**Health status and health related quality of life of Rohingya people in selected camps in Cox’s bazar, Bangladesh**

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**CHAPTER 1**

* 1. **Introduction**

The Rohingya people are of Muslim descent and are native to the northern Arakan region of Burma (Myanmar), which borders Bangladesh. The name Rohingya originates from the name "Rohang" or "Rohan" given to the Arakan region during the ninth and tenth centuries. Another tribe the Rakhine people resides in the same area of Burma and is the ethnic majority, with a Hindu and Mongol background1. The Rohingya people have faced decades of systematic discrimination, statelessness and targeted violence in Rakhine State, Myanmar. Such persecution has forced Rohingya women, girls, boys and men into Bangladesh for many years, with significant spikes following violent attacks in 1978, 1991-1992, and again in 2016. Yet it was August 2017 that triggered by far the largest and fastest refugee influx into Bangladesh. Since then, an estimated 745,000 Rohingya including more than 400,000 children have fled into Cox’s Bazar.

In Myanmar, entire villages were burned to the ground, families were separated and killed, and women and girls were gang raped. Most of the people who escaped were severely traumatized after witnessing unspeakable atrocities. These people found temporary shelter in refugee camps around Cox’s Bazar, Bangladesh, which is now home to the world’s largest refugee camp2.Till now 860494 Rohingyas are living in camps in Ukhia and Teknaf3. Currently they are under significant health risks and it has become a challenge to address their health needs. Due to the increasing number of Rohingya refugees and their congested living conditions in camps, there has been an overwhelming increase in their health risks4. The poor environmental conditions and extremely high population density coupled with a preexisting lack of health services have left the Rohingya community vulnerable to communicable diseases and outbreaks5.Although the Government of Bangladesh (GoB), with support from UN Organizations, development partners, International Non-Government Organizations (INGO), local charities and volunteers are working rigorously to ensure basic needs such as shelter, food, water, sanitation and healthcare, health needs are not fulfilled, creating widespread vulnerability to infection and epidemics. Inadequate water and insufficient sewage infrastructure are spreading food- and waterborne diseases, and a booming mosquito population is leading to the spread of malaria, dengue and chikungunya infections.

The Rohingya refugees are already vulnerable to infections, including vaccine-preventable diseases, due to malnutrition and low immunization coverage (only 23.2% of children under 5 years received measles vaccine)6. Rohingya camps overall health and hygienic situation is very poor that are responsible for increased various infectious diseases. The socio-economic condition and psychological behavior of Rohingya refugees deliver vulnerable health situation, especially for the young girls, women and aged persons in the camp setting. Exposure to trauma also has a long-lasting impact on psychological well-being and Health-related Quality of Life (HRQoL)7. Migrants face several challenges for health, among those include income and educational achievements. Exposure to new lifestyles may affect both physical and mental health and language gap, when present, together with lack of proper health insurance cover could significantly undermine access to health care. Racial discrimination, when present, can also result in inequalities in the provision of health care and could adversely impact opportunities in and quality of health care. Lack of cohesive social support and cultural gaps may influence health behavior. As such, maintaining good health and quality of life can be very challenging to a lot of the migrants8.There is a need to estimate the overall health status and health related quality of life for those living in refugee camps to improve their overall health and provide a base for future community driven program assessment.

* 1. **Justification of the study**

The general health status of refugees in various countries is reported to be poor with malnutrition being the major health problem due to lack of access to sufficient food and nutrient intakes. Other health problems among refugees include mental illnesses, intestinal parasites, hepatitis B, tuberculosis, sexually transmitted diseases, HIV/ AIDS, malaria and anemia9. In August 2017, a major humanitarian crisis in the Rakhine State of Myanmar triggered a mass exodus of around three-quarters of a million stateless Rohingya refugees into neighboring Bangladesh, adding to the estimated 200,000–300,000 Rohingya refugees in Bangladesh who had fled Myanmar earlier and the estimated 73,000 Rohingya refugees in Malaysia10.

Prevalence of infectious diseases is high among Rohingya children because of inadequate coverage of vaccination, malnutrition, overcrowding, unsanitary conditions, and lack of access to safe water. Action Against Hunger estimated that 237 500 children aged 6 months to 15 years needed a measles–rubella vaccine. One of the world's largest diphtheria outbreaks happened in early November, 2017, and continued to spread until the outbreak stabilized in mid-2018.The 2019 statistics indicate that acute respiratory infection and diarrhea spread in the Rohingya community, making treatment of these common diseases daunting. Moreover, the incidence of water-borne diseases usually rises during the monsoon season11. Furthermore, Rohingya refugees suffer from a wide range of acute and chronic health conditions including musculoskeletal and mental health problems that can be difficult to detect, assess and manage in this vulnerable population12.Within the refugee settlements, water, sanitation, and hygiene (WASH) issues are of immediate concern, especially because cholera is endemic to the area. While there are major efforts to expand access to safe drinking water and to provide access to adequate latrines for the Rohingya refugees, gaps in access still remain more than 18 months after the initial influx13. 85% of the refugees still have no access to latrines. All of which in turn increases the risk of communicable disease outbreak.

An estimated 250 000 children under the age of 8 require life-saving interventions through community-based activities such as vaccination campaigns whereas 240 000 children under-five years need malnutrition prevention and treatment support through nutritious supplementary food.16 965 children with severe acute malnutrition (SAM) require inpatient and outpatient treatment. 204 000 adolescent girls need nutritional support and 237 500 children from 6 months to 15 years need to receive measles-rubella (MR) vaccine. There is limited accessibility to inpatient as well as secondary health services which also includes referral system and quality of care and health care services implemented at the settlement lack standardization4.

In view of the rapidly growing global mobility, migration health has become an important field within the field of medical sciences. Measuring health status of a population is not just limited to the traditional measures of morbidity and mortality rate, but also the assessment of Quality of Life (QOL). QOL is a multi-dimensional concept, which encompasses crucial areas such as physical health, psychological wellbeing, social relationships, economic circumstances, personal beliefs and their relationships to salient features of the environment. Health-Related Quality of Life (HRQOL) refers to the patient's sense of his own health and well-being in the broad areas of physical, psychological and social functioning. Few studies have actually documented information on the health of migrants to less developed or developing countries8. In this regard very few researches have been done on quality of life of Rohingya refugees. This is why the study is being proposed to find out the health status and health related quality of life of Rohingya people in selected camps in Cox’s bazar, Bangladesh**.**

* 1. **Research question**

What is the health status and health related quality of life of Rohingya people in selected camps in Cox’s bazar, Bangladesh?

* 1. **Study Objectives** 
     1. **General Objective**

To find out health status and health related quality of life of Rohingya people in selected camps in Cox’s bazar, Bangladesh.

* + 1. **Specific Objectives**
* To find out the physical health status of Rohingya people living in camps.
* To find out the mental health status of Rohingya people living in camps
* To find out the health-related quality of life of Rohingya people living in camps.
* To find out the socio-demographic characteristics of Rohingya community.

* 1. **List of Variables**
* **Socio-demographic Variables**
* Age
* Sex
* Marital status-
* Education level
* Religion
* Occupation
* Working status
* Family size
* Monthly family income
* Ration type
* **Health related variables**

1. **Physical health related variables**

* Presence of disease
* Availability of health care services
* Access to the health care services
* Vital-signs (Pulse, Blood Pressure, Temperature, Respiratory rate)

1. **Mental health related variables related to depression (Based on PHQ 9)**

* Interest
* Depressed
* Sleep
* Tired
* Appetite
* Failure
* Concentration
* Active
* Self-harm

1. **Mental health related variables related to generalized anxiety (based on GAD 7**)

* Nervous/Anxious/Edge
* Worry
* Trouble
* Restless
* Annoyed/Irritable
* Afraid/Awful
* **Quality of life related variables (based on SF 12)**

1. **Physical health related**

* General Health (GH)
* Physical Functioning (PF)
* Role Physical (RP)
* Bodily Pain (BP)

1. **Mental health related**

* Vitality (VT)
* Social Functioning (SF)
* Role Emotional (RE)
* Mental Health (MH)
  1. **Operational definitions:**
* **Rohingya:** Rohingyas are an ethnic, linguistic and religious minority group of Northern Rakhine State (NRS) of Myanmar. Myanmar government categorized them as illegal immigrants from Bangladesh and excluded them from citizenship and basic human rights14.
* **Refugee:** According to UNHCR, a refugee is a person who has been forcibly fled his or her country as a result of persecution, war, or violence and in most cases is unable to return home. The major reasons for fleeing are related to war and ethnic, tribal and religious violence15.
* **Rakhine State**: Rakhine State is a state in Myanmar. Situated on the western coast, it is bordered by Chin State to the north, Magway Region, Bago Region and Ayeyarwady Region to the east, the Bay of Bengal to the west, and the Chittagong Division of Bangladesh to the northwest. It is located approximately between latitudes 17°30' north and 21°30' north and east longitudes 92°10' east and 94°50' east. The Arakan Mountains, rising to 3,063 meters (10,049 ft) at Victoria Peak, separate Rakhine State from central Burma. Off the coast of Rakhine State there are some fairly large islands such as Cheduba and Myingun Island. Rakhine State has an area of 36,762 square kilometers (14,194 sq. mi) and its capital is Sittwe16.
* **Health:** Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity17.
* **Mental health:** Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community18. Here severity of depression and severity of anxiety is considered.
* **Physical health:** Physical health refers to the state of your physical body and how well it is operating. It is influenced by levels of physical activity, adequate nutrition, rest, environments, etc19.
* **Depression:** It is characterized by persistent sadness and a lack of interest or pleasure in previously rewarding or enjoyable activities.  It can also disturb sleep and appetite; tiredness and poor concentration are common20.
* **Health Related Quality of Life (HRQoL):** An individual’s or group’s perceived physical and mental health over time21.
* **Mortality Rate**: The mortality rate is the number of deaths within a given population in a given time period. The mortality rate is typically expressed in number of deaths per 1,000 or 100,000 individuals per year22.
* **Morbidity Rate:** Morbidity is the state of being symptomatic or unhealthy for a disease or condition23.
* **Availability of health care services**: The sufficient supply and appropriate stock of health workers, with the competencies and skill‐mix to match the health needs of the population24.
* **Access to the health care services:** The equitable distribution of these health workers taking into account the demographic composition, rural‐urban mix and under‐served areas or populations24.
* **Immunization:** Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the body’s own immune system to protect the person against subsequent infection or disease25.
* **Disease outbreak:** A disease outbreak is the occurrence of disease cases in excess of normal expectancy. The number of cases varies according to the disease-causing agent, and the size and type of previous and existing exposure to the agent26.
* **Role Physical:** It assesses the limitations in routine activities because of physical health problems27.
* **Vitality:** The state of being strong and active; energy28.
* **Social functioning:** Social functioning defines an individual's interactions with their environment and the ability to fulfill their role within such environments as work, social activities, and relationships with partners and family29.
* **Role emotional:** It assesses the limitations on routine activities because of emotional problems30.
* **Physical functioning:** The physical function domain is theoretically composed of four subdomains, which are conceptually interrelated but distinct, such as mobility related to the lower extremities, dexterity related to the upper extremities, axial or central related to neck and back functions, and complex activities which involve more than one subdomain are related to instrumental activities of daily living. In practice, the subdomain assignment may, sometimes, be arbitrary, since many tasks involve more than one part of the body31.
* **Bodily pain:** It assesses the perception of pain32.
* **Anxiety:** Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure33.
* **Restriction of movement inside the camp:** Rohingya people living inside one camp can’t move to another camp during the ongoing lockdown inside the camp.

**CHAPTER II**

**Literature Review**

Eliminating health disparities and increasing the quality and years of healthy life for all people is a global goal. To achieve these, identifying and addressing the health needs of populations that are often overlooked need to be prioritized34. The millions of refugees in the world are a very vulnerable group. They are on the run from all kinds of violence. This obviously affects their physical and psychological health35. The war in Syria has led to the worst humanitarian crisis of the 21st century. According to United Nations Refugee Agency figures, over 2.5 million people have fled the Syrian conflict, entering as refugees neighboring countries of Turkey, Egypt, Lebanon, Jordan and Iraq. Around 60% of Syrian refugees are hosted within communities across Kurdistan and the remaining 40% live in refugee camps36. Despite the support Jordan provides to the Syrian refugees, they still seem to suffer from poor psychological health, social relationships37. Palestinian refugees living in Jordan were depressed and nearly half experienced low HRQOL, particularly if refugees were older and poorer38.

A Comparative study of mental health and quality of life in long term refugees and host populations in Oru-Ijebu, Southwest Nigeria by [Oluwaseun O Akinyemi](https://www.ncbi.nlm.nih.gov/pubmed/?term=Akinyemi%20OO%5BAuthor%5D&cauthor=true&cauthor_uid=22846111), [Eme T Owoaje](https://www.ncbi.nlm.nih.gov/pubmed/?term=Owoaje%20ET%5BAuthor%5D&cauthor=true&cauthor_uid=22846111),[Olusimbo K Ige](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ige%20OK%5BAuthor%5D&cauthor=true&cauthor_uid=22846111), and [Oluwafemi A Popoola](https://www.ncbi.nlm.nih.gov/pubmed/?term=Popoola%20OA%5BAuthor%5D&cauthor=true&cauthor_uid=22846111) was donewhich showed the overall QoL and CQoL scores were both significantly lower for the refugees (p < 0.001). Refugees were three times more likely than non-refugees to have poor mental health [OR: 3.43; 95%CI: 1.83-6.4039.

A study of health related quality of life among Iraqi immigrants settled in Malaysia was done by [Aqil M Daher](javascript:;), [Hisham S Ibrahim](javascript:;), [Thaaer M Daher](javascript:;) & [Ali k Anbori](javascript:;) which showed that HRQOL scores among male immigrants were found to be higher than those of females in physical function (80.0 vs. 73.5), general health (72.5 vs. 60.7) and bodily pain (87.9 vs. 72.5) subscales. The youngest age group had significantly higher physical function (79.32) and lower mental health scores (57.62). The mean score of physical component summary was higher than the mental component summary mean score (70.22 vs. 63.34) which indicates a relatively moderate HRQOL40.

Mulenga Davie did a study in Zambia on the health-related quality of life of refugees with disabilities, which found out more than half (54.8 %) of the participants rated their quality of life as either very poor or poor, while 37.3 % rated it as neither poor nor good. The mean score for physical health, psychological, social relations and environmental domains were 41.4, 49.4, 70.1 and 37.7 respectively41.

A study done onmental health and quality of life among asylum seekers and refugees living in refugee housing facilities in Sweden by Anna Leiler, Anna Bjärtå, Johanna Ekdahl & Elisabet Wasteson found out that prevalence of mental health problems exceeded 50% in the total sample using the estimate of clinically significant symptoms of depression and anxiety (PHQ-9 ≥ 10, GAD-7 ≥ 8)42.

Ekaterini Georgiadou, Ali Zbidat, Gregor M. Schmitt and Yesim Erim did a study to see prevalence of mental distress among Syrian refugees with residence permission in Germany. Moderate to severe depression was confirmed in 14.5% and moderate to severe generalized anxiety in 13.5% of the sample43.

In August 2017, a massive crackdown in Myanmar killed thousands of Rohingyas and triggered the mass exodus of around three-quarters of a million of them to Bangladesh. Most displaced Rohingyas are settled in the Ukhia and Teknaf areas of Cox’s Bazar, where 6,000 acres of hills and forests have been cut down to provide temporary shelters. At present, there are 34 camps housing 900,000 displaced Rohingyas, including the two officially recognized camps, Kutupalong and Nayapara44.The majority are women and children (52% are women and girls; 55% are children under 18. As any other community exposed to conflict-driven displacement, they have to cope with the consequences of human rights violations in their countries of origin and with ongoing life as a refugee such as poor living conditions, dependency on humanitarian assistance for food, water, shelter, and persistent domestic violence and other protection issues. The health and nutritional status of the newly arrived refugees was dire, particularly for women and children45.  In the refugee camps, 54% of the Rohingya are below the age of 18; 52% are women with 23% of them between the ages of 18 and 59 years46. Among 91 556 adolescent girls and women, 54 633 are pregnant or lactating mothers47. Lactating mothers (9.2% of total refugees) and pregnant women (4.9% of the total population) have been identified as the two highest numbers of vulnerable group within the Rohingya Refugees48. Majority of women are giving births at home, and only 22% of births occur in health facilities49. 2592 lactating women and 1145 pregnant women have been admitted for malnutrition treatment50. They are also among the first to experience additional barriers in accessing the scarce and overstretched humanitarian relief services. Furthermore, not only are they among the most affected groups but are also usually the last to be consulted (if at all) about their needs and provided with the least information about where and how to claim relief services51.

A cross sectional study was done recently by K M Amran Hossain, Lori M. Walton, S. M. Yasir Arafat, Nidiorin Maybee, Rubel Hossen Sarker, Shahoriar Ahmed, Feroz Kabir to find out the Association between Depression & Health-Related Quality of Life for Ethnic Rohingya Living with Refugee Status in Bangladesh. The study indicates the prevalence of depression was 70% (n=150 respondents), with 8.7% reporting severe depression52.

From the very beginning, a number of United Nations (UN) agencies, including United Nations High Commissioner for Refugees, World Health Organization (WHO), International Organization for Migration, United Nations Children’s Fund, and United Nations Population Fund; international humanitarian organizations including the International Federation of Red Cross and Red Crescent Societies, Médecins Sans Frontiers (MSF), CARE International, Save the Children Fund, and Orbis Eye Care; local non-government organizations including BRAC, Mukti, HOPE Foundation for Women and Children of Bangladesh, and Al-Markazul Islami are providing much needed humanitarian help. The Ministry of Health and Family Welfare, Bangladesh oversees and streamlines medical activities. There are medical clinics and dispensaries with facilities for minor surgeries within camps, and some over the counter drugs are available from shops and groceries around the camps accessible to both local residents and refugees. Patients needing secondary and tertiary care are transferred to local government medical college hospitals in Cox’s Bazar or Chittagong. All treatment, medications and diagnostic tests are free for the refugees. Previous studies have noted high rates of malnutrition and low immunization coverage among Rohingya refugees in Cox’s Bazar who, thus, remain susceptible to infections including gastroenteritis, acute respiratory infections and acute jaundice syndromes12.Mental health disorders such as depression, anxiety and stress disorder are projected to be higher among those living with refugee status compared to the general population because of war, trauma, resettlement, migration. Depression and anxiety may persist for a long time after traumatic experiences and may have a direct impact on HRQoL even after the traumatic stimulus is gone52. While studies into the mental health of Rohingya people have been limited, those that have been conducted indicate high levels of mental health concerns including PTSD, depression and somatic complaint. Many of these issues are compounded by daily stressors arising from living in refugee camps53. So far reviewed, not that much work is found on the health status and health related quality of life of Rohingya refugees living inside the camps of Cox’s Bazar, Bangladesh, where it seems that these Rohingya refugees are not leading a healthy quality full life at all.

**CHAPTER III**

**Methodology**

**3.1 Study Design**

This study was a cross sectional study conducted to find out the health status and health related quality of life of Rohingya people in selected camps in Cox’s bazar, Bangladesh

**3.2 Study Area**

This study was conducted in the following two selected camps in Ukhia, Cox’s Bazar, Bangladesh.

* Camp 3
* Camp 17

There are 34 camps in Cox’s Bazar district where theses Rohingya refugees are living now. These camps are distributed in two upazila named Ukhia and Teknaf. Among these camps, 26 camps are situated in Ukhia which contain 82.3% of the Rohingya population and 8 camps are situated in Teknaf which contains 17.7%% of the Rohingya population.

Camp 3 and camp 17 both are situated inside Ukhia upazila. Total area of camp 3 is about 454 sqkm which is divided into 7 blocks and total area of camp 17 is about 955 sqkm which is divided into 3 blocks. Each blocks contains around 10-20 sub-blocks. An estimate of 35600 and 16300 people are living inside camp 3 and camp 17 respectively.

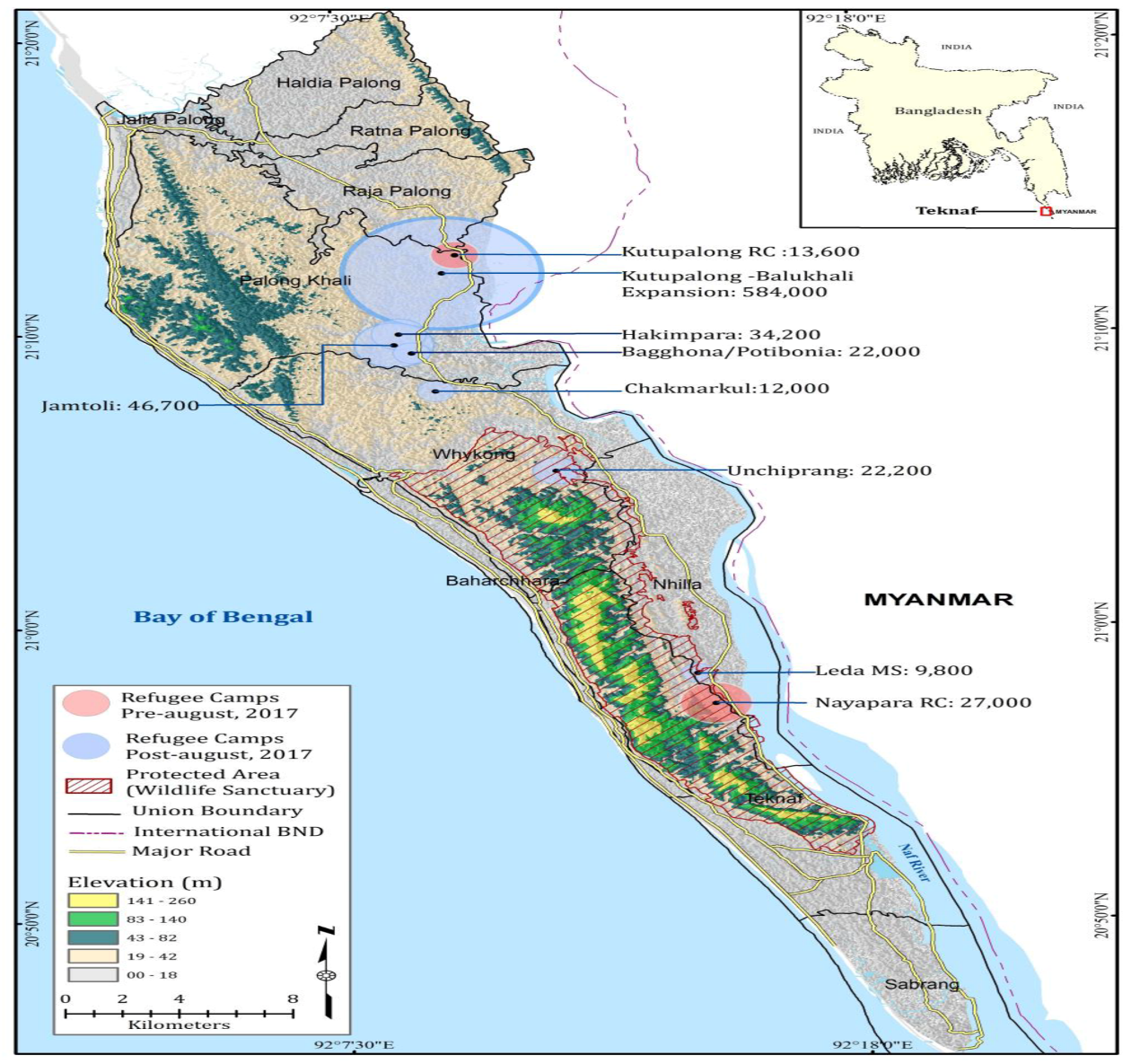


Fig: Site of Rohingya camps in Ukhia and Teknaf, Cox’s Bazar

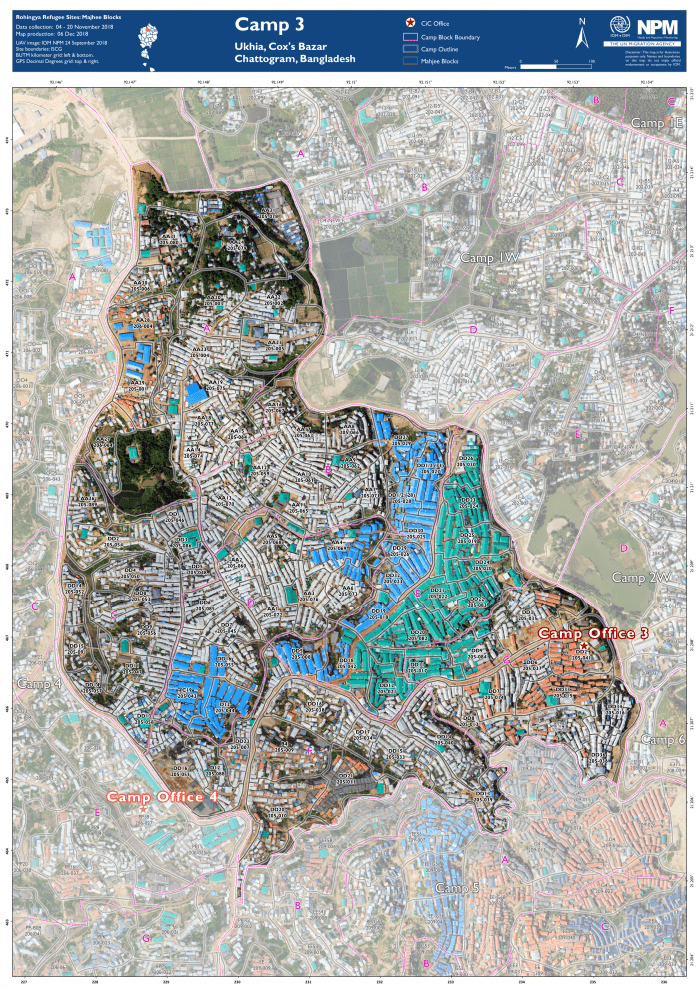


Fig: Camp 3, Ukhia, Cox’s Bazar

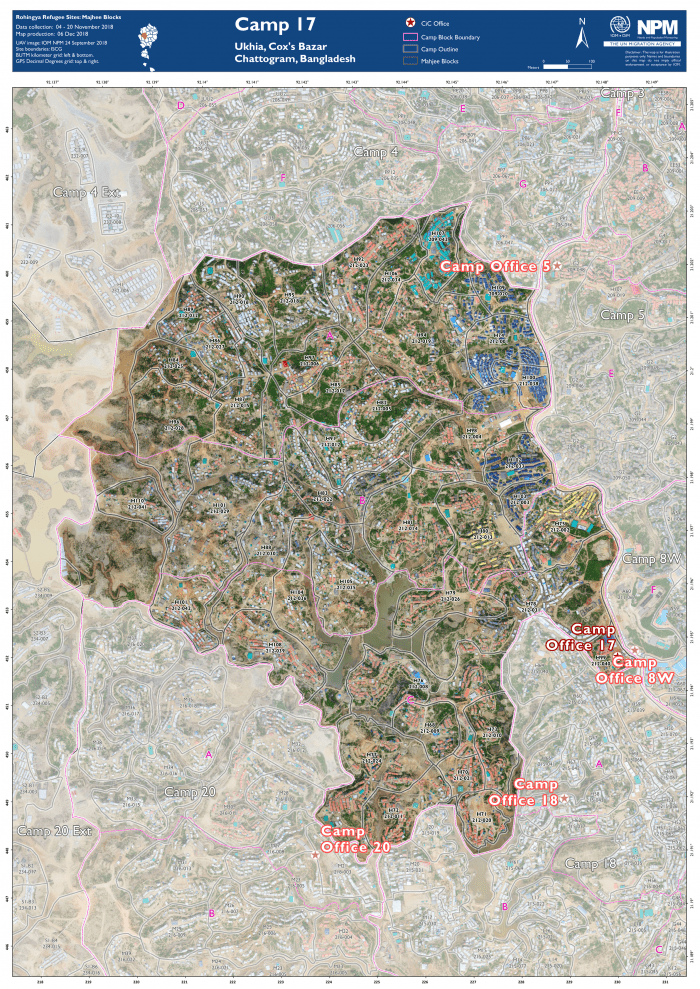


Fig: Camp 17, Ukhia, Cox’s Bazar.

**3.3 Study Population**

The study population was all adult male and female Rohingya people in selected camps in Cox’s Bazar, Bangladesh.

**3.4 Sample Size**

Following formula was used for sample size collection:

=

Here,

n= desired sample size

z= standard normal deviation; usually set at 1.96, which corresponds to 95% confidence level.

⃰p= 70%

d= degree of accuracy required, usually set at 0.05 level the expected sample size.

Here,

P= 0.7

q= (1-p) = (1-0.7) = 0.3

d= .05

So, required sample size =

If non response rate is 10% then, =

Sample size 356

⃰Prevalence of depression among Rohingya refugees living in Cox’s Bazar18

Ref: Hossain K, Walton L, Arafat S, Maybee N, Sarker R, Ahmed S et al. Expulsion from the Motherland: Association between Depression & Health-Related Quality of Life for Ethnic Rohingya Living with Refugee Status in Bangladesh. Clinical Practice & Epidemiology in Mental Health. 2020;16(1):46-52.

**3.5 Selection Criteria**

**3.5.1 Inclusion Criteria**

Both adult male and female Rohingya people of 18-60 years living in selected camps in, Cox’s Bazar were included in the study.

**3.5.2 Exclusion Criteria**

Severely I’ll person unable to respond was excluded from the study.

**3.6 Study Period and duration**

Study duration was four months from 1st September 2020 to 31st December 2020.

**3.7 Sampling technique**

The most of the Rohingya refugees live in the 34 expansion camps of Ukhia and

Teknaf, the two sub regions of Cox’s Bazar district. There are 26 camps in Ukhia and 8 camps in Teknaf. Each camp is divided into several blocks. Each block is further divided into several sub blocks. Every sub block contains several households.

Multistage sampling was done in this case. At first camp 3 and camp 17 were selected by simple random sampling method. Then block B and G from camp3 and block A and B from camp 17 were selected in same manner. Total 8 sub-blocks were selected by the same process from these four blocks. After that the list of the households on those blocks were collected from Camp In-Charge office and from that list by simple random sampling households were selected. For interviewing, the eldest person fulfilling the selection criteria present in the house on the day of interview was selected. If any person from the selected household could not be interviewed for any reason, the house next to it was considered.

**3.8 Data Collection Method and Instruments**

* An interviewer administered semi structured questionnaire was developed for collecting socio demographic and physical health related data based on the objectives of the study. Questionnaire was developed in English at first then translated into Bengali. Then it was pretested among 10 adult Rohingya people similar to the study population other than the study area to identify the potential problems of the questionnaire. After pretesting the questionnaire was finalized.
* For physical health participant’s history, vital signs (Pulse, Blood Pressure, Temperature, Respiratory Rate) and other relevant examinations possible was done by using appropriate tools required (Stethoscope, sphygmomanometer, thermometer etc.). If anyone gave history of any chronic disease, in those cases prescriptions or the medicines the respondents were taking for those conditions were checked.
* For assessing mental health status Personal Health Questionnaire (PHQ-9) was used. PHQ-9 score ≥10 had a sensitivity of 88% and a specificity of 88% for major depression. It asks the questions about some problems that have been bothering over last two weeks of time period. This scale consists of nine items questions having a four-point Likert scale ranging from 0 (“Not at all”) to 3 (“Nearly every day”). For raw score all checked boxes on PHQ-9 was added up. For every Not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3

Here, 1-4 indicates minimal depression, 5-9 indicates mild depression, 10-14 indicates moderate depression, 15-19 indicates moderately severe depression and 20-27 indicates severe depression. Bangla version PHQ-9 was used to assess the level of depression.

* The seven-item Generalized Anxiety Disorder (GAD-7) scale was used to assess the severity of anxiety. GAD-7 score ≥ 10 has a sensitivity of 89% and a specificity of 82% for generalized anxiety disorder. It asks the questions about some problems that have been bothering over past two weeks of time period This scale consists of 7 items questions having a four-point Likert scale ranging from 0 (“Not at all”) to 3 (“Nearly every day”). Bangla version GAD-7 was used to assess the level of anxiety. Score is ranging from 0 to21. Severity will be assessed by 0-4 minimal, 5-9-mild, 10-14-moderate and 15-21 severe, respectively.
* A SF 12 questionnaire was used for assessing health related quality of life of the respondents. Physical and Mental Health Composite Scores (PCS & MCS) were computed using the scores of twelve questions and range from 0 to 100, where a zero score indicates the lowest level of health measured by the scales and 100 indicates the highest level of health.
* After taking informed verbal consent from the respondents, data were collected by face-to-face interviewing with the aid of an interpreter who can read Bengali and speak both Bengali and Rohingya languages.

**3.9 Data Management**

* Initially data were checked for its completeness and correctness. Then it was corrected in order to exclude missing or inconsistent data.
* Corrected and completed data then were entered into the computer.

**3.10 Data Analysis**

* The data were analyzed by using the Statistical Package for the Social Sciences (SPSS)
* Descriptive data were analyzed by simple frequency distribution (mean, standard deviation, percentage)
* Cross tabulations were tried to find the relationship between dependent and independent variables. Statistical significance was set at 95% confidence interval.
* Data were presented using frequency tables, graphs and charts.

**3.12. Ethical Considerations**

* Approval from Ethical Review Committee of State University of Bangladesh was taken.
* Permission was taken from the camp in charge of the selected camps.
* Verbal informed consent was taken from the respondents before enrolling for the study.
* Confidentiality was maintained strictly in every steps
* Respondents will have every right to withdraw themselves from the study at any time during the data collection.

**CHAPTER IV**

**Result**

**Table 1. Distribution of respondents by year of arrival in the camp (n= 367)**

|  |  |  |
| --- | --- | --- |
| Year | Frequency | Percentage (%) |
| 2017 | 347 | 94.6 |
| 2018 | 6 | 1.6 |
| 2020 | 14 | 3.8 |
| Total | 367 | 100.0 |

Table 1 indicates that majority of the respondents 94.6% (n= 347) arrived in the camp in 2017. Then 3.8% (n= 14) respondents arrived in the camp in 2020 and 1.6% (n= 6) arrived in 2018.

**Table 2. Distribution of respondents by age (n= 367)**

|  |  |  |
| --- | --- | --- |
| Age Group | Frequency | Percentage (%) |
| ≤24 Years | 65 | 17.7 |
| 25-34 Years | 145 | 39.5 |
| 35-44 Years | 88 | 24.0 |
| 45-54 Years | 37 | 10.1 |
| ≥55 Years | 32 | 8.7 |
| Total | 367 | 100.0 |

**Mean ± SD = 34.50 ± 11.16. Minimum age 19 years and Maximum age 60 years.**

Table 2 states that most of the respondents (n= 145) were between 25-34 years old (39.5%). Then 24% (n= 88) respondents were between 35-44 years old, 17.7% (n= 65) were less than 25 years old, 10.1% (n= 37) were between 45-54 years old and only 8.7% (n= 32) were 55 years old or above.

**Figure 1. Distribution of respondents by sex (n= 367)**

figure 1 shows that 54% (n= 199) of respondents were female and 46% (n= 168) of respondents were male.

* **All the respondents were Muslim by religion.**

**Table 3. Distribution of respondents by education (n= 367)**

|  |  |  |
| --- | --- | --- |
| Educational Status | Frequency | Percentage (%) |
| Uneducated | 335 | 91.3 |
| Can Read and Write | 31 | 8.4 |
| SSC and Equivalent or Above | 1 | 0.3 |
| Total | 367 | 100.0 |

Table 3 indicates that most of the respondents (n=335) were uneducated (91.3%). Then 8.4% (n=31) of respondents can read and write and 0.3% (n=1) of respondents passed SSC and equivalent or above.

**Table 4. Distribution of respondents by marital status (n= 367)**

|  |  |  |
| --- | --- | --- |
| Marital Status | Frequency | Percentage (%) |
| Unmarried | 2 | 0.5 |
| Married | 363 | 98.9 |
| Separated/Divorced | 1 | 0.3 |
| Widow/Widower | 1 | 0.3 |
| Total | 367 | 100.0 |

Table 4 shows that most of the respondents 98.9% (n=363) were married. Then 0.5% (n=2) of respondents were unmarried, 0.3% (n=1) of respondents were separated/divorced and 0.3% (n=1) of respondents were widow/widower.

**Figure 2. Distribution of respondents by type of family (n= 367)**

figure 2 illustrates that 76% (n=279) of respondents were living in nuclear family and 24% (n=76) of respondents were living in extended family.

**Table 5. Distribution of respondents by number of family members (n= 367)**

|  |  |  |
| --- | --- | --- |
| Number of family member | Frequency | Percentage (%) |
| 2 Person | 43 | 11.7 |
| 3-4 Persons | 125 | 34.1 |
| 5-6 Persons | 100 | 27.2 |
| ≥7 Persons | 99 | 27.0 |
| Total | 367 | 100.0 |

**Mean ± SD = 2.69 ± 0.99. Minimum family member 2 and Maximum family member 12.**

Table 5 shows that 34.1% (n= 125) of the respondents have 3-4 members in their family. Then 27.2% (n= 100) of respondents have 5-6 members and 11.7% (n= 43) have 2 or less members and 27% (n = 99) have 7 or more members in their family.

**Table 6. Distribution of respondents by number of children in family (n= 367)**

|  |  |  |
| --- | --- | --- |
| Number of children | Frequency | Percentage (%) |
| 1 child | 99 | 27.0 |
| 2 children | 90 | 24.5 |
| 3-4 children | 116 | 31.6 |
| 5-6 children | 48 | 13.1 |
| 7 or more children | 14 | 3.8 |
| Total | 367 | 100.0 |

**Mean ± SD = 2.42 ± 1.13. Minimum number of children 0 and Maximum number of children 9.**

Table 6 shows that majority of the respondents 31.6% (n=116) have 3-4 children in their family. Then 27% (n= 99) of respondents have 1 child, 24.5% (n= 90) of respondents have 2 children, 13.1% (n=48) of respondents have 5-6 children and 3.8% (n= 14) of respondents have 7 or more children.

**Figure 3. Distribution of respondents by working status (n= 367)**

figure 3 indicates that 62% (n=229) of respondents were unemployed and 38% (n=138) of respondents were employed.

**Table 7. Distribution of respondents by occupation (n= 367)**

|  |  |  |
| --- | --- | --- |
| Occupation | Frequency | Percentage (%) |
| Business | 16 | 4.4 |
| Day Labourer | 173 | 47.1 |
| Farmer | 3 | 0.8 |
| Housewife | 147 | 40.1 |
| Private Job | 25 | 6.8 |
| Teacher | 3 | 0.8 |
| Total | 367 | 100.0 |

Table 7 shows that majority of the respondents 47.1% (n=173) are day labourer. Then 40.1% (n=147) are housewife, 6.8% (n= 25) do private job, 4.4% (n= 16) are doing business and 0.8% (n= 03) are farmer and teacher.

**Table 8. Distribution of respondents by if have any monthly family income (n= 367)**

|  |  |  |
| --- | --- | --- |
| Have monthly family income | Frequency | Percentage (%) |
| No Income | 181 | 49.3 |
| Do have Income | 186 | 50.7 |
| Total | 367 | 100.0 |

Table 8 indicates that 50.7% (n = 186) respondents have monthly family income whereas 49.3% (n = 181) respondents have no monthly family income.

**Table 9. Distribution of respondents by status of monthly family income (n= 186)**

|  |  |  |
| --- | --- | --- |
| Income Status | Frequency | Percentage % |
| < 10000 BDT | 179 | 96.2 |
| >10000 BDT | 7 | 3.8 |
| Total | 186 | 100.0 |

Table 9 illustrates that majority of the respondent’s 96.2% (n= 179) monthly family income is less than 10000 BDT and 3.8% (n = 07) respondent’s monthly family income is more than 10000 BDT

**Figure 4. Distribution of respondents by presence of disease (n= 367)**

figure 4 illustrates that 77% (n=282) of respondents were not suffering from any disease where 23% (n=85) of respondents were suffering from disease.

**Figure 5. Distribution of respondents by presence of acute or chronic disease (n= 83)**

figure 5 shows that 79% (n= 67) of respondents were suffering from acute diseases where 21% (n=18) of respondents were suffering from chronic diseases.

**Table 10. Distribution of respondents by presence of chronic disease (n= 18)**

|  |  |  |
| --- | --- | --- |
| Disease | Frequency | Percentage (%) |
| Hypertension | 8 | 44.4 |
| Diabetes | 7 | 38.9 |
| Goitre | 1 | 5.6 |
| Jaundice | 1 | 5.6 |
| Eye Disease | 1 | 5.6 |
| Total | 18 | 100.0 |

Table 10 narrates that among the respondents who are suffering from chronic disease 44.4% (n= 08) were suffering from hypertension, 38.9% (n= 07) from diabetes and 5.6% (n= 01) were suffering from goitre, jaundice and eye disease equally.

**Table 11. Distribution of respondents by treatment taken or not (n= 83)**

|  |  |  |
| --- | --- | --- |
| Treatment Taken | Frequency | Percentage (%) |
| Yes | 82 | 99.7 |
| No | 1 | 0.3 |
| Total | 83 | 100 |

Table 11 describes that total 83 respondents had acute or chronic condition for which 99.7% (n= 82) took treatment and only 0.3% (n= 1) respondent did not take any treatment.

* **When asked all the respondent said that they took allopathy treatment after getting sick.**

**Figure 6. Distribution of respondents by availability of health care services (n= 367)**

figure 6 indicates that health care services were available to 96% (n=352) of respondents where to 23% (n=15) of respondents’ health care services were not available.

**Figure 7. Distribution of respondents by difficulty to access health care services (n= 367)**

figure 7 shows that 74% (n=272) of respondents do not face difficulty accessing health care services and 26% (n=95) of respondents face difficulty accessing health care services.

**Table 12. Distribution of respondents by travel restriction inside the camp during COVID 19 pandemic (n= 367)**

|  |  |  |
| --- | --- | --- |
| Travel restriction inside the camp | Frequency | Percentage (%) |
| Yes | 323 | 88.0 |
| No | 44 | 12.0 |
| Total | 367 | 100.0 |

Table 12 demonstrates that 88% (n=323) of respondents face travel restriction inside the camp and 12% (n=44) of respondents face no travel restriction inside the camp during COVID 19 pandemic.

**Figure 8. Distribution of respondents by influence of COVID 19 pandemic situation on health (n= 367)**

figure 8 indicates that COVID 19 pandemic situation influenced 85% (n=323) of respondent’s health and did not influence the health of 15% (n=54) respondents.

**Figure 9. Distribution of respondents by type of influence by COVID 19 on health (n= 313)**

figure 9 illustrates that COVID 19 had positive impact on health of 85.9% (n=269) respondents and negative impact on health of 14.1% (n= 44) respondents.

**Table 13. Distribution of respondents by positive influence of COVID 19 on their health (n= 269)**

|  |  |  |
| --- | --- | --- |
| Positive Influences | Frequency | Percentage (%) |
| Maintain personal hygiene | 167 | 62 |
| More health conscious | 60 | 22 |
| Taking selfcare | 42 | 16 |
| Total | 269 | 100.0 |

Table 13 illustrates that among 269 respondents who had positive influence of COVID 19 on their health, 62% (n= 167) respondents maintain personal hygiene, 22% (n= 60) respondents became more health conscious and 16% (n= 42) respondents started taking selfcare.

**Table 14. Distribution of respondents by negative influence of COVID 19 on their health (n= 44)**

|  |  |  |
| --- | --- | --- |
| Negative Influences | Frequency | Percentage (%) |
| Fear of covid | 29 | 66 |
| Feeling low | 5 | 11 |
| Mentally upset | 10 | 23 |
| Total | 44 | 100.0 |

Table 14 describes the negative influence of COVID 19 on the health of the respondents, where among 44 respondents 66% (n=29) respondents had fear of COVID, 23% (n=10) respondents were feeling mentally upset and 11% (n= 5) respondents felt low.

**Table 15. Distribution of respondents by change in availability of health care services during COVID-19 (n= 367)**

|  |  |  |
| --- | --- | --- |
| Change in availability of health care services during COVID-19 | Frequency | Percentage (%) |
| Yes | 316 | 86.1 |
| No | 51 | 13.9 |
| Total | 367 | 100.0 |

Table 15 shows the change in the availability of health care services during COVID 19 where 86.1% (n = 316) agreed that there were change in the availability of health care services during COVID 19 and 13.9% (n = 51) didn’t agree.

**Table 16. Distribution of respondents by type of changes in availability of health care services during COVID-19 (n= 316)**

|  |  |  |
| --- | --- | --- |
| Changes | Frequency | Percentage (%) |
| Better consultation and treatment | 67 | 21.2 |
| Handwashing points | 105 | 33.2 |
| Masks are available | 67 | 21.2 |
| More waiting space in hospital | 77 | 24.4 |
| Total | 316 | 100.0 |

Table 16 states that 33.2% (n = 105) respondents talked about handwashing points, 21.2% (n = 67) considered better consultation and availability of mask and other 24.4% (n = 77) admitted about more waiting space in hospital.

**Figure 10. Distribution of respondents by difficulty to access health care services during COVID 19 (n= 367)**

Figure 10 indicates that among all the respondents 60% (n=219) respondents were facing difficulties to access health care services where 40% (n=148) respondents were not facing difficulties to access health care services during COVID 19.

**Figure 11. Distribution of respondents by feeling safe to visit health care facilities during COVID 19 (n= 367)**

Figure 11 describes that majority of the respondents 69% (n= 252) were feeling unsafe to visit health care facilities where 31% (n= 115) were feeling safe to visit health care facilities during COVID 19.

**Figure 12. Distribution of respondents by availability of services other than health during COVID 19 pandemic (n= 367)**

Figure 12 illustrates that to 90% (n= 332) of respondents, services other than health was available during COVID 19 where 10% (n= 35) respondents services other than health were not available during COVID 19.

**Figure 13. Distribution of respondents by change in hygiene practice during COVID 19 pandemic (n= 367)**

Figure 13 describes that among 367 respondents 92% (n= 336) of respondents had change in their hygiene practice during COVID 19 pandemic where 8% (n= 31) of respondents had no change in their hygiene practice during COVID 19 pandemic.

**Table 17. Distribution of respondents by changed hygiene practice during COVID 19 pandemic (n= 336)**

|  |  |  |
| --- | --- | --- |
| Hygiene practices | Frequency | Percentage (%) |
| Maintain 3 feet distance | 121 | 36.0 |
| Use tissue or elbow during sneezing and coughing | 21 | 6.3 |
| Washing hand with soap | 108 | 32.1 |
| Wearing mask | 86 | 25.6 |
| Total | 336 | 100.0 |

Table 17 shows that among 367 respondents 36% (n = 121) maintained 3 feet distance, 32.1% (n = 108) washed hand with soap, 25.6% (n = 86) wore mask and 6.3 % used tissue or elbow during sneezing or coughing.

**Table 18. Distribution of respondents by if they follow the instructions to save themself from Corona virus or not (n= 367)**

|  |  |  |
| --- | --- | --- |
| Follow instruction | Frequency | Percentage (%) |
| Yes | 357 | 97.3 |
| No | 10 | 2.7 |
| Total | 367 | 100.0 |

Table 18 indicates that majority of the respondents 97.3% (n= 357) followed the instructions to save themselves from Corona virus where 2.7% (n= 10) did not followed any instructions to save themselves from Corona virus.

**Table 19. Distribution of respondents by the instructions they follow to save themself from Corona virus or not (n= 357)**

|  |  |  |
| --- | --- | --- |
| Instructions followed | Frequency | Percentage (%) |
| Maintain social distance | 84 | 23.5 |
| Use tissue or elbow during sneezing and coughing | 21 | 5.9 |
| Washing hand with soap | 102 | 28.6 |
| Wearing mask | 150 | 42.0 |
| Total | 357 | 100.0 |

Table 19 expresses that regarding following instructions to get safe from COVID 19, 42% (n = 150) respondents wore mask, 28.6% (n = 102) washed hand with soap, 23.5% (n = 84) maintained social distance and 5.9% (n = 21) used tissue or elbow during sneezing and coughing.

**Figure 14. Distribution of respondents by their willingness to go to COVID 19 treatment centre if suspected or confirmed COVID 19 positive (n= 367).**

Figure 14 shows that 76.0% (n= 279) of respondents will go to COVID 19 treatment centre if they are suspected or confirmed COVID 19 positive. Then 7.4% (n= 27) of respondents will not go to COVID 19 treatment centre if they are suspected or confirmed COVID 19 positive and 16.6% (n= 61) of respondents may go to COVID 19 treatment centre if they are suspected or confirmed COVID 19 positive.

**Table 20. Distribution of respondents by PHQ 9**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PHQ 9 Traits | Not at all | Several days | More than half the days | Nearly every day |
| Little interest or pleasure in doing things | 53 (14.4%) | 281 (76.6%) | 28 (7.6%) | 05 (1.4%) |
| Feeling down, depressed, or hopeless | 24 (6.5%) | 160 (43.6%) | 182 (49.6%) | 01 (0.3%) |
| Trouble falling or staying asleep, sleeping too much | 13 (3.5%) | 190 (51.8%) | 153 (41.7%) | 11 (3.0%) |
| Feeling tired or having little energy | 19 (5.2%) | 182 (49.6%) | 161 (43.9%) | 05 (1.4%) |
| Poor appetite or overeating | 13 (3.5%) | 179 (48.8%) | 164 (44.7%) | 11 (3.0%) |
| Feeling bad about yourself – or that you are a failure or have let yourself or your family down | 53 (14.4%) | 162 (44.1%) | 137 (37.3%) | 15 (4.1%) |
| Trouble concentrating on things, such as reading the newspaper or watching television | 72 (19.6%) | 252 (68.7%) | 39 (10.6%) | 04 (1.1%) |
| Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual | 18 (4.9%) | 177 (48.2%) | 165 (45.0%) | 07 (1.9%) |
| Thoughts that you would be better off dead or of hurting yourself in some way | 89 (24.3%) | 156 (42.5%) | 114 (31.1%) | 08 (2.2%) |

Table 20 shows the distribution of the respondents by their overall response on PHQ 9. Here 14.4% (n= 53) of respondents find little interest or pleasure in doing things not at all. 17.6% (n= 281) of respondents find little interest or pleasure in doing things for several days, 7.6% (n= 28) for more than half the days and 1.4% (n= 5) for nearly every day. 6.5% (n= 24) of respondents felt down, depressed, or hopelessnot at all. 43.6% (n= 160) of respondents felt down, depressed, or hopeless or several days, 49.6% (n= 182) for more than half the days and 0.3% (n= 1) for nearly every day. 3.5% (n= 13) of respondents felt trouble falling or staying asleep, sleeping too muchnot at all. 51.8% (n= 190) of respondents felt trouble falling or staying asleep sleeping too much for several days, 41.7% (n= 153) for more than half the days and 3.0% (n= 11) for nearly every day. 5.2% (n= 19) of respondents felt tired or having little energynot at all. 49.6% (n= 182) of respondents felt tired or having little energy for several days, 43.9% (n= 161) for more than half the days and 1.4% (n= 05) for nearly every day. 3.5% (n= 13) of respondents had poor appetite or overeatingnot at all. 48.8% (n= 179) of respondents had poor appetite or overeating for several days, 44.7% (n= 164) for more than half the days and 3.0% (n= 11) for nearly every day. 14.4% (n= 53) of respondents felt bad about themself or that they are a failure or have let themself or their family downnot at all. 44.1% (n= 162) of respondents felt bad about themself or that they are a failure or have let themself or their family down for several days, 37.3% (n= 137) for more than half the days and 4.1% (n= 15) for nearly every day. 19.6% (n= 72) of respondents had trouble concentrating on things, such as reading the newspaper or watching televisionnot at all. 68.7% (n= 252) of respondents had trouble concentrating on things, such as reading the newspaper or watching television for several days, 10.6% (n= 39) for more than half the days and 1.1% (n= 04) for nearly every day. 4.9% (n= 18) of respondents were moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual not at all, 48.2% (n= 177) for several days, 45.0% (n= 165) for more than half the days and 1.9% (n= 07) for nearly every day. 24.3% (n= 89) of respondents had thoughts that they would be better off dead or of hurting themselves in some waynot at all, 42.5% (n= 156) for several days, 31.1% (n= 114) for more than half the days and 2.2% (n= 08) for nearly every day.

**Figure 15. Distribution of respondents by level of depression (n= 367).**

Figure 15 shows that 44.1% were suffering of mild depression (n= 44), 82% were suffering of moderate depression (n= 301) and 6% of the respondents were suffering of moderately severe depression (n= 22).

**Table 21. Distribution of respondents by GAD 7**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| GAD 7 Traits | Not at all | Several days | More than half the days | Nearly every day |
| Feeling nervous, anxious, or on edge | 38 (10.4%) | 283 (77.1%) | 42 (11.4%) | 04 (1.1%) |
| Not being able to stop or control worrying | 25 (6.8%) | 155 (42.2%) | 176 (48.0%) | 11 (3.0%) |
| Worrying too much about different things | 15 (4.1%) | 198 (54.0%) | 142 (38.7%) | 12 (3.3%) |
| Trouble relaxing | 11 (3.0%) | 188 (51.2%) | 156 (42.5%) | 12 (3.3%) |
| Being so restless that it’s hard to sit still | 14 (3.8%) | 188 (51.2%) | 146 (39.8%) | 19 (5.2%) |
| Becoming easily annoyed or irritable | 18 (4.9%) | 170 (46.3%) | 169 (46.0%) | 10 (2.7%) |
| Feeling afraid as if something awful might happen | 42 (11.4%) | 186 (50.7%) | 121 (33.0%) | 18 (4.9%) |

Table 21 shows the distribution of the respondents by their overall response on GAD 7. Here 10.4 (n= 38) of respondents felt nervous, anxious, or on edgenot at all, 77.1% (n= 283) for several days, 11.4% (n= 42) for more than half the days and 1.1% (n= 04) for nearly every day. 6.8% (n= 25) of respondents were not being able to stop or control worryingnot at all, 42.2% (n= 155) for several days, 48.0% (n= 176) for more than half the days and 3.0% (n= 11) for nearly every day. 4.1% (n= 15) of respondents were worrying too much about different thingsnot at all, 54.0% (n= 198) for several days, 38.7% (n= 142) for more than half the days and 3.3% (n= 12) for nearly every day. 3.0% (n= 11) of respondents had trouble relaxingnot at all, 51.2% (n= 188) for several days, 42.5% (n= 156) for more than half the days and 3.3% (n= 12) for nearly every day. 3.8% (n= 14) of respondents were being so restless that it’s hard to sit stillnot at all, 51.2% (n= 188) for several days, 39.8% (n= 146) for more than half the days and 5.2% (n= 19) for nearly every day. 4.9% (n= 18) of respondents were becoming easily annoyed or irritablenot at all, 46.3% (n= 170) for several days, 46.0% (n= 169) for more than half the days and 2.7% (n= 10) for nearly every day. 11.4% (n= 42) of respondents were feeling afraid as if something awful might happennot at all, 50.7% (n= 186) for several days, 33.0% (n= 121) for more than half the days and 4.9% (n= 18) for nearly every day.

**Figure 16. Distribution of respondents by level of anxiety (n= 367).**

Figure 16 shows that 1.1% were suffering of minimal anxiety (n= 04), 44.4% were suffering of mild anxiety (n= 163), 53.4% were suffering of moderate anxiety and 1.1% of the respondents were suffering of severe anxiety (n= 04).

**Table 22.** **Distribution of respondents by general health perception (n= 367)**

|  |  |  |
| --- | --- | --- |
| General health perception | Frequency | Percentage (%) |
| Excellent | 4 | 1.1 |
| Very Good | 43 | 11.7 |
| Good | 233 | 63.5 |
| Fair | 75 | 20.4 |
| Poor | 12 | 3.3 |
| Total | 367 | 100.0 |

Table 22 describes that 63.5% (n= 233) of respondents described their general health as good. 20.4% (n= 75) respondents described their general health as fair, 11.7% (n= 43) as very good, 3.3% (n= 12) as poor and 1.1% (n= 4) as excellent.

**Table 23.** **Distribution of respondents by limitation in moderate activities during a typical day (n= 367)**

|  |  |  |
| --- | --- | --- |
| Moderate activities | Frequency | Percentage (%) |
| Yes, limited a lot | 41 | 11.2 |
| Yes, limited a little | 307 | 83.7 |
| No, not limited at all | 19 | 5.2 |
| Total | 367 | 100.0 |

Table 23 shows that 83.7% (n= 307) of respondents have a little limitation in doing moderate activities during a typical day. 11.2% (n= 41) respondents described that they have a lot of limitation and 5.2% (n= 19) respondents have no limitation in doing moderate activities during a typical day.

**Table 24.** **Distribution of respondents by limitation in climbing several flights of stairs during a typical day (n= 367)**

|  |  |  |
| --- | --- | --- |
| Limitation in climbing several flights of stairs | Frequency | Percentage (%) |
| Yes, limited a lot | 19 | 5.2 |
| Yes, limited a little | 308 | 83.9 |
| No, not limited at all | 40 | 10.9 |
| Total | 367 | 100.0 |

Table 24 narrates that 83.9% (n= 308) of respondents have a little limitation in climbing several flights of stairsduring a typical day. 10.9% (n= 40) respondents described that they had no limitation and 5.2% (n= 19) respondents had a lot of limitation in climbing several flights of stairs during a typical day.

**Table 25.** **Distribution of respondents by during the past 4 week if they have accomplished less work than they would like due to physical health (n= 367)**

|  |  |  |
| --- | --- | --- |
| Accomplished less | Frequency | Percentage (%) |
| Yes | 313 | 85.3 |
| No | 54 | 14.7 |
| Total | 367 | 100.0 |

Table 25 describes that 85.3% (n= 313) of respondents have accomplished less work than they would like due to physical health and 14.7% (n= 54) respondents have not accomplished less work than they would like due to physical health.

**Table 26.** **Distribution of respondents by during the past 4 week their limitation in the kind of work or other activities (n= 367)**

|  |  |  |
| --- | --- | --- |
| Limitation in the kind of work or other activities | Frequency | Percentage (%) |
| Yes | 252 | 68.7 |
| No | 115 | 31.3 |
| Total | 367 | 100.0 |

Table 26 describes that 68.7% (n= 252) of respondents have limitation in the kind of work or other activitiesand 31.3% (n= 115) respondents have no limitation in the kind of work or other activities

**Table 27. Distribution of respondents by during the past 4 week if they have accomplished less work than would like due to emotional problems (n= 367)**

|  |  |  |
| --- | --- | --- |
| Accomplished less | Frequency | Percentage (%) |
| Yes | 275 | 74.9 |
| No | 92 | 25.1 |
| Total | 367 | 100.0 |

Table 27 describes that 74.9% (n= 275) of respondents have accomplished less work than would like due to emotional problemsand 25.1% (n= 92) respondents have not accomplished less work than would like due to emotional problems

**Table 28. Distribution of respondents by during the past 4 week if they didn't do work as carefully as usual due to emotional problems (n= 367)**

|  |  |  |
| --- | --- | --- |
| Didn't do work as carefully as usual | Frequency | Percentage (%) |
| Yes | 231 | 62.9 |
| No | 136 | 37.1 |
| Total | 367 | 100.0 |

Table 28 shows that 62.9% (n= 231) of respondents have accomplished less work than would like due to emotional problemsand 37.1% (n= 136) respondents have not accomplished less work than would like due to emotional problems

**Table 29. Distribution of respondents by during the past 4 week, how much did pain interfere with their normal work (n= 367)**

|  |  |  |
| --- | --- | --- |
| Didn't do work as carefully | Frequency | Percentage (%) |
| Not at all | 25 | 6.8 |
| A little bit | 184 | 50.1 |
| Moderately | 104 | 28.3 |
| Quite a bit | 50 | 13.6 |
| Extremely | 4 | 1.1 |
| Total | 367 | 100.0 |

Table 29 shows that in 50.1% (n= 184) of respondents, pain interfered a little bit with their normal work during past 4 weeks. In case of 28.3% (n= 104) respondents pain interfered moderately, in 13.6% (n= 50) respondents quite a bit, in 6.8% (n= 25) respondents not at all and in 1.1% (n= 04) respondents pain interfered extremely during past 4 weeks.

**Table 30. Distribution of respondents by during the past 4 week, if they have felt calm and peaceful (n= 367)**

|  |  |  |
| --- | --- | --- |
| Felt calm and peaceful | Frequency | Percentage (%) |
| All of the time | 10 | 2.7 |
| Most of the time | 85 | 23.2 |
| A good bit of the time | 58 | 15.8 |
| Some of the time | 187 | 51.0 |
| A little of the time | 27 | 7.4 |
| Total | 367 | 100.0 |

Table 30 describes that 51% (n= 187) of respondents felt calm and peaceful some of the time during past 4 weeks. In case of 23.2% (n= 85) respondents, they felt calm and quite most of the time, 15.8% (n= 58) respondents a good bit of the time, 7.4% (n= 27) respondents a little of the time and 2.7% (n= 10) respondents felt calm and quite all of the time during past 4 weeks.

**Table 31. Distribution of respondents by during the past 4 week, if they have a lot of energy (n= 367)**

|  |  |  |
| --- | --- | --- |
| Have a lot of energy | Frequency | Percentage (%) |
| All of the time | 6 | 1.6 |
| Most of the time | 74 | 20.2 |
| A good bit of the time | 66 | 18.0 |
| Some of the time | 182 | 49.6 |
| A little of the time | 39 | 10.6 |
| Total | 367 | 100.0 |

Table 31 describes that during past 4 weeks 49.6% (n= 182) of respondents have a lot of energy some of the time. 20.2% (n= 74) respondents have a lot of energy most of the time, 18% (n= 66) respondents a good bit of the time, 10.6% (n= 39) respondents a little of the time and 1.6% (n= 6) respondents have a lot of energy all the time during past 4 weeks.

**Table 32. Distribution of respondents by during the past 4 week, if they have felt downhearted and blue (n= 367)**

|  |  |  |
| --- | --- | --- |
| Felt downhearted and blue | Frequency | Percentage (%) |
| All of the time | 27 | 7.4 |
| Most of the time | 95 | 25.9 |
| A good bit of the time | 76 | 20.7 |
| Some of the time | 169 | 46.0 |
| Total | 367 | 100.0 |

Table 32 illustrates that during past 4 weeks 46% (n= 169) of respondents felt downhearted and blue some of the time. 25.9% (n= 95) respondents felt downhearted and blue most of the time, 20.7% (n= 76) respondents a good bit of the time and 7.4% (n= 27) respondents felt downhearted and blue all of the time.

**Table 33. Distribution of respondents by during the past 4 week, if their physical health or emotional problems interfered with social activities (n= 367)**

|  |  |  |
| --- | --- | --- |
| Interfered with social activities | Frequency | Percentage (%) |
| Most of the time | 17 | 4.6 |
| Some of the time | 63 | 17.2 |
| A little of the time | 202 | 55.0 |
| None of the time | 85 | 23.2 |
| Total | 367 | 100.0 |

Table 33 narrates that during past 4 weeks in case of 55% (n= 202) of respondents, their physical health and emotional problems interfered with social activities a little of the time. In case of 23.2% (n= 85) respondents none of the time, in case of 17.2% (n= 63) of respondents some of the time and for 4.6% (n= 17) respondents most of the time their physical health and emotional problems interfered with social activities.

**Table 34. Distribution of respondents by their physical and mental health score summery (n= 367)**

|  |  |  |
| --- | --- | --- |
| Score Summery | Median | Mean (±SD) |
| Physical Component Summery | 40.26 | 40.44 (±4.70) |
| Mental Component Summery | 40.08 | 40.37 (±5.34) |

Table 34 shows the summery score of PCS and MCS of SF 12 health survey. Here mean PCS is 40.44 (SD±4.70) and mean MCS is 40.37 (SD±5.34)

**Table 35. Distribution of the respondents by their vital signs**

|  |  |  |  |
| --- | --- | --- | --- |
| Vital signs | Pulse | Respiratory Rate | Temperature |
| Mean | 78.60 | 14.02 | 36.52 |
| Minimum | 63.00 | 12.00 | 35.80 |
| Maximum | 93.00 | 17.00 | 37.50 |

Table 35 describes the mean, maximum and minimum values of pulse, respiratory rate and temperature of the respondents.

**Table 36. Relationship between sex and working status (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Sex of the participant | Working status | | Total |
| Employed | Unemployed |
| Male | 81 (48.2%) | 87 (51.8%) | 168 (100.0%) |
| Female | 57 (28.6%) | 142 (71.4%) | 199 (100.0%) |
| Total | 138 (37.6%) | 229 (62.4%) | 367 (100.0%) |

P= 0.000 (<0.05)

Table 36 describes the relationship between sex and working status of the of the respondents. Those who are employed among them 48.2% (n = 81) is male and 28.6% (n = 57) is female where those who are unemployed, among them 51.8% (n = 87) are male and 71.4% (n = 142) are female. Here p value is 0.000 (<0.05). So, the difference is statistically highly significant

**Table 37. Relationship between age and depression status (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Age Group | Level of depression | | Total |
| Minimal to mild depression | Moderate to severe depression |
| <24 Years | 6  (9.2%) | 59  (90.8%) | 65  (100.0%) |
| 25-34 Years | 16  (11.0%) | 129  (89.0%) | 145  (100.0%) |
| 35-44 Years | 10  (11.4%) | 78  (88.6%) | 88  (100.0%) |
| 45-54 Years | 3  (8.1%) | 34  (91.9%) | 37  (100.0%) |
| >55 Years | 9  (28.1%) | 23  (71.9%) | 32  (100.0%) |
| Total | 44  (12.0%) | 323  (88.0%) | 367  (100.0%) |

P = 0.060 (>0.05)

Table 37 shows relationship between age and depression status of the respondents. Depression is minimal to mild severe in >55 years age group 28.1% (n = 9). Moderate to severe depression is more in 45-55 years age group 91.9% (n = 34). Here p value is 0.060 (>0.05). So, the difference is statistically not significant.

**Table 38. Relationship between age and anxiety status (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Age Group | Level of anxiety | | Total |
| Minimal to mild anxiety | Moderate to severe anxiety |
| <24 Years | 23  (35.4%) | 42  (64.6%) | 65  (100.0%) |
| 25-34 Years | 63  (43.4%) | 82  (56.6%) | 145  (100.0%) |
| 35-44 Years | 47  (53.4%) | 41  (46.6%) | 88  (100.0%) |
| 45-54 Years | 17  (45.9%) | 20  (54.1%) | