রমিক ও পারিশ্রমিক বিহীন কাজ, গৃহস্থালী কাজ, খাদ্য উৎপাদন, খাওয়ার জন্য মাছ ধরা বা শিকার করা, কাজ খোঁজা) তার পর এক জায়গায় থেকে অন্য জায়গায় যাওয়ার জন্য ব্যায়িত সময় এবং সবশেষে অবসর সময়ে ব্যায়িত সময়।
উত্তরদাতাকে স্বরণকরিয়ে দিতে হবে যখন সে নিম্নলিখিত বিষয় গুলোর উত্তর দিবেঃ
ভারী কাজ হচ্ছে – এমন ন্যায্য পরিশ্রম যুক্ত কাজ যার ফলে শ্বাস-প্রশ্বাসের হার ও হৃদস্পন্দনের হার অতিমাত্রায় বৃদ্ধী পায়,
মাঝারি মাত্রার কাজ হচ্ছে – এমন মাত্রার শারীরিক পরিশ্রম যুক্ত কাজ যার ফলে শ্বাস-প্রশ্বাসের হার ও হৃদস্পন্দনের হার মাঝারি মাত্রায় বৃদ্ধী পায়। শো-কার্ড গুলো দেখাতে কখনোই ভুলবেন না, যেগুলো উত্তরদাতাকে উত্তর প্রদান করতে সহায়তা করবে।

কর্মক্ষেত্র

	প্রশ্নাবলী	উত্তর	কোড
এখন আমি আপনার ভারী কাজ সম্পর্কে জানতে চাইবো।			
৩১	শ্বাসপ্রশ্বাস ও হৃদস্পন্দন অনেক বেড়ে যায় এমন কোন অতিমাত্রার কাজ একনাগাড়ে কমপক্ষে ১০ মিনিট ধরে, আপনাকে করতে হয় কি? অতিমাত্রার কাজ যেমন-ভারী জিনিস বহন করা বা তোলা, মাটি কাটা, নির্মাণ কাজ, ধান কাটা, জাল দিয়ে মাছ ধরা, ইত্যাদি। [শো-কার্ড – ০৯ দেখান] *নির্দেশনাঃ* *তথ্য প্রদানকারীকে শুধুমাত্র কর্মস্থলের 'ভারী কাজগুলো' সম্পর্কে চিন্তা করতে বলুন।ঐ কাজগুলোই ভারী মাত্রার কাজ হিসেবে গণ্য হবে যার ফলে শ্বাস-প্রশ্বাসের ও হৃদস্পন্দনের হার অতিমাত্রায় বৃদ্ধী পায়।*	হ্যাঁ ১ না ২ [যদি না হয়, P4 এ যান]	P1
৩২	আপনি দৈনন্দিন কাজের অংশ হিসেবে সপ্তাহে কয়দিন অতিমাত্রার কাজ করেন? *নির্দেশনাঃ* *সাধারণ একটি সপ্তাহ হচ্ছে উত্তরদাতা তার একটি স্বাভাবিক সপ্তাহে যে কাজ করে।বৈধ উত্তরসীমা হচ্ছে ১ – ৭ দিন।*	|____| দিনের সংখ্যা জানি না ৭৭ [জানি না হলে এ P4 যান]	P2
৩৩	সাধারণত আপনি দিনে কতসময় ধরে অতিমাত্রার কাজ করেন? *নির্দেশনাঃ* *উত্তরদাতাকে তার কোন একটি দিনের কথা (যা সহজেই মনে আসে) চিন্তা করতে বলুন যে দিন তিনি কর্মক্ষেত্রে ভারী কাজে নিযুক্ত ছিলেন।উত্তরদাতা এসকল ভারী কাজগুলোকে আনবেন যেগুলো একটানা ১০ মি বা তার অধিক সময় ধরে করা হয়েছে।অধিক/অস্বাভাবিক (৪ ঘণ্টার অধিক) উত্তরগুলো যাচাই করুন।*	|____| : |____| ঘণ্টা মিনিট	P3 (a-b)
এখন আমি আপনার মাঝারি মাত্রার ভারী কাজ সম্পর্কে জানতে চাইবো।			
৩৪	শ্বাসপ্রশ্বাস ও হৃদস্পন্দন সামান্য বেড়ে যায় এমন কোন মাঝারিমাত্রার কাজ একনাগাড়ে কমপক্ষে ১০ মিনিট ধরে, আপনাকে করতে হয় কি? যেমন-দ্রুত হাঁটা বা হাঙ্কা ভার বহন, কাপড় ধোয়া। [শো-কার্ড – ১০ দেখান] *নির্দেশনাঃ* *উত্তরদাতাকে শুধুমাত্র কর্মস্থলের 'মাঝারিমাত্রার কাজগুলো' সম্পর্কে চিন্তা করতে বলুন।ঐ কাজগুলোই মাঝারিমাত্রার কাজ*	হ্যাঁ ১ না ২ [যদি না হয়, P7 এ যান]	P4

	হিসেবে গণ্য হবে যার ফলে শ্বাস-প্রশ্বাসের ও হৃদ স্পন্দনের হার সামান্য বৃদ্ধি পায়।		
৩৫	আপনি দৈনন্দিন কাজের অংশ হিসেবে সপ্তাহে কয়দিন মাঝারি মাত্রার কাজ করেন? **নির্দেশনাঃ** *সাধারন একটি সপ্তাহ হচ্ছে উত্তরদাতা তার একটি স্বাভাবিক সপ্তাহে যে কাজ করে।এবং উত্তরসীমা হচ্ছে ১ – ৭ দিন।*	⬜⬜ দিন জানি না ৭৭ ['৭৭' হলে P7 এ যান]	P5
৩৬	সাধারণত আপনি দিনে কতসময় ধরে মাঝারি মাত্রার কাজ করেন? **নির্দেশনাঃ** *উত্তরদাতাকে তার কোন একটি দিনের কথা (যা সহজেই মনে আসে) চিন্তা করতে বলুন যে দিন তিনি কর্মক্ষেত্রে মাঝারিমাত্রার কাজে নিযুক্ত ছিলেন। উত্তরদাতা ঐসকল মাঝারিমাত্রার কাজগুলোকে আমলে আনবেন যেগুলো একটানা ১০ মি বা তার অধিক সময় ধরে করা হয়েছে। অধিক/অস্বাভাবিক (৪ ঘন্টার অধিক) উত্তরগুলো যাচাই করুন।*	⬜⬜ : ⬜⬜ ঘন্টা মিনিট	P6 (a-b)

যাতায়াত

পরবর্তী প্রশ্নগুলো আপনি শারীরিক পরিশ্রম সম্পর্কিত যে কাজগুলো পূর্বে উল্লেখ করেছেন তা থেকে আলাদা। আমি এখন আপনি সচরাচর যেভাবে যাতায়াত করেন সে সম্পর্কে জিজ্ঞাসা করব, যেমন কাজে, বাজারে, দোকানে বা উপাসনালয়ে যাতায়াতের জন্য।
নির্দেশনাঃ
যাতায়াত সম্পর্কিত শারীরিক পরিশ্রমের এই ভূমিকাটি খুবই গুরুত্বপূর্ণ।এটি উত্তরদাতাকে এক জায়গা থেকে অন্য জায়গায় যেতে কি মাধ্যম ব্যবহার করে তা চিন্তা করতে সাহায্য করে।এই অংশটি কখনোই বাদ দেয়া যাবেনা।

৩৭	আপনি কি যাতায়াতের জন্য একনাগাড়ে কমপক্ষে ১০ মিনিট হাঁটেন বা বাইসাইকেল ব্যবহার করেন? **নির্দেশনাঃ** *সঠিক উত্তরটি নির্বাচন করুন।*	হ্যাঁ ১ না ২ [যদি না হয়, P10 এ যান]	P7
৩৮	আপনি যাতায়াতের জন্য সাধারণত সপ্তাহে কয়দিন একনাগাড়ে কমপক্ষে ১০ মিনিট হাঁটেন বা বাইসাইকেল ব্যবহার করেন? **নির্দেশনাঃ** *সাধারন একটি সপ্তাহ হচ্ছে উত্তরদাতা তার একটি স্বাভাবিক সপ্তাহে যে কাজ করে।এবং উত্তরসীমা হচ্ছে ১ – ৭ দিন।*	⬜⬜ দিনের সংখ্যা জানি না ৭৭ [জানি না হলে P10 এ যান]	P8
৩৯	আপনি যাতায়াতের জন্য সাধারণত দিনে কত সময় হাঁটেন বা বাইসাইকেল চালান? **নির্দেশনাঃ** *উত্তরদাতাকে তার কোন একটি দিনের কথা (যা সহজেই মনে আসে) চিন্তা করতে বলুন যে দিন তিনি যাতায়াতের জন্য শারীরিক পরিশ্রম করেছিলেন। উত্তরদাতা ঐসকল মাঝারিমাত্রার কাজগুলোকে আমলে আনবেন যেগুলো একটানা ১০ মি বা তার অধিক সময় ধরে করা হয়েছে। অধিক/অস্বাভাবিক (৪ ঘন্টার অধিক) উত্তরগুলো যাচাই করুন।*	⬜⬜ : ⬜⬜ ঘন্টা মিনিট	P9 (a-b)

মূল: শারীরিক পরিশ্রম সংক্রান্ত তথ্য

বিনোদনমূলক কাজ

পরবর্তী প্রশ্নগুলো পেশাগত কাজ এবং যাতায়াতের জন্য আপনি যে কাজগুলো উল্লেখ করেছেন তা থেকে আলাদা।এখন আমি আপনার খেলাধুলা, ব্যায়াম অথবা বিনোদনমূলক কাজ (অবসর সময়) সম্পর্কে জিজ্ঞাসা করব।

নির্দেশনাঃ
এই ভূমিকাটি উত্তরদাতাকে বিনোদনমূলক কাজ সম্পর্কে চিন্তা করতে সাহায্য করবে।অনেক ক্ষেত্রে একে বিবেচনামূলক/অবসর সময় ও বলে।এগুলো হচ্ছে খেলাধুলা এবং ব্যায়াম যা প্রতিযোগিতার ক্ষেত্রে বিবেচ্য।কর্মকান্ডগুলো নিয়মিত সংঘটিত হতে হবে, কদাচিৎ নয়।শুধুমাত্র বিনোদনমূলক কাজের প্রতি মনোযোগ দিতে হবে, পূর্বে উল্লেখিত কোন কর্মকান্ড এখানে বিবেচ্য হবে না। এই অংশটি কখনোই বাদ দেয়া যাবেনা।

প্রশ্নাবলী	উত্তর	কোড
এখন আমি আপনার পেশাগত কাজের বাহিরের ভারী পরিশ্রম সম্পর্কে জানতে চাইব।		
৪১ শ্বাসপ্রশ্বাস ও হৃদস্পন্দন অনেক বেড়ে যায় এমন কোন অতিমাত্রার খেলাধুলা, শরীরচর্চা অথবা বিনোদন মূলক কাজ একনাগাড়ে কমপক্ষে ১০ মিনিট ধরে, আপনাকে করতে হয় কি? যেমনঃ দৌড়ানো, কাব্বাডি, ফুটবল খেলা, দাড়িয়া বান্ধা, গোল্লাছুট, ইত্যাদি) [শো-কার্ড – ১১ দেখান] **নির্দেশনাঃ**	হ্যাঁ ১ না ২ [যদি না হয়, P13 এ যান]	P10

৪২	আপনি অতিমাত্রার খেলাধুলা, শরীরচর্চা বা বিনোদন মূলক কাজ সপ্তাহে কয়দিন করেন? যেমন- খেলাধুলা, ব্যায়াম অথবা বিনোদনমূলক কাজ। *নির্দেশনাঃ* *সাধারণ একটি সপ্তাহ হচ্ছে উত্তরদাতা তার একটি স্বাভাবিক সপ্তাহে যে কাজ করে। বৈধ উত্তরসীমা হচ্ছে ১ – ৭ দিন।*	[ ] দিন জানি না ৭৭ [জানি না হলে P13 এ যান]	P11
৪৩	আপনি দিনে অতিমাত্রার খেলাধুলা, শরীরচর্চা বা বিনোদন মূলক কাজ কতক্ষন করেন? *নির্দেশনাঃ* *উত্তরদাতাকে তার কোন একটি দিনের কথা (যা সহজেই মনে আসে) চিন্তা করতে বলুন যে দিন তিনি অবসর সময়ে ভারী শারীরিক পরিশ্রম করেছিলেন। উত্তরদাতা ঐসকল ভারী কাজগুলোকে আমলে আনবেন যেগুলো একটানা ১০ মিনিট বা তার অধিক সময় ধরে করা হয়েছে। অধিক/অস্বাভাবিক (৪ ঘন্টার অধিক) উত্তরগুলো যাচাই করুন।*	[ ] : [ ] ঘন্টা মিনিট	P12 (a-b)
এখন আমি আপনার পেশাগত কাজের বাহিরের মাঝারী মাত্রার পরিশ্রম সম্পর্কে জানতে চাইব।		
৪৪	শ্বাসপ্রশ্বাস ও হৃদস্পন্দন সামান্য বেড়ে যায় এমন কোন মাঝারি মাত্রার খেলাধুলা, শরীরচর্চা অথবা বিনোদন মূলক কাজ একনাগাড়ে কমপক্ষে ১০ মিনিট ধরে, আপনাকে করতে হয় কি? যেমন- দ্রুত হাঁটা, ট্রেড মিলে হাঁটা, সাইকেল চালনা, সাঁতার কাটা, ভলিবল, জগিং। [শো-কার্ড – ১২ দেখান] *নির্দেশনাঃ* *উত্তরদাতাকে শুধুমাত্র অবসরসময়ে 'মাঝারি মাত্রার কাজগুলো' সম্পর্কে চিন্তা করতে বলুন। এই কাজগুলোই মাঝারি মাত্রার কাজ হিসেবে গণ্য হবে যার ফলে শ্বাস-প্রশ্বাসের ও হৃদস্পন্দনের হার সামান্য বৃদ্ধি পায়।*	হ্যাঁ ১ না ২ [যদি না হয়, P16 এ যান]	P13
৪৫	আপনি সপ্তাহে কয়দিন এ ধরনের মাঝারি মাত্রার খেলাধুলা, শরীরচর্চা বা বিনোদন মূলক কাজ করেন? *নির্দেশনাঃ* *সাধারণ একটি সপ্তাহ হচ্ছে উত্তরদাতা তার একটি স্বাভাবিক সপ্তাহে যে কাজ করে। বৈধ উত্তরসীমা হচ্ছে ১ – ৭ দিন।*	[ ] দিন জানি না ৭৭ [জানি না হলে P16 এ যান]	P14
৪৬	আপনি দিনে এ ধরনের মাঝারি মাত্রার খেলাধুলা, শরীরচর্চা বা বিনোদন মূলক কাজ কতক্ষন করেন? *নির্দেশনাঃ* *উত্তরদাতাকে তার কোন একটি দিনের কথা (যা সহজেই মনে আসে) চিন্তা করতে বলুন যে দিন তিনি অবসরসময়ে মাঝারি মাত্রার কাজে নিযুক্ত ছিলেন। উত্তরদাতা ঐসকল মাঝারিমাত্রার কাজগুলোকে আমলে আনবেন যেগুলো একটানা ১০ মি. বা তার অধিক সময় ধরে করা হয়েছে। অধিক/অস্বাভাবিক (৪ ঘন্টার অধিক) উত্তরগুলো যাচাই করুন।*	[ ] : [ ] ঘন্টা মিনিট	P15 (a-b)

বর্ধিতঃ শারিরিক পরিশ্রম সংক্রান্ত তথ্যাবলী	
অবসর সময়ের কাজের ধরণ	
পরবর্তী প্রশ্নগুলো আপনার বসে বা হেলান দিয়ে কাটানো সময় সম্পর্কিত, যা কর্মক্ষেত্রে, বাড়িতে, এক জায়গা থেকে অন্য জায়গায় যাতায়াত অথবা বন্ধুদের সাথে আড্ডায়, গাড়ী, বাস বা ট্রেনে করে যাতায়াত, পড়াশোনা, কার্ড খেলা অথবা টেলিভিশন দেখার ক্ষেত্রে প্রযোজ্য। তবে এখানে ঘুমিয়ে কাটানো সময় অন্তর্ভূক্ত হবে না। [শো-কার্ড – ১৩ দেখান]	
৪৭	সাধারণত আপনি দিনে কত সময় বসে (ঘুম ব্যতীত) বা হেলান দিয়ে কাটান? *নির্দেশনাঃ* *উত্তরদাতাকে কাজকর্মের সময়, অফিসে, পড়াশোনার সময়, টেলিভিশন দেখার সময়, কম্পিউটার ব্যবহারের সময়, রান্নাঘরে হাতের কাজ করার সময়, বিশ্রামের সময় কতক্ষণ বসে কাটান। এখানে উত্তরদাতার ঘুমানোর সময় বিবেচ্য হবে না।*	[ ] : [ ] ঘন্টা মিনিট	P16 (a-b)

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এখন আমি আপনাকে তামাক ও তামাকজাত দ্রব্যের (যেমনঃ ধূমপান, ধোঁয়াবিহীন তামাকের) ব্যবহার সম্পর্কে কিছু প্রশ্ন জিজ্ঞাসা করব।

	প্রশ্নাবলী	উত্তর	কোড
৪৭	আপনি কি বর্তমানে কোন প্রকার ধূমপান (যেমন- সিগারেট, বিড়ি, হুক্কা, চুরুট, সিগার, পাইপ) করেন? [শো-কার্ড – ১৪ দেখান] *নির্দেশনাঃ* *উত্তরদাতাকে শো-কার্ড দেখিয়ে চিন্তা করতে বলুন যে বর্তমানে তিনি কোন দ্রব্যটি ধূমপান করছেন।*	হ্যাঁ ১ না ২ [যদি না হয়, T8 এ যান] [TP4 থেকে TP7 প্রযোজ্য নয়]	T1
৪৮	আপনি কি বর্তমানে প্রতিদিন ধূমপান করেন? *নির্দেশনাঃ* *এই প্রশ্নটি যারা বর্তমানে নিয়মিত ধূমপান করেন তাদের জন্য প্রযোজ্য।* *প্রতিদিন অর্থঃ প্রায় একমাস বা তার বেশি সময় ধরে প্রতিদিন অন্তত একটি ধোঁয়াবিহীন তামাক পন্য ব্যবহার্য করা কে বুঝায়। যদি এমন হয় যে তথ্য প্রদানকারী ২৫ দিন হল ধূমপান শুরু করেছে এবং এখনো চলছে, সেক্ষেত্রে প্রতিদিন হিসেবে গণ্য হবে।*	হ্যাঁ ১ না ২	T2
৪৯	কত বছর বয়সে আপনি প্রথম ধূমপান শুরু করেন? *নির্দেশনাঃ* *এই প্রশ্নটি যিনি বর্তমানে প্রতিদিন ধূমপান করেন তার জন্য প্রযোজ্য। উত্তরদাতাকে চিন্তা করতে বলুন যে, প্রথম যখন তিনি কোন তামাকজাত দ্রব্য ধূমপান শুরু করেন তখন তার বয়স কত ছিল।*	বছর ☐☐ *[জানা থাকলে, T5a/T5aw -এ যান]* জানি না ৭৭	T3
৫০	আপনার কি মনে আছে তা কত আগে? [যেকোন একটি নির্বাচন করুন, সবগুলো নয়] **জানা না থাকলে = ৭৭** *নির্দেশনাঃ* *যদি উত্তরদাতা মনে করতে না পারেন যে তিনি কত বছর বয়সে ধূমপান শুরু করেছেন তাহলে এই প্রশ্নের মাধ্যমে লিপিবদ্ধ করুন যে তিনি কত বছর বা কতমাস বা কত সপ্তাহ আগে প্রথম ধূমপান শুরু করেন।*	☐☐ . ☐ বছর *[জানা থাকলে, T5a/T5aw -এ যান]*	T4a
		অথবা ☐☐ মাস *[জানা থাকলে, T5a/T5aw -এ যান]*	T4b
		অথবা ☐☐ সপ্তাহ	T4c
৫১	নিচের তামাক দ্রব্যগুলোর মধ্যে আপনি দিনে/সপ্তাহে কোনটি কতটি (শলাকা) বা কতবার করে ধূমপান করেন? [যদি প্রতিদিন না করে থাকেন তাহলে প্রতি সপ্তাহে গ্রহণের সংখ্যা বা বার উল্লেখ করুন]। (প্রতিটি উপাদানের ক্ষেত্রে তথ্য উল্লেখ করুন) জানি না হলে ৭৭৭৭ লিখুন। [শো-কার্ড – ১৪ দেখান] *নির্দেশনাঃ* *এই প্রশ্নটি যিনি বর্তমানে প্রতিদিন ধূমপান করেন তার জন্য প্রযোজ্য। উত্তরদাতা যে দ্রব্যগুলো ব্যবহার করেন না সেগুলোতে খালি না রেখে শূন্য দিবেন। প্রতিদিন ধূমপায়ীদের জন্য প্রতিদিনের ব্যবহারের সংখ্যা উল্লেখ করুন। যদি প্রতিদিন ধূমপায়ী না হন তা হলে সাপ্তাহিক ধূমপানের সংখ্যা লিখুন।*		

	সপ্তাহে	দিনে	
সিগারেট	☐☐☐☐	☐☐☐☐	T5a/ T5aw
বিড়ি	☐☐☐☐☐	☐☐☐☐☐	T5b/ T5bw
হুক্কা/বনেদী হুক্কা	☐☐☐☐☐	☐☐☐☐☐	T5c/ T5cw

	প্রশ্নাবলী			কোড
	তামাক পূর্ণ পাইপ			T5d/ T5dw
	হাতে মোড়ানো সিগারেট			T5e/ T5ew
	সিগার/চুরুট/সিগারেল			T5g/ T5gw
	শিশা গ্রহণের সেশন সংখ্যা			T5h/ T5hw
	অন্যান্য (যদি অন্যান্য হয় তবে T5 Others-এ যান, তা না হলে T6-এ যান),			T5f/ T5fw
	অন্যান্য (নির্দিষ্ট করুন) এবং T6-এ যান			T5 Other

মূল: তামাকের ব্যবহার

	প্রশ্নাবলী	উত্তর	কোড
৫২	গত ১২ মাসের মধ্যে আপনি কি ধূমপান ছাড়ার কোন চেষ্টা করেছেন ? **নির্দেশনাঃ** *এটি বর্তমানে ধূমপায়ীর জন্য প্রযোজ্য। তথ্য প্রদানকারীকে বিগত ১২ মাসের মধ্যে ধূমপান বন্ধের যে কোন উদ্যোগকে মনে করতে বলুন।*	হ্যাঁ ১ না ২	T6
৫৩	গত ১২ মাসের মধ্যে কোন ডাক্তার বা স্বাস্থ্য কর্মী আপনাকে ধূমপান ছাড়ার জন্য পরামর্শ দিয়েছেন কি? **নির্দেশনাঃ** *এটি বর্তমানে ধূমপায়ীর জন্য প্রযোজ্য। তথ্য প্রদানকারীকে বিগত ১২ মাসের মধ্যে কোন ডক্তর বা স্বাস্থ্য কর্মীর কাছে তার নিজের জন্য গিয়েছিলেন কি না তা চিন্তা করতে বলুন। যদি না গিয়ে থাকেন তবে কাউকে দেখানো হয়নি নির্বাচন করুন।*	হ্যাঁ ১ (T2= হ্যাঁ হলে, T12 এ যান; T2=না হলে, T9 এ যান) না ২ (T2= হ্যাঁ হলে, T12 এ যান; T2=না হলে, T9 এ যান) গত ১২ মাসে কাউকে দেখানো হয়নি ৩ (T2= হ্যাঁ হলে, T12 এ যান; T2=না হলে, T9 এ যান)	T7
৫৪	পূর্বে আপনি কি কখনো কোন প্রকার ধূমপান করেছেন? [শো-কার্ড — ১৪ দেখান] **নির্দেশনাঃ** *তথ্য প্রদানকারীকে চিন্তা করে বলতে বলুন যে তিনি পূর্বে জীবনের কোন এক সময় কি ধূমপান করেছেন।*	হ্যাঁ ১ না ২ ('না' হলে, T12 এ যান)	T8
৫৫	পূর্বে আপনিকি প্রতিদিন ধূমপান করতেন? **নির্দেশনাঃ** *তথ্য প্রদানকারীকে চিন্তা করে বলতে বলুন যে তিনি পূর্বে কি প্রতিদিন ধূমপান করতেন।*	হ্যাঁ ১ না ২ T1='হ্যাঁ' হলে, T12 এ যান, নতুবা T10 এ যান।	T9

বর্ধিতঃ তামাকের ব্যবহার

	প্রশ্নাবলী	উত্তর	কোড
৫৬	আপনি কত বছর বয়সে ধূমপান ছেড়ে দিয়েছিলেন? **নির্দেশনাঃ** *তথ্য প্রদানকারী কত বছর বয়সে ধূমপান ছেড়েছেন তা চিন্তা করে বলুন।এক্ষেত্রে তথ্য প্রদানকারীকে বিভিন্ন ভাবে যাচাই করে নিন।*	বয়স ⬜ বছর *[যদি জানেন T12 যান]* জানি না ৭৭	T10
৫৭	কত সময় আগে আপনি ধূমপান ছেড়েদিয়াছেন ? [যে কোন একটি উত্তর লিখুন, সবগুলো নয়] **নির্দেশনাঃ** *যদি তথ্য প্রদানকারী মনে করতে না পারেন যে তিনি কত বছর বয়সে ধূমপান ছেড়েছেন তবে এই প্রশ্নের মাধ্যমে*	⬜ বছর অথবা ⬜ মাস অথবা ⬜ সপ্তাহ	T11a T11b T11c

	জানার চেষ্টা করুন যে তিনি কত দিন আগে ধূম পান হেড়েছেন।	[জানা থাকলে **T12** এ যান] জানা না ৭৭	
৫৮	আপনি কি বর্তমানে কোন ধোঁয়াবিহীন তামাক দ্রব্য, যেমন- পানের সাথে জর্দা, শুধু জর্দা, সুপারির সাথে জর্দা, পানের সাথে সাদাপাতা, তামাক যুক্ত পান মশলা, চিবিয়ে খাওয়া সাদা-পাতা, খৈনি, নস্যি, গুল, গুটকা ইত্যাদি ব্যবহার করেন? [শো-কার্ড – ১৫ দেখান] **নির্দেশনাঃ** *তথ্য প্রদানকারীকে ধোঁয়াবিহীন তামাক যেমনঃ জর্দা, গুল, সাদা পাতা, খৈনি, নস্যি দ্রব্য গুলো কি বর্তমানে ব্যবহার করেন কিনা তা চিন্তা করে উত্তর দিতে বলুন। এক্ষেত্রে, শুধু পান সুপারি ও চুন প্রযোজ্য হবে না। যদি তথ্য প্রদানকারী পানের সাথে জর্দা বা শুধু জর্দা, পানের সাথে সাদাপাতা বা শুধু সাদাপাতা, পানের সাথে তামাক যুক্ত পান মশলা বা শুধু তামাক যুক্ত পান মশলা খান তাহলে ধোঁয়াবিহীন তামাক সেবন হিসেবে গণ্য হবে।*	হ্যাঁ ১ না ২ *[যদি না হয়, T15 এ যান]*	T12
৫৯	আপনি কি বর্তমানে কোন ধোঁয়াবিহীন তামাক দ্রব্য, যেমন- পানের সাথে জর্দা, শুধু জর্দা, সুপারির সাথে জর্দা, পানের সাথে সাদাপাতা, তামাক যুক্ত পান মশলা, চিবিয়ে খাওয়া সাদা-পাতা, গুল, খৈনি, নস্যি, গুল, গুটকা প্রতিদিন ব্যবহার করেন? **নির্দেশনাঃ** *যিনি বর্তমানে ধোঁয়াবিহীন তামাক ব্যবহার করেন তার জন্য প্রযোজ্য।* **প্রতিদিন জর্দাঃ** *প্রায় একমাস বা তার বেশি সময় ধরে প্রতিদিন অন্তত একটি ধোঁয়াবিহীন তামাক পণ্য ব্যবহার করা কে বুঝায়।*	হ্যাঁ ১ না ২ *[যদি 'না' হয়, T14aw এ যান]*	T13

৬০ গড়ে আপনি প্রতিদিন/সপ্তাহে নিম্নের তামাক দ্রব্যগুলোর কতবার ব্যবহার করেন?
[প্রতিদিন না হলে সপ্তাহে উল্লেখ করুন]
[প্রতিটি তামাক দ্রব্যের উল্লেখ করুন]
[শো-কার্ড – ১৫ দেখান]
[না জানলে ৭৭৭৭]

নির্দেশনাঃ
যারা বর্তমানে ধোঁয়াবিহীন তামাক ব্যবহার করেন তাদের জন্য এই প্রশ্ন প্রযোজ্য। নিচের সকল উপাদানের জন্য তথ্য লিপিবদ্ধ করুন। যদি কোন দ্রব্য ব্যবহার না করেন তাহলে শূন্য দিন, কিন্তু কোন উপাদান ই খালি রাখা যাবে না। যে দ্রব্যটি প্রতিদিন সেবন করেন তা প্রতিদিনের জায়গায় আর যেটি সপ্তাহে ব্যবহার করেন (প্রতিদিন না) তা সপ্তাহের জায়গায় লিপিবদ্ধ করুন।

		দিনে	সপ্তাহে	
	পানের সাথে জর্দা/ শুধু জর্দা/ সুপারির সাথে জর্দা	|__|__|__|	|__|__|__|	T14a/ T14aw
	পানের সাথে সাদাপাতা	|__|__|__|	|__|__|__|	T14b/ T14bw
	তামাক যুক্ত পান মশলা	|__|__|__|	|__|__|__|	T14c/ T14cw
	চিবিয়ে খাওয়া সাদা-পাতা	|__|__|__|	|__|__|__|	T14d/ T14dw

	গুল			T14e/ T14ew
	খৈনি			T14f/ T14fw
	নস্যি			T14g/ T14gw
	অন্যান্য			T14h/ T14hw
		যদি অন্যান্য হয় তাহলে T14 Other এ যান, যদি T13 না হয় তাহলে TP1a এ যান		
	অন্যান্য (নির্দিষ্ট করুন)			T14 Other/ T14 Otherw
		যদি T13 না হয় তাহলে TP1a এ যান		
৬১	পূর্বে আপনি কি কখনো কোন প্রকার ধোঁয়াবিহীন তামাক দ্রব্য যেমনঃ জর্দা, সাদাপাতা, গুল, খৈনি, নস্যি, চিবিয়ে খাওয়া তামাক অথবা তামাক যুক্ত পান ব্যবহার করেছেন? **নির্দেশনাঃ** *এই প্রশ্ন যারা বর্তমানে ধোঁয়াবিহীন তামাক ব্যবহার করেন না তাদের জন্য প্রযোজ্য। তথ্য প্রদানকারীকে পূর্বে কোন ধোঁয়াবিহীন তামাক ব্যবহার করতেন কিনা তা চিন্তা করে বলতে বলুন।*	হ্যাঁ ১ না ২		T15

ইলেক্ট্রনিক সিগারেট

পরবর্তী প্রশ্নগুলো ইলেকট্রনিক সিগারেট ব্যবহার সম্পর্কে।ইলেকট্রনিক সিগারেট এমন একটি পণ্য যা ব্যাটারি বা অন্য কোনো পদ্ধতি ব্যবহার করে এর মধ্যে সংরক্ষিত নিকোটিন থেকে ধোঁয়া তৈরি করে।এগুলোর আরো কিছু নাম আছে যেমন ই-সিগারেট, ভেপ-পেন, ই-শিশা, ই-পাইপ্।

নির্দেশনাঃ
এই অংশটি তথ্য প্রদানকারীকে পড়ে শুনান।মনে রাখবেন এই অংশটি কোন অবস্থাতেই বাদ দেয়া যাবে না।

	প্রশ্নাবলী	উত্তর		কোড
৬১	এর আগে, আপনি কি কখনো ইলেক্ট্রনিক সিগারেটের নাম শুনেছেন? *নির্দেশনাঃ* *তথ্য প্রদানকারী কখনো ইলেক্ট্রনিক সিগারেটের নাম শুনেছেন কি না তা জিজ্ঞাসা করুন।*	হ্যাঁ না অসম্মতি	১ ২ [না হলে **A1** যান] ৮৮ [৮৮ হলে **A1** যান]	ECx1
৬২	ছবিতে প্রদর্শিত ছবি গুলোর মধ্যে কোনটি ইলেক্ট্রনিক সিগারেটের? [শো-কার্ড – ১৭ দেখান] *নির্দেশনাঃ* *এই প্রশ্নটি পূর্বের প্রশ্নের উত্তর সঠিক কি না তা যাচাই করার জন্য শো-কার্ড দেখিয়ে তথ্য প্রদানকারীকে ইলেক্ট্রনিক সিগারেট কোনটি তা চিহ্নিত করতে বলুন।*	তামাক ভর্তী পাইপ ই-সিগারেট শিশা হুকা অসম্মতি	১ ২ ৩ ৪ ৭৭	ECx2
৬৩	আপনি কি বর্তমানে ইলেকট্রনিক সিগারেট নিয়মিতভাবে ব্যবহার করেন? *নির্দেশনাঃ* *তথ্য প্রদানকারী ইলেক্ট্রনিক সিগারেট ব্যবহার করেন কি না জিজ্ঞাসা করুন।*	প্রতিদিন প্রতিদিন না একেবারেই না অসম্মতি	১ [প্রতিদিন হলে **A1** যান] ২ প্রতিদিন না হলে A1 যান ৩ ৮৮	ECx3
৬৪	আপনি কি কখনো একবার হলেও ইলেকট্রনিক সিগারেট ব্যবহার করেছেন? *নির্দেশনাঃ* *তথ্য প্রদানকারী যদি বর্তমানে ইলেক্ট্রনিক সিগারেট ব্যবহার না করে থাকেন তা হলে পূর্বে কখনো কি ব্যবহার করেছেন কি না তা লিপিবদ্ধ করুন।*	হ্যাঁ না অসম্মতি	১ ২ ৮৮	ECx4

আমি আপনাকে পরবর্তী প্রশ্নগুলো মদ্যপান সম্পর্কে করব।

	প্রশ্নাবলী	উত্তর	কোড
৬৬	আপনি কি কখনো মদ্য জাতীয় পানীয় যেমন- বিয়ার, ওয়াইন, স্পিরিট, তারি, চোলাই, রাম, বাংলা, চুয়ানি, কেরু, ভদকা, জিন, হুইস্কি, ইত্যাদি পান করেছেন? [শো-কার্ড – ১৮ দেখান] *নির্দেশনাঃ* *শো-কার্ড দেখিয়ে তথ্য প্রদানকারীকে মদ্য পান সম্পর্কে চিন্তা করতে বলুন, এমনকি চিকিৎসার উদ্দেশ্যে এলকোহল সেবন, অথবা একবার কিছু পরিমান সেবনও গণ্য হবে এবং হ্যাঁ উত্তর দিতে হবে।কোন পানীয়ের মধ্যে ০.৫% এলকোহল থাকলে তা মদ বলে গণ্য হবে।১০ গ্রাম ইথানল = ১ প্রমান পরিমান।*	হ্যাঁ ১ না ২ *['না' হলে, D1 এ যান]*	A1
৬৭	আপনি কি গত ১২ মাসের মধ্যে কোন প্রকার মদ্য পান করেছেন? *নির্দেশনাঃ* *শো-কার্ড দেখিয়ে তথ্য প্রদানকারীকে মদ্য পান সম্পর্কে চিন্তা করতে বলুন, এমনকি চিকিৎসার উদ্দেশ্যে এলকোহল সেবন, অথবা একবার কিছু পরিমান সেবনও গণ্য হবে এবং হ্যাঁ উত্তর দিতে হবে।*	হ্যাঁ ১ *['হ্যাঁ' হলে, A4 এ যান]* না ২	A2
৬৮	স্বাস্থ্যগত কারনে, যেমনঃ আপনার স্বাস্থ্যের নেতিবাচক প্রভাবের কারনে ডাক্তারের অথবা অন্য কোন স্বাস্থ্য কর্মীর পরামর্শে আপনি কি মদ্য পান বন্ধ করে দেয়েছিলেন? *নির্দেশনাঃ* *তথ্য প্রদানকারী মদ্য পান ছেড়ে দিয়েছেন কিনা তা জিজ্ঞাসা করুন।*	হ্যাঁ ১ *['হ্যাঁ' হলে, D1 এ যান]* না ২ *['না' হলে, D1 এ যান]*	A3
৬৯	আপনি গত ১২ মাসে এক প্রমাণ পাত্র পরিমাণ হারে কি মাত্রায় মদ্য পান করেছেন? [উত্তরগুলো পড়ে শুনান] [শো-কার্ড – ১৯ দেখান] *নির্দেশনাঃ* *তথ্য প্রদানকারীকে শো-কার্ডের প্রমান পাত্রের পরিমাণটিকে দেখিয়ে চিন্তা করে উত্তর দিতে বলুন।প্রয়োজনে শো-কার্ডটি ব্যাখ্যা করে বলুন। উত্তরদাতাকে গত ৩০ দিনের কথা চিন্তা করতে বলুন।কতবার খেয়েছেন তা লিপিবদ্ধ করুন। মনে রাখবেন গত ৩০ দিনে একের অধিক সেবন করতে হবে। কোন উত্তরদাতা যদি গত ৩০ দিনে সামান্য পরিমান গ্রহণ করে থাকেন তাহলে শূন্য হবে।*	দৈনিক ১ সপ্তাহে ৫-৬ দিন ২ সপ্তাহে ৩-৪ দিন ৩ সপ্তাহে ১-২ দিন ৪ মাসে ১-৩ দিন ৫ মাসে ১ বারেরও কম ৬	A4
৭০	আপনি কি গত ৩০ দিনে কোন প্রকার মদ্য পান করেছেন? *নির্দেশনাঃ* *তথ্য প্রদানকারী বিগত ৩০ দিন কোন রুপ মদ্য পান করেছেন কি না তা জিজ্ঞাসা করুন।*	হ্যাঁ ১ না ২ *['না' হলে, H1 এ যান]*	A5
৭১	গত ৩০ দিনের মধ্যে আপনি কতবার অন্তত এক প্রমান পাত্রের পরিমাণে মদ্য পান করেছেন? *নির্দেশনাঃ* *শো-কার্ডে প্রদর্শিত পরিমানে তথ্য প্রদানকারী কি পরিমান সেবন করেছেন তা নির্ণয় করতে সাহায্য করুন।*	সংখ্যা [ ] *['০' হলে, H1 এ যান]* জানি ৭৭ না	A6
৭২	গত ৩০ দিনের মধ্যে যে কোন একটি মদ্য পান বৈঠক এ এক প্রমান পাত্রের সমান গড়ে কি পরিমান মদ্য পান করেছিলেন? [শো-কার্ড – ১৯ দেখান] *নির্দেশনাঃ* *তথ্য প্রদানকারীকে গত ৩০ দিনের কথা চিন্তা করতে বলুন।এই প্রশ্নটি, কোন একটি উপলক্ষে প্রমান পাত্রের সর্বোচ্চ কি পরিমান মদ সেবন করা হয়েছে তার নির্ণয়ের জন্য।*	সংখ্যা [ ] জানিনা ৭৭	A7

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৭৩	গত ৩০ দিনের মধ্যে একটি বৈঠকে এক প্রমান পাত্রের সমান সর্বোচ্চ কি পরিমান মদ্য পান করেছিলেন?- সব ধরনের মদ জাতীয় পানীয়কে সমন্বয় করে। *নির্দেশনাঃ* *তথ্য প্রদানকারীকে গত ৩০ দিনের কথা চিন্তা করতে বলুন।এবং এক বৈঠকে সর্বোচ্চ কি পরিমান গ্রহণ করেছে তা বলতে সাহায্য করুন।*	সর্বোচ্চ সংখ্যা __|__ জানিনা ৭৭	A8
৭৪	গত ৩০ দিনের মধ্যে একটি বৈঠকে একসাথে কতবারে ৬ বা ততোধিক প্রমান পাত্রের সমান মদ্য পান করেছেন? *নির্দেশনাঃ* *বিগত ৩০ দিনে এক বৈঠকে প্রমান পাত্রের পরিমান ৬ এর অধিক কত বার মদ্য পান করেছেন তা বলতে সহায়তা করুন। এটি বিঞ্জ ড্রিংকার নির্ণয়ের জন্য।*	কতবার __|__ জানিনা ৭৭	A9
৭৫	গত ৭ দিনের প্রতিদিনে কতবার এক প্রমান পাত্রের সমান পরিমান মদ্য পান করেছিলেন? [শো-কার্ড – ২০ দেখান] [জানি না হলে ৭৫] *নির্দেশনাঃ* *শো-কার্ডে প্রদর্শিত পরিমানে তথ্য প্রদানকারী বিগত ৭ দিনে কি পরিমান সেবন করেছেন তা নির্ণয় করতে সাহায্য করুন।*	সোমবার __|__|__	A10a
		মঙ্গল বার __|__|__	A10b
		বুধবার __|__|__	A10c
		বৃহস্পতিবার __|__|__	A10d
		শুক্রবার __|__|__	A10e
		শনিবার __|__|__	A10f
		রবিবার __|__|__	A10g

মূল: মদ্যপান

আমি কেবলমাত্র বিগত ৭ দিনে আপনার মদ্য পান সম্পর্কে জিজ্ঞাসা করেছি।পূর্বের প্রশ্নগুলো ছিল সাধারণ মদ্যপান সম্পর্কিত ছিল কিন্তু পরবর্তী প্রশ্নগুলো দেশে তৈরি, অন্য দেশ থেকে আনা বা যে মদগুলো ট্যাক্স বিহীন আমদানি করা হয়েছে সেই সম্পর্কিত।

অনুগ্রহপূর্বক পরবর্তী প্রশ্নগুলোর উত্তর দেয়ার জন্য শুধুমাত্র এই ধরনের মদ জাতীয় পানীয়কে বিবেচনায় আনবেন।

	প্রশ্নাবলী	উত্তর	কোড
৭৬	গত ৭ দিনে, আপনি কি কোন দেশে তৈরি, অন্যদেশ থেকে আনা বা এমন মদ যা পানের জন্য আনা হয়নি বা বিনা ট্যাক্সে আনা হয়েছে তা পান করেছেন? [শো-কার্ড – ২০ দেখান] *নির্দেশনাঃ* *তথ্য প্রদানকারীকে শুধুমাত্র দেশে তৈরি মদ, অন্য দেশ থেকে আনা ট্যাক্স বিহীন মদ অথবা অন্য দেশ থেকে পানের জন্য নয় আনা মদের কথা চিন্তা করতে বলুন।*	হ্যাঁ ১ না ২ 'না' হলে, **H1** এ যান	A11
৭৭	গত ৭ দিনে গড়ে নিম্নের মদগুলোর কোনটি কতবার এক প্রমান পাত্রের সমান পান করেছেন? [শো-কার্ড – ২০ দেখান] জানি না হলে = ৭৭ *নির্দেশনাঃ* *তথ্য প্রদানকারীকে বিগত ৭ দিনের কথা চিন্তা করতে বলুন।শো-কার্ড দেখিয়ে প্রতিটি মদের প্রমান পরিমান গুলো বুঝিয়ে দিন যে যে এলকোহল গুলো পানীয় হিসেবে আনা হয়নি সেগুলো মূলত স্পিরিট নামে পরিচিত। প্রতিটি ক্ষেত্রে উত্তর লিপিবদ্ধ করুন। যদি কোনটি না পান করে থাকেন তা হলে শূন্য নিন।*	দেশে তৈরি বিয়ার অথবা মদ, যেমনঃ বিয়ার, তাল বা ফলের রস দিয়ে তৈরি মদ	A12a
		অন্য দেশ থেকে আনা মদ	A12b
		অন্যদেশ থেকে আনা মদ যা পানের জন্য আনা হয়নি, যেমনঃ এলকোহল মিশ্রিত ঔষধ, সুগন্ধির ও আফটারশেভ এর জন্য	A12c
		চোয়ানী	A12d
		দেশের মধ্যে অন্যান্য শুল্ক বিহীন মদ	A12e
		অন্যান্য নির্দিষ্ট করুন (......)	A12others

	প্রশ্নাবলী	উত্তর		কোড
মূল: উচ্চ রক্তচাপ সংক্রান্ত তথ্য				
৭৬	কখনো কোন ডাক্তার বা স্বাস্থ্যকর্মী আপনার রক্তচাপ মেপেছেন?	হ্যাঁ	১	H1
		না	২ [যদি না হয়, *H6* এ যান]	
	নির্দেশনাঃ তথ্য প্রদানকারীকে শুধুমাত্র ডাক্তার বা স্বাস্থ্যকর্মী দ্বারা উচ্চ রক্তচাপ মাপানো কে আমলে আনতে বলুন।			
৭৭	কখনো কোন ডাক্তার বা স্বাস্থ্যকর্মী কি বলেছেন যে আপনার উচ্চ রক্তচাপ আছে?	হ্যাঁ	১	H2a
		না	২ [যদি না হয়, *H6* এ যান]	
	নির্দেশনাঃ উপযুক্ত উত্তরটি নির্বাচন করুন।			
৭৮	গত ১২ মাসের মধ্যে কি এই কথাটি বলা হয়েছে?	হ্যাঁ	১	H2b
		না	২	
	নির্দেশনাঃ শুধুমাত্র তাদের জন্য যাদের পূর্বে উচ্চ রক্তচাপ নির্ণয় হয়েছিল।			
৭৯	আপনি কি কখনো ডাক্তার বা স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী উচ্চ রক্তচাপের জন্য কোন প্রকার ঔষধ সেবন করেছেন?	হ্যাঁ	১	Hx1
		না	২ [যদি না হয়, *Hx2* এ যান]	
	নির্দেশনাঃ উপযুক্ত উত্তরটি নির্বাচন করুন।			
৮০	আপনি গত দুই সপ্তাহের মধ্যে ডাক্তার বা স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী উচ্চ রক্তচাপের জন্য কোন ঔষধ সেবন করেছেন কি? (সনাতন হারবাল ঔষধ ছাড়া)।	হ্যাঁ	১	
		না	২ [যদি না হয়, *Hx2* এ যান]	H3
	নির্দেশনাঃ শুধু মাত্র ডাক্তার বা অন্য কোন স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী ঔষধ সেবন করতে হবে অন্য কারো নয়, যেমনঃ ঝার ফুক, পানি পড়া, তেল পড়া, গাছ গাছড়া, ইত্যাদি।			
৮১	আপনি সচরাচর আপনার উচ্চ রক্তচাপের জন্য চিকিৎসা ও উপদেশ নিতে কোথায় যান? [উত্তর একাধিক হতে পারে]	সরকারি কমিউনিটি ক্লিনিক	১	Hx2
		সরকারি ইউনিয়ন স্বাস্থ্য ও পরিবার কল্যাণ কেন্দ্র	২	
	নির্দেশনাঃ যাদের উচ্চ রক্তচাপ নির্ণয় হয়েছে তারা সচরাচর কোথা থেকে চিকিৎসা ও উপদেশ গ্রহণ করে তা লিপিবদ্ধ করুন।এখানে একাধিক উত্তর হতে পারে।	সরকারি উপজেলা স্বাস্থ্য কমপ্লেক্স	৩	
		সরকারি জেলা সদর হাসপাতাল	৪	
		সরকারি মেডিকেল কলেজ হাসপাতাল		
		সরকারি বিশেষায়িত হাসপাতাল	৫	
	[H2a= হ্যাঁ হলে এই প্রশ্ন প্রযোজ্য]	এন জি ও ক্লিনিক	৬	
		এন জি ও হাসপাতাল	৭	
		বেসরকারি হাসপাতাল	৮	
		ডাক্তারের প্রাইভেট চেম্বার/ক্লিনিক	৯	
		ঔষধের দোকান	১০	
		পল্লী চিকিৎসক	১১	
		অল্টারনেটিভ মেডিসিন প্রেক্টিশনার (হোমিও, আয়ুর্বেদী, ইউনানী)	১২	
		সনাতন চিকিৎসা		
		অন্যান্য নির্দিষ্ট করুন	১৩	
		জানি না	১৪	
			Hx2other	
			৭৭	
৮২	আপনি আপনার উচ্চ রক্তচাপের ঔষধ সচরাচর কোথা থেকে সংগ্রহ করেন? [উত্তর একাধিক হতে পারে]	সরকারি উপজেলা স্বাস্থ্য কমপ্লেক্স	১	Hx3
		সরকারি জেলা সদর হাসপাতাল	২	
		সরকারি মেডিকেল কলেজ হাসপাতাল		
	নির্দেশনাঃ যাদের উচ্চ রক্তচাপ নির্ণয় হয়েছে তারা সচরাচর কোথা থেকে উচ্চ রক্তচাপের ঔষধ সংগ্রহ করে তা লিপিবদ্ধ করুন।এখানে একাধিক উত্তর হতে পারে।	সরকারি বিশেষায়িত হাসপাতাল	৩	
		এন জি ও হাসপাতাল	৪	
		এন জি ও ক্লিনিক	৫	
	[Hx1= হ্যাঁ হলে এই প্রশ্ন প্রযোজ্য]	বেসরকারি হাসপাতাল	৬	
		ডাক্তারের প্রাইভেট চেম্বার/ক্লিনিক	৭	
		ঔষধের দোকান	৮	
		পল্লী চিকিৎসক	৯	
		অল্টারনেটিভ মেডিসিন প্রেক্টিশনার (হোমিও, আয়ুর্বেদী, ইউনানী)	১০	
			১১	

		সনাতন চিকিৎসা		
		অন্যান্য (নিদিষ্ট করুন) ১২		
		জানি না ১৩		
		Hx3other ৭৭		
৮৩	বর্তমানে ঔষধ না খাওয়ার অন্যতম কারন কি? [গত ১২ মসে/ অতীতে কখনো (চিকিৎসা নিয়ে থাকলে) যারা ঔষধ খেয়েছে কিন্তু বর্তমানে খাচ্ছে না তাদের ক্ষেত্রে প্রযোজ্য] [উত্তর রকধিক হতে পারে] *নির্দেশনাঃ* *যদি তথ্য প্রদানকারী উচ্চ রক্তচাপ নির্ণয় হওয়ার পরেও কোন ঔষধ সেবন না করেন বা বন্ধ করে দেন তার সম্ভাব্য কারন গুলো লিগিবদ্ধ করুন।* *[যদি H2a=হ্যাঁ হয় এবং (Hx1 = না অথবা H3= না]*	ঔষধ খাওয়া জরুরী মনে করি না ১ ব্যায় বহুল ২ পার্শ্ব প্রতিক্রিয়া হয় বা হওয়ার ভয় ৩ বর্তমানে রক্তচাপ স্বাভাবিক ৪ ঔষধ পাওয়া যায় না ৫ ঔষধ খেতে বলা হয়নি ৬ অন্যান্য নিদিষ্ট করুন Hx4other		Hx4
৮৪	আপনি কি উচ্চ রক্তচাপের জন্য কখনো সনাতন চিকিৎসকের (ঝার ফুক, পানি পরা) পরামর্শ নিয়েছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ ১ না ২ *[যদি না হয়, H6 এ যান]*		H4
৮৫	আপনি কি বর্তমানে উচ্চ রক্তচাপের জন্য অন্য কোন সনাতন চিকিৎসা (ঝার ফুক, পানি পরা) নিচ্ছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ ১ না ২		H5

মূল: ডায়াবেটিস সংক্রান্ত তথ্য

	প্রশ্নাবলী	উত্তর		কোড
৮৯	কখনো কোন ডাক্তার বা স্বাস্থ্যকর্মী আপনার রক্তের সুগার/ডায়াবেটিস মেপেছেন? *নির্দেশনাঃ* *তথ্য প্রদানকারীকে শুধুমাত্র ডাক্তার বা স্বাস্থ্যকর্মী দ্বারা রক্তের সুগার/চিনি মাপানো কে আমলে আনতে বলুন।*	হ্যাঁ না	১ ২ [যদি না হয়, *H12* এ যান]	H6
৯০	কখনো কোন ডাক্তার বা স্বাস্থ্যকর্মী কি বলেছেন যে আপনার ডায়াবেটিস আছে? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না	১ ২ [যদি না হয়, *H12* এ যান]	H7a
৯১	গত ১২ মাসের মধ্যে কি এই কথাটি বলা হয়েছে? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না	১ ২	H7b
৯২	আপনি কি কখনো ডাক্তার বা স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী ডায়াবেটিস এর জন্য কোন ঔষধ সেবন করেছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না	১ ২ [যদি না হয়, *Hx6* এ যান]	Hx5
৯৩	আপনি গত দুই সপ্তাহের মধ্যে ডাক্তার বা স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী ডায়াবেটিস এর জন্য কোন ঔষধ সেবন করেছেন কি? *নির্দেশনাঃ* *শুধু মাত্র ডাক্তার বা অন্য কোন স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী ঔষধ সেবন করতে হবে অন্য কারো নয়।*	হ্যাঁ না	১ ২ [যদি না হয়, *Hx6* এ যান]	H8
৯৪	আপনি কি বর্তমানে ডাক্তার বা স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী ডায়াবেটিসের জন্য কোন ইনসুলিন নিচ্ছেন? *নির্দেশনাঃ* *শুধু মাত্র ডাক্তার বা অন্য কোন স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী ঔষধ সেবন করতে হবে অন্য কারো নয়।*	হ্যাঁ না	১ ২	H9
৯৫	আপনি সচরাচর ডায়াবেটিস এর জন্য চিকিৎসা ও উপদেশ নিতে কোথায় যান? [উত্তর একাধিক হতে পারে] *নির্দেশনাঃ* *যাদের উচ্চ রক্তচাপ নির্ণয় হয়েছে তারা সচরাচর কোথা থেকে চিকিৎসা ও উপদেশ গ্রহণ করে তা লিপিবদ্ধ করুন। এখানে একাধিক উত্তর হতে পারে।* **[H7a = হ্যাঁ হলে এই প্রশ্ন প্রযোজ্য]**	সরকারি কমিউনিটি ক্লিনিক সরকারি ইউনিয়ন স্বাস্থ্য ও পরিবার কল্যাণ কেন্দ্র সরকারি উপজেলা স্বাস্থ্য কমপ্লেক্স সরকারি জেলা সদর হাসপাতাল সরকারি মেডিকেল কলেজ হাসপাতাল সরকারি বিশেষায়িত হাসপাতাল এন জি ও ক্লিনিক এন জি ও হাসপাতাল বেসরকারি হাসপাতাল ডাক্তারের প্রাইভেট চেম্বার/ক্লিনিক ঔষধের দোকান পল্লী চিকিৎসক অল্টারনেটিভ মেডিসিন প্রেক্টিশনার (হোমিও, আয়ুর্বেদী, ইউনানী) সনাতন চিকিৎসা অন্যান্য নির্দিষ্ট করুন জানি না	১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০ ১১ ১২ ১৩ ১৪ Hx2other ৭৭	Hx6
৯৬	আপনি আপনার ডায়াবেটিস এর ঔষধ সচরাচর কোথা থেকে সংগ্রহ করেন? [উত্তর একাধিক হতে পারে] *নির্দেশনাঃ*	সরকারি উপজেলা স্বাস্থ্য কমপ্লেক্স সরকারি জেলা সদর হাসপাতাল সরকারি মেডিকেল কলেজ হাসপাতাল সরকারি বিশেষায়িত হাসপাতাল এন জি ও হাসপাতাল এন জি ও ক্লিনিক বেসরকারি হাসপাতাল	১ ২ ৩ ৪ ৫ ৬	Hx7

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		ডাক্তারের প্রাইভেট চেম্বার/ক্লিনিক ৭	
	যাদের ডায়াবেটিস নির্ণয় হয়েছে তারা সচরাচর কোথা থেকে ডায়াবেটিস এর ঔষধ সংগ্রহ করে তা লিপিবদ্ধ করুন। এখানে একাধিক উত্তর হতে পারে। **[Hx5 = হ্যাঁ হলে এই প্রশ্ন প্রযোজ্য]**	ঔষধের দোকান ৮ পল্লী চিকিৎসক ৯ অল্টারনেটিভ মেডিসিন প্রেক্টিশনার ১০ (হোমিও, আয়ুর্বেদী, ইউনানী) ১১ সনাতন চিকিৎসা ১২ অন্যান্য (নির্দিষ্ট করুন) ১৩ জানি না Hx3other ৯৭	
৯৭	বর্তমানে ডায়াবেটিস ঔষধ না খাওয়ার অন্যতম কারন কি? [গত ১২ মাসে/ অতীতে কখনো (চিকিৎসা নিয়ে থাকলে) যারা ঔষধ খেয়েছে কিন্তু বর্তমানে খাচ্ছে না তাদের ক্ষেত্রে প্রযোজ্য] [উত্তর একাধিক হতে পারে] **[যদি H7a= হ্যাঁ এবং (Hx5 = না or H8= না or H9= না হলে এই প্রশ্ন আসবে]** *নির্দেশনাঃ* *যদি তথ্য প্রদানকারী ডায়াবেটিস নির্ণয় হওয়ার পরেও কোন ঔষধ সেবন না করেন বা বন্ধ করে দেন তার সম্ভাব্য কারন গুলো লিপিবদ্ধ করুন।*	ঔষধ খাওয়া জরুরী মনে করি না ১ ব্যয় বহুল ২ পার্শ্ব প্রতিক্রিয়া হয় বা হওয়ার ভয় ৩ বর্তমানে রক্তচাপ স্বাভাবিক ৪ ঔষধ পাওয়া যায় না ৫ ঔষধ খেতে বলা হয়নি ৬ অন্যান্য নির্দিষ্ট করুন Hx4other	Hx8
৯৮	আপনি কি ডায়াবেটিস এর জন্য কখনো সনাতন চিকিৎসকের পরামর্শ নিয়েছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ ১ না ২	H10
৯৯	আপনি কি বর্তমানে ডায়াবেটিস এর জন্য সনাতন চিকিৎসা নিচ্ছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ ১ না ২	H11

					কোড
	মূল: রক্তের চর্বির পরিমান বৃদ্ধি সম্পর্কিত				
	প্রশ্নাবলী		**উত্তর**		**কোড**
১০০	কখনো কোন ডাক্তার বা স্বাস্থ্যকর্মী আপনার রক্তের চর্বি মেপেছেন? *নির্দেশনাঃ* *তথ্য প্রদানকারীকে শুধুমাত্র ডাক্তার বা স্বাস্থ্যকর্মী দ্বারা রক্তের চর্বি মাপানোকে আমলে আনতে বলুন।*	হ্যাঁ না	১ ২ (যদি না হয়, **H17** এ যান)			H12
১০১	কখনো কোন ডাক্তার বা স্বাস্থ্যকর্মী কি বলেছেন যে আপনার রক্তের চর্বির পরিমান বেড়ে গিয়েছে? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না	১ ২ [যদি না হয়, **H17** এ যান]			H13a
১০২	গত ১২ মাসের মধ্যে এই কথাটি কি বলা হয়েছে? *নির্দেশনাঃ* *শুধুমাত্র তাদের জন্য যাদের পূর্বে রক্তে অধিক চর্বির আছে নির্ণয় হয়েছিল।*	হ্যাঁ না	১ ২			H13b
১০৩	আপনি কি রক্তের বর্ধিত চর্বির/ চর্বি বেড়ে যাওয়ার জন্য এর জন্য কখনো ডাক্তার বা স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী কোন ঔষধ সেবন করেছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না	১ ২ [যদি না হয়, **Hx10** এ যান]			Hx9
১০৪	আপনি গত দুই সপ্তাহের মধ্যে ডাক্তার বা অন্য কোন স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী রক্তের বর্ধিত চর্বির/ চর্বি বেড়ে যাওয়ার জন্য কোন ঔষধ সেবন করেছেন কি? *নির্দেশনাঃ* *শুধু মাত্র ডাক্তার বা অন্য কোন স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী ঔষধ সেবন করতে হবে জন্য কারো নয়।*	হ্যাঁ না	১ ২ [যদি না হয়, **Hx10** এ যান]			H14
১০৫	আপনি সচরাচর রক্তের বর্ধিত চর্বির/ চর্বি বেড়ে যাওয়ার জন্য চিকিৎসা ও উপদেশ নিতে কোথায় যান? [উত্তর একাধিক হতে পারে] *নির্দেশনাঃ* *যাদের রক্তে অধিক চর্বি আছে নির্ণয় হয়েছে তারা সচরাচর কোথা থেকে চিকিৎসা ও উপদেশ গ্রহণ করে তা লিপিবদ্ধ করুন।এখানে একাধিক উত্তর হতে পারে।* **[যদি H13a=হ্যাঁ হয় তবে।]**	সরকারি কমিউনিটি ক্লিনিক সরকারি ইউনিয়ন স্বাস্থ্য ও পরিবার কল্যাণ কেন্দ্র সরকারি উপজেলা স্বাস্থ্য কমপ্লেক্স সরকারি জেলা সদর হাসপাতাল সরকারি মেডিকেল কলেজ হাসপাতাল সরকারি বিশেষায়িত হাসপাতাল এন জি ও ক্লিনিক এন জি ও হাসপাতাল বেসরকারি হাসপাতাল ডাক্তারের প্রাইভেট চেম্বার/ক্লিনিক ঔষধের দোকান পল্লী চিকিৎসক অল্টারনেটিভ মেডিসিন প্রেক্টিশনার (হোমিও, আয়ুর্বেদী, ইউনানী) সনাতন চিকিৎসা অন্যান্য নির্দিষ্ট করুন জানি না	১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০ ১১ ১২ ১৩ ১৪ Hx2other ৭৭		Hx10
১০৬	আপনি আপনার রক্তের বর্ধিত চর্বির/ চর্বি বেড়ে যাওয়ার জন্য ঔষধ সচরাচর কোথা থেকে সংগ্রহ করেন? [উত্তর একাধিক হতে পারে] *নির্দেশনাঃ* *যাদের রক্তে অধিক চর্বি আছে তারা সচরাচর কোথা থেকে রক্তে অধিক চর্বির ঔষধ সংগ্রহ করে তা লিপিবদ্ধ করুন।এখানে একাধিক উত্তর হতে পারে।*	সরকারি উপজেলা স্বাস্থ্য কমপ্লেক্স সরকারি জেলা সদর হাসপাতাল সরকারি মেডিকেল কলেজ হাসপাতাল সরকারি বিশেষায়িত হাসপাতাল এন জি ও হাসপাতাল এন জি ও ক্লিনিক বেসরকারি হাসপাতাল ডাক্তারের প্রাইভেট চেম্বার/ক্লিনিক	১ ২ ৩ ৪ ৫ ৬ ৭		Hx11

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	[যদি Hx9 = হ্যাঁ হয় তবে ।]	ঔষধের দোকান ৮ গলী চিকিৎসক ৯ অল্টারনেটিভ মেডিসিন প্রেক্টিশনার ১০ (হোমিও, আয়ুর্বেদী, ইউনানী) ১১ সনাতন চিকিৎসা অন্যান্য (নির্দিষ্ট করুন) ১২ জানি না ১৩ Hx3other ৭৭	
১০৭	বর্তমানে ঔষধ না খাওয়ার অন্যতম কারন কি? [গত ১২ মাসে যারা ঔষধ খেয়েছে কিন্তু বর্তমানে খাচ্ছে না তাদের ক্ষেত্রে প্রযোজ্য] [উত্তর একাধিক হতে পারে] *নির্দেশনাঃ* *যদি তথ্য প্রদানকারী রক্তে অধিক চর্বি নির্ণয় হওয়ার পরেও কোন ঔষধ সেবন না করেন বা বন্ধ করে দেন তার সম্ভাব্য কারন গুলো লিপিবদ্ধ করুন।* [যদি H13a=হ্যাঁ এবং (Hx9=না অথবা H14=না হয় তবে এই প্রশ্ন আসবে]	ঔষধ খাওয়া জরুরী মনে করি না ১ ব্যয় বহুল ২ পার্শ্ব প্রতিক্রিয়া হয় বা হওয়ার ভয় ৩ বর্তমানে রক্তচাপ স্বাভাবিক ৪ ঔষধ পাওয়া যায় না ৫ ঔষধ খেতে বলা হয়নি ৬ অন্যান্য নির্দিষ্ট করুন Hx4other	Hx12
১০৮	আপনি কি রক্তের বর্ধিত চর্বির/ চর্বি বেড়ে যাওয়ার জন্য জন্য কখনো সনাতন চিকিৎসকের পরামর্শ নিয়েছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ ১ না ২ [যদি না হয়, *H17* এ যান]	H15
১০৯	আপনি কি বর্তমানে রক্তের বর্ধিত চর্বির/ চর্বি বেড়ে যাওয়ার জন্য সনাতন চিকিৎসা নিচ্ছেন? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ ১ না ২	H16

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মূল: হৃদ রোগ সম্পর্কিত				
	প্রশ্নাবলী		**উত্তর**	**কোড**
১১০	আপনার কি কখনো হৃদরোগ জনিত কারনে হার্ট এটাক বা বুকে ব্যাথা অথবা স্ট্রোক (মস্তিষ্কের রক্তনালীর সমস্যা) হয়েছিল? *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না	১ ২	H17
১১১	হৃদরোগ প্রতিরোধ বা চিকিৎসা হিসেবে আপনি কি বর্তমানে এসপিরিন জাতীয় ঔষধ নিয়মিত সেবন করছেন? *নির্দেশনাঃ* *নিয়মিত অর্থ প্রায় প্রতিদিন।*	হ্যাঁ না	১ ২	H18
১১২	হৃদরোগ প্রতিরোধ বা চিকিৎসা হিসেবে আপনি কি বর্তমানে স্ট্যাটিন জাতীয় ঔষধ নিয়মিত ব্যবহার করছেন? (যেমনঃ লোভা স্ট্যাটিন, সিমভাস্ট্যাটিন, এটরভাস্ট্যাটিন)। *নির্দেশনাঃ* *নিয়মিত অর্থ প্রায় প্রতিদিন।ঔষধের নাম ঔষধের পাতা দেখে লিপিবদ্ধ করুন।*	হ্যাঁ না	১ ২	H19

মূল: জীবনাচরন সম্পর্কিত উপদেশ			
	প্রশ্নাবলী	উত্তর	কোড
১১৩	গত ১২ মাসে আপনি কি কোন ডাক্তার বা অন্য কোন স্বাস্থ্য কর্মীর কাছে গিয়েছিলেন?	হ্যাঁ ১ না ২ **যদি না ও C1=1, তবে O6 এ** যান **যান**	H20
১১৪	গত ১২ মাসে ডাক্তার বা স্বাস্থ্য কর্মীর নিকট সাক্ষাতের সময়, তারা কি আপনাকে নিম্নের উপদেশগুলো দিয়েছিল? [সবগুলোর ক্ষেত্রে উত্তর লিপিবদ্ধ করুন] *নির্দেশনাঃ* *উপযুক্ত উত্তরটি নির্বাচন করুন। তথ্য প্রদানকারীকে শুধু মাত্র ডাক্তার বা স্বাস্থ্য কর্মীর নিকট যাওয়া কে আমলে আনতে বলবেন। অন্য কিছু নয়।*		
১১৫	ধূমপান বন্ধ করতে বা এটা শুরু না করতে	হ্যাঁ ১ না ২	H20a
১১৬	খাবারে লবণ কম খাওয়া	হ্যাঁ ১ না ২	H20b
১১৭	প্রতিদিন ৫ প্রমান পরিমান ফল-মূল এবং/ অথবা শাক সজ্জি খাওয়া *নির্দেশনাঃ শো-কার্ডের নির্দেশিত প্রমান গ্লাসের মাপ অনুযায়ী সার্ভিংস হিসাব করতে হবে।*	হ্যাঁ ১ না ২	H20c
১১৮	আপনার খাবারে চর্বির পরিমান কমানো	হ্যাঁ ১ না ২	H20d
১১৯	শারীরিক পরিশ্রম করতে শুরু করা অথবা আরো অধিক করা	হ্যাঁ ১ না ২	H20e
১২০	ওজন কমানো এবং নিয়ন্ত্রণে রাখা	হ্যাঁ ১ না ২	H20f
১২১	চিনিযুক্ত পানীয় (যেমনঃ চা, কফি, সরবত ও অন্যান্য কোমল পানীয়) কম খাওয়া	হ্যাঁ ১ যদি C1=1, O6 এ যান না ২ যদি C1=1, O6 এ যান	H20g

জরায়ুর ক্যান্সার স্ক্রিনিং মূল এবং বর্ধিতঃ (যদি c1=মহিলা হয়)

পরবর্তী প্রশ্নগুলো জরায়ুর ক্যান্সার প্রতিরোধ সংক্রান্ত।জরায়ুর ক্যান্সার বিভিন্ন উপায়ে স্ক্রিনিং টেস্ট করা যায়, যেমন ভায়া টেস্ট (ভিজ্যুয়াল ইন্সপেকশন উইথ এসিটিক এসিড/ ভিনেগার), পেপ স্মেয়ার এবং হিউমেন পেপিলোমা ভাইরাস (এইচপিভি) টেস্ট।ভায়া টেস্টে জরায়ুর মুখে এসিটিক এসিড (বা ভিনেগার) দিয়ে চোখে দেখে পরীক্ষা করা হয়।পেপ স্মেয়ার এবং এইচপিভি টেস্ট উভয় ক্ষেত্রে একজন চিকিৎসক বা নার্স একটি সোয়াব স্টিক দিয়ে আপনার যোনী পথের ভিতর থেকে নমুনা সংগ্রহ করে পরীক্ষার জন্য ল্যাবরেটরিতে পাঠানো হয়।কোন কোন ক্ষেত্রে এই নমুনা সংগ্রহের কাজটি আপনার নিজেরও করা লাগতে পারে। পরীক্ষাগারে পেপ স্মেয়ার পরীক্ষার জন্য অস্বাভাবিক কোষের উপস্থিতি দেখা হয় এবং এইচপিভি টেস্টে এইচপিভি ভাইরাস এর উপস্থিতি দেখা হয়।

নির্দেশনাঃ
এই অংশ টুকু শুধুমাত্র মহিলাদের জন্য প্রযোজ্য।এটি মহিলা তথ্য প্রদানকারীকে পড়ে শুনাতে হবে।কোন অবস্থাতেই এই অংশ বাদ দেয়া যাবে না।

	প্রশ্নাবলী		উত্তর		কোড
১২২	আপনি কি কখনো আপনার জরায়ুর ক্যান্সারের উপস্থিতি পরীক্ষার জন্য উপরে বর্ণিত কোন স্ক্রিনিং টেস্ট করেছেন? *নির্দেশনাঃ উপযুক্ত উত্তর নির্বাচন করুন।*	হ্যাঁ না জানি না	১ ২ [যদি CX1=2 go to CX11] ৭৭		CX1
	পরবর্তি প্রশ্নগুলো (CX2-CX10) শুধুমাত্র যারা জীবনে কখনো জরায়ুর ক্যান্সার পরীক্ষার জন্য স্ক্রিনিং টেস্ট করেছেন তাদের ক্ষেত্রে প্রযোজ্য (CX1=1)। যদি CX1=2 হয় তাহলে CX11 প্রশ্নে যান।				
১২৩	প্রথমবার কতবছর বয়সে আপনি এই স্ক্রিনিং টেস্ট করিয়েছিলেন? *নির্দেশনাঃ তথ্য প্রদানকারী কত বছর বয়সে স্ক্রিনিং টেস্ট করেছেন তা মনে করতে সময় দিন।*	বয়স জানি না অসম্মতি	.... ৭৭ ৮৮		CX2
১২৪	আপনি জরায়ুর ক্যান্সারের স্ক্রিনিং টেস্ট সর্বশেষ কবে করিয়েছিলেন? *নির্দেশনাঃ উপযুক্ত উত্তরটি নির্বাচন করুন।*	এক বছরের কম ১—২ বছর আগে ৩—৫ বছর আগে ৫ বছর বা তার বেশি আগে জানি না অসম্মতি	১ ২ ৩ ৪ ৭৭ ৮৮		CX3
১২৫	শেষ বার জরায়ুর ক্যান্সারের স্ক্রিনিং করানোর মূল কারন কি ছিল? *নির্দেশনাঃ উপযুক্ত উত্তরটি নির্বাচন করুন।*	নিয়মিত চেকআপের অংশ পরীক্ষায় প্রাপ্ত আসামঞ্জস্যপূর্ণ ফলাফলের পরবর্তী ধাপ হিসেবে স্বাস্থ্য সেবাদান কারীর পরামর্শে অন্য কারো পরামর্শে ব্যাথা অথবা অন্যান্য লক্ষণ দেখা দেয়ায় অন্যান্য অন্যান্য নির্দিষ্ট করুন জানি না অসম্মতি	১ ২ ৩ ৪ ৫ ৬ CX4other ৭৭ ৮৮		CX4
১২৬	শেষবার আপনি কোথায় জরায়ুর ক্যান্সারের পরীক্ষা করিয়েছিলেন? *নির্দেশনাঃ উপযুক্ত উত্তরটি নির্বাচন করুন।*	ডাক্তারের চেম্বার বেসরকারী হাসপাতাল হেলথ ক্যাম্প কমিউনিটি ক্লিনিক সরকারী হাসপাতাল অন্যান্য অন্যান্য নির্দিষ্ট করুন জানি না অসম্মতি	১ ২ ৩ ৪ ৫ ৬ CX5other ৭৭ ৮৮		CX5
১২৭	শেষবার (অতি সম্প্রতি) জরায়ুর ক্যান্সারের পরীক্ষার ফলাফল কি ছিল? (অনুগ্রহ করে মেডিকেল রিপোর্ট যাচাই করুন)	কোন ফলাফল পাইনি স্বাভাবিক/নেগেটিভ	১ [যদি CX6=1, হয় পরবর্তি অংশে যান]		CX6

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	নির্দেশনাঃ মেডিকেল রিপোর্ট বা ব্যবস্থা পত্র যদি থাকে তাহলে যাচাই করে নিন।	আস্বাভাবিক/ পজেটিভ ক্যান্সার সন্দেহ অমিমাংসিত জানি না অসম্মতি	২ *[যদি CX 6=2, হয় পরবর্তি অংশে যান]* ৩ ৪ ৫ ৭৭ ৮৮	

বর্ধিত ও মূলঃ জরায়ুর ক্যান্সার

	প্রশ্নাবলী	উত্তর		কোড
১২৮	পরীক্ষার ফলাফলের উপর ভিত্তি করে কোন ফলো-আপ ভিজিট করিয়েছেন কি? **নির্দেশনাঃ** *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না জানি না অসম্মতি	১ ২ ৭৭ ৮৮	CX7
১২৯	আপনি কি পরীক্ষার ফলাফলের উপর ভিত্তি করে, জরায়ুর ক্যান্সারের জন্য কোন চিকিৎসা নিয়েছিলেন? **নির্দেশনাঃ** *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না জানি না অসম্মতি	১ ২ *[যদি না হয়, তবে CX 10 এ যান]* ৭৭ ৮৮	CX8
১৩০	জরায়ুর ক্যান্সারের শেষ বারের পরীক্ষার ভিত্তিতে আপনি ঐ সময়ে কোন চিকিৎসা নিয়েছিলেন কি? **নির্দেশনাঃ** *উপযুক্ত উত্তরটি নির্বাচন করুন।*	হ্যাঁ না জানি না অসম্মতি	১ ২ ৭৭ ৮৮	CX9
১৩১	আপনার চিকিৎসা না নেয়ার মূল কারন কি? **নির্দেশনাঃ** *উপযুক্ত উত্তরটি নির্বাচন করুন। 'পরিবারের সদস্য অনুমতি দেয় নি' হলে ঐ সদস্যের সাথে সম্পর্ক উল্লেখ করুন।*	আমার চিকিৎসা দরকার তা কখনো বলা হয় নি জানি না কোথায়/ কিভাবে চিকিৎসা পাওয়া যায় লজ্জা বোধ করা অনেক খরচ সময় ছিল না চিকিৎসা কেন্দ্র অনেক দূরে সেবার মান খারাপ চিকিৎসা পদ্ধতি ভয় পাই সামাজিক কুসংস্কার সামাজিক বিশ্বাস পরিবারের সদস্যরা অনুমতি দেয় নি জানি না অসম্মতি	১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০ ১১ ৭৭ ৮৮	CX10
১৩২	আপনার কখনোই জরায়ুর ক্যান্সারের কোন পরীক্ষা না করার কারন কি? **নির্দেশনাঃ** *উপযুক্ত উত্তরটি নির্বাচন করুন। 'পরিবারের সদস্য অনুমতি দেয় নি' হলে ঐ সদস্যের সাথে সম্পর্ক উল্লেখ করুন।*	জানতাম না কোথায়/ কিভাবে পরীক্ষা করাতে হয় লজ্জা বোধ করা অনেক খরচ সময় পাই নি চিকিৎসা কেন্দ্র অনেক দূরে সেবার মান খুব খারাপ চিকিৎসা পদ্ধতি ভয় পাই সামাজিক কুসংস্কার সামাজিক বিশ্বাস পরিবারের সদস্যরা অনুমতি দেয় নি জানি না অসম্মতি	১ ২ ৩ ৪ ৫ ৬ ৭ ৮ ৯ ১০ ৭৭ ৮৮	CX11

পরবর্তী প্রশ্নগুলো আপনার মুখগহ্বরের স্বাস্থ্য ও প্রাসঙ্গিক আচরণ নিয়ে করা হবে।

	প্রশ্নাবলী	উত্তর	কোড
১৩৩	গত ১২ মাসে আপনার দাঁত, মাড়ি বা মুখে কোন ব্যাথা, ফোলা, রক্ত ক্ষরণ বা অস্বাভাবিকতা দেখা দিয়েছে কি? **নির্দেশনাঃ** *উপযুক্ত উত্তর নির্বাচন করুন।*	হ্যাঁ ১ না ২	06
১৩৪	কত সময় আগে সর্বশেষ আপনি দাঁতের ডাক্তার দেখিয়েছিলেন? **নির্দেশনাঃ** *দাঁতের ডাক্তার অর্থঃ শুধুমাত্র রেজিস্টার্ড দন্ত চিকিৎসক (বি ডি এস ডিগ্রী ধারী)। উপযুক্ত উত্তর নির্বাচন করুন।*	৬ মাসেরও কম ১ ৬—১২ মাসের মধ্যে ২ ১ বছরের বেশি কিন্তু ২ বছরের কম ২ বা তার বেশি কিন্তু ৫ বছরের কম ৩ ৫ বা তার বেশি বছর কখনোই দাঁতের সেবা নেই নি ৪ ৫ ৬ *যদি কখনোই যাই নাই হয় তাহলে O9 এ যান।*	07
১৩৫	শেষবার দাঁতের ডাক্তার দেখানোর মূল কারন কি ছিল? **নির্দেশনাঃ** *উপযুক্ত উত্তর নির্বাচন করুন।*	পরামর্শ/ উপদেশ ১ দাঁত, মাড়ি অথবা মুখ গহ্বরের ব্যাথা বা সমস্যা ২ দাঁতের চিকিৎসা/ ফলো-আপ ৩ নিয়মিত চেক-আপ/ চিকিৎসা ৪ অন্যান্য ৫	08
		অন্যান্য (নির্দিষ্ট করুন) ⬜⬜⬜⬜⬜	08other
১৩৬	আপনি কি হারে দাঁত পরিস্কার করেন? **নির্দেশনাঃ** *উপযুক্ত উত্তর নির্বাচন করুন।*	কখনোই না ১ [কখনোই না হলে O14a এ যান] মাসে এক বার ২ মাসে ২—৩ বার ৩ সপ্তাহে এক বার ৪ সপ্তাহে ২ থেকে ৬ বার দিনে ১ বার ৫ দিনে ২ বা ততোধিক বার ৬ ৭	09
১৩৭	আপনি কি দাঁত পরিস্কার করার জন্য টুথপেষ্ট ব্যবহার করেন? **নির্দেশনাঃ** *টুথপেষ্ট ছাড়া অন্য কোন ছাই, মাজনি বা গাউডার প্রযোজ্য নয়।*	হ্যাঁ ১ না ২ *যদি না হয় তাহলে O12a এ যান*	O10
১৩৮	আপনি কি ফ্লোরাইড যুক্ত টুথপেষ্ট ব্যবহার করেন? **নির্দেশনাঃ** *তথ্য প্রদানকারী যদি না জানেন যে তার ব্যবহৃত টুথপেষ্টে ফ্লোরাইড আছে কি না, তাহলে জানি না নির্বাচন করুন।*	হ্যাঁ ১ না ২ জানি না ৭৭	O11
আপনি দাঁত পরিস্কার করার জন্য নিচের উপাদান গুলো ব্যবহার করেন কি? [প্রত্যেকটির জন্য তথ্য উল্লেখ করুন] **নির্দেশনাঃ** *প্রতিটির ক্ষেত্রে পূরণ করুন ও উপযুক্ত উত্তর নির্বাচন করুন।*			
১৩৯	টুথব্রাশ	হ্যাঁ ১ না ২	O12a
১৪০	কাঠের টুথ পিক	হ্যাঁ ১	O12b

			না ২	
১৪১	প্লাস্টিকের টুথপিক		হ্যাঁ ১ না ২	O12c
১৪২	সূতা (ডেন্টাল ফ্লস)		হ্যাঁ ১ না ২	O12d
১৪৩	কয়লা		হ্যাঁ ১ না ২	O12e
১৪৪	মেসওয়াক		হ্যাঁ ১ না ২	O12f
১৪৫	অন্যান্য		হ্যাঁ ১ *[হ্যাঁ হলে O12otherএ যান]* ২ না	O12g
১৪৬	অন্যান্য (নির্দিষ্ট করুন)			O12other

আপনি গত ১২ মাসে আপনার দাঁত, মাড়ি বা মুখ গহ্বরের অবস্থার জন্য নিচের সমস্যাগুলোতে ভুগেছেন কি ?
[প্রত্যেকটির জন্য তথ্য উল্লেখ করুন]

নির্দেশনাঃ
প্রতিটির ক্ষেত্রে পূরণ করুন ও উপযুক্ত উত্তর নির্বাচন করুন।

১৪৭	খাবার চিবাতে কষ্ট	হ্যাঁ ১ না ২	O13a
১৪৮	কথা বলতে/ শব্দ উচ্চারণ করতে কষ্ট	হ্যাঁ ১ না ২	O13b
১৪৯	মুখগহ্বরে তিন সপ্তাহের বেশি স্থায়ী ক্ষত এবং/অথবা ফোলা	হ্যাঁ ১ না ২	O13d
১৫০	মুখগহ্বরে লাল অথবা সাদা-লাল মিশ্রিত ক্ষত	হ্যাঁ ১ না ২	O13e
১৫১	মুখগহ্বরে ও দাঁতের অবস্থার জন্য কাজ বন্ধ রাখা	হ্যাঁ ১ না ২	O13j
১৫২	সামাজিক কাজ কর্মে কম অংশগ্রহণ করা	হ্যাঁ ১ না ২	O13m
১৫৩	আপনি কি এই সমস্যার জন্য কোন চিকিৎসা বা পরামর্শ নিয়েছেন?	হ্যাঁ ১ না ২ [না হলে Ox2 তা যান]	O14
১৫৪	চিকিৎসার বা পরামর্শের জন্য আপনি কোথায় গিয়েছেন?	সরকারি কমিউনিটি ক্লিনিক ১ সরকারি ইউনিয়ন স্বাস্থ্য ও পরিবার কল্যাণ কেন্দ্র ২ সরকারি উপজেলা স্বাস্থ্য কমপ্লেক্স ৩ সরকারি জেলা সদর হাসপাতাল ৪ সরকারি মেডিকেল কলেজ হাসপাতাল সরকারি বিশেষায়িত হাসপাতাল ৫ এন জি ও ক্লিনিক ৬ এন জি ও হাসপাতাল ৭ বেসরকারি হাসপাতাল ৮ ডাক্তারের প্রাইভেট চেম্বার/ক্লিনিক ৯ ঔষধের দোকান ১০ গল্লী চিকিৎসক ১১ অল্টারনেটিভ মেডিসিন প্র্যাক্টিশনার ১২ (হোমিও, আয়ুর্বেদী, ইউনানী) সনাতন চিকিৎসা ১৩ অন্যান্য নির্দিষ্ট করুন ১৪ জানি না Hx2other ৭৭	Ox1/ Ox1Other

১৫৫	আপনার চিকিৎসা না নেয়ার কারন কি?	চিকিৎসা নেয়ার ব্যাপারে এত বেশি আন্তরিক ছিলাম না	১	Ox2/ Ox2 others
		জানতাম না কোথায়/ কিভাবে পরীক্ষা করাতে হয়	২	
		অনেক খরচ	৩	
		সময় পাই নি	৪	
		চিকিৎসা কেন্দ্র অনেক দূরে	৫	
		সেবার মান খুব খারাপ	৬	
		চিকিৎসা পদ্ধতি ভয় পাই	৭	
		পরিবারের সদস্যরা অনুমতি দেয় নি	৮	
		অন্যান্য (নির্দিষ্ট করুন) Ox2 others		
		জানি না	৭৭	
		অসম্মতি	৮৮	

STEP 2 শারীরিক পরিমাপের তথ্যসমূহ (Physical Measurement)

মূল: রক্তচাপ

১৫৭	রিডিং ১	সিস্টোলিক (মি.মি.অব মার্কারী)				M4a
		ডায়াস্টোলিক (মি.মি.অব মার্কারী)				M4b
		হৃদ স্পন্দন (স্পন্দন/ মিনিট)				M6a
১৫৮	রিডিং ২	সিস্টোলিক (মি.মি.অব মার্কারী)				M5a
		ডায়াস্টোলিক (মি.মি.অব মার্কারী)				M5b
		হৃদ স্পন্দন (স্পন্দন/ মিনিট)				M6b
১৫৯	রিডিং ৩	সিস্টোলিক (মি.মি.অব মার্কারী)				M6a
		ডায়াস্টোলিক (মি.মি.অব মার্কারী)				M6b
		হৃদ স্পন্দন (স্পন্দন/ মিনিট)				M6c
১৬০	আপনি গত দুই সপ্তাহের মধ্যে ডাক্তার বা অন্য কোন স্বাস্থ্যকর্মীর ব্যবস্থাপত্র অনুযায়ী উচ্চ রক্তচাপের জন্য কোন ঔষধ সেবন করেছেন কি?	হ্যাঁ ১ না ২				M7

মূল: উচ্চতা এবং ওজন

	প্রশ্নাবলী	উত্তর	কোড
১৬১	মহিলাদের জন্যঃ আপনি কি গর্ভবতী? [যদি C1= ২ হয়]	হ্যাঁ ১ *[হ্যাঁ হলে সাক্ষাৎকার শেষ করুন]* না ২	M9
১৬২	উচ্চতা	সেন্টিমিটার (সেমি) .	M11
১৬৩	ওজন যদি স্কেলের সর্বোচ্চ মাত্রা অতিক্রম করে তাহলে ৬৬৬.৬।	কিলোগ্রামে .	M12

মূল: কোমর

১৬৪	কোমরের পরিধি	সেন্টিমিটার .	M14

বর্ধিত: নিতম্ব

১৬৫	নিতম্বের পরিধি	সেন্টিমিটার .	M15

Template of Report on blood glucose and lipid levels (STEP 3)

PID:		PSU Name		Date of Collection	
Participant's Name	:				
Age (years)		Sex::		Date of Reporting	

To,
Name...
Mouza/Mahalla..
Thana/Upazilla..
District...
Post Code..

Feedback Report on blood glucose and lipid profile

Test	Result mg/dl	Comment				
		Normal	Raised	High	Low	On medication
Plasma Glucose (Fasting)		<110	≥110	–	–	
Corresponding Urine Sugar						
S. Total Cholesterol		<190	190-239	≥240	–	
S. Triglyceride		<150	≥150	–	–	–
S. HDL (direct)		Male ≥40 Female ≥50	–	–	Male <40 Female <50	
S. LDL		<100				

মন্তব্যঃ ১। রক্তের গ্লুকোজ : ▢ স্বাভাবিক   ▢ অতিরিক্ত (ডায়াবেটিস)   ▢ অস্বাভাবিক

২। রক্তের চর্বি:   : ▢ স্বাভাবিক   ▢ অস্বাভাবিক

উপদেশ: **নিকটস্থ স্বাস্থ্যকেন্দ্রে (উপজেলা স্বাস্থ্য কমপ্লেক্স / জেলা সদর হাসপাতাল / মেডিকেল কলেজ/ বিশেষায়িত হাসপাতাল) যোগাযোগ করুন**

জীবনাচরণ পরিবর্তন করুন -

১। হাঁটাহাঁটি করুন

২। ধুমপান থেকে বিরত থাকুন, ধুমপান মৃত্যু ঘটায়

৩। পান/ সুপারি/ তামাক/ জর্দা খাওয়া থেকে বিরত থাকুন

৪। পাতে আলগা লবণ খাওয়ার অভ্যাস ত্যাগ করুন

৫। বেশি বেশি সবজী ও ফল খান

৬। চানাচুর/ চিপস/ কোমল পানীয় স্বাস্থ্যের জন্য ভাল নয়

৭। ওজন নিয়ন্ত্রনে রাখুন

Prof. Md. Akram Hossain
Head, Microbiology & Mycology
Consultant, NIPSOM Lab

Dr. Fahmida Khanam
Assistant Professor, Virology
In Charge, NIPSOM Lab

Show cards

শো কার্ড নং-১
বিভিন্ন ফলের উদাহরণ, প্রশ্ন নং- D1

Photo credit: Dr. Irfan Nowroze Noor

শো কার্ড নং-২,
বিভিন্ন ফলের আহারের পরিমাণ এর উদাহরণ, প্রশ্ন নং- D২

Photo credit: Dr. Irfan Nowroze Noor

বিভিন্ন প্রকার সবজি এর উদাহরণ, প্রশ্ন নং- D3

Photo credit: Dr. Irfan Nowroze Noor

শো কার্ড নং-৪
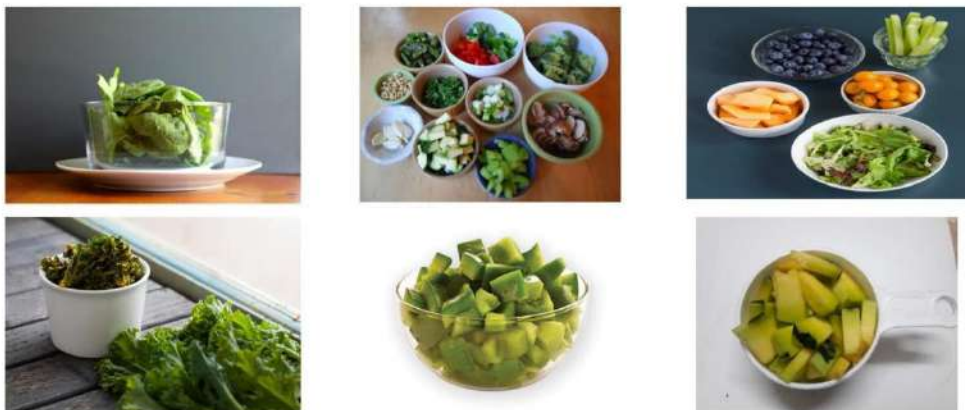বিভিন্ন প্রকার সবজি আহারের পরিমাপ এর উদাহরণ, প্রশ্ন নং- D4

Photo credit: Dr. Irfan Nowroze Noor

বিভিন্ন প্রকার লবণের উদাহরণ, প্রশ্ন নং- D5a

Photo credit: Dr. Irfan Nowroze Noor

শো কার্ড নং-৬

বিভিন্ন প্রকার সস এর উদাহরণ, প্রশ্ন নং- D5b

Photo credit: Dr. Irfan Nowroze Noor

শো কার্ড নং-৭
বিভিন্ন প্রকার প্রক্রিয়াজাত খাদ্যের উদাহরণ, প্রশ্ন নং- D7

Photo credit: Dr. Irfan Nowroze Noor and open source [internet]

শো কার্ড নং-৮
লবণ খাওয়ার পরিমানের উদাহরণ- Dx2, Dx3

Photo credit: Dr. Irfan Nowroze Noor

বিভিন্ন প্রকার ভারী কাজের উদাহরণ প্রশ্ন নং- P1

Photo credit: Open source [internet]

বিভিন্ন প্রকার মাঝারী মাত্রার কাজের উদাহরণ প্রশ্ন নং- P4

Photo credit: Open source [internet]

শো কার্ড নং-১১
বিভিন্ন প্রকার বিনোদোনমূলক ভারী কাজের উদাহরণ প্রশ্ন নং- P10

Photo credit: Open source [internet]

শো কার্ড নং-১২
বিভিন্ন প্রকার বিনোদোনমূলক মাঝারী মাত্রার কাজের উদাহরণ প্রশ্ন নং- P13

Photo credit: Open source [internet]

শো কার্ড নং-১৩

অবসর সময়ে বিভিন্ন ধরণের কাজ (শুয়ে বা বসে করা যায় এমন) কাজের উদাহরণ, প্রশ্ন নং-P 16 (a-b)

Photo credit: Dr. Irfan Nowroze Noor and open source [internet]

শো কার্ড নং-১৪

ধোয়াযুক্ত তামাকের উদাহরণ, প্রশ্ন নং-T1, T5(all), T8

Photo credit: Dr. Irfan Nowroze Noor and open source [internet]

শো কার্ড নং-১৫
ধোঁয়াবিহীন তামাকের উদাহরণ, প্রশ্ন নং- T12, T14 (all)

Photo credit: Dr. Irfan Nowroze Noor and open source [internet]

শো কার্ড নং-১৬
ইলেকট্রনিক সিগারেট এর সনাক্তকরণ, প্রশ্ন-EC2

Photo credit: Dr. Irfan Nowroze Noor and open source [internet]

শো কার্ড নং-১৭

বিভিন্ন প্রকার মদ জাতীয় পানীয় এর উদাহরণ, প্রশ্ন- **A1**

Photo credit: Open source [internet]

শোকার্ড নং-১৮ (ক)

বিভিন্ন প্রকার মদ জাতীয় পানীয় এর জন্য প্রমাণ পাত্রের মাপ এর উদাহরণ, প্রশ্ন- **A4, A6, A7, A10**

Photo credit: Open source [internet]

শো কার্ড নং-১৮ (গ)
বিভিন্ন প্রকার মদ জাতীয় পানীয় এর জন্য প্রমাণ পাত্রের মাপ উদাহরণ, প্রশ্ন- **A4, A6, A7, A10**

Photo credit: Open source [internet]

শো কার্ড নং-১৮ (ঘ)
বিভিন্ন প্রকার মদ জাতীয় পানীয় এর জন্য প্রমাণ পাত্রের মাপ উদাহরণ, প্রশ্ন- **A4, A6, A7, A10**

Photo credit: Open source [internet]

শো কার্ড নং- ১৯
দেশীয় মদ জাতীয় পানীয় এর উদাহরণ, প্রশ্ন- A11, A12 (all)

Photo credit: Open source [internet]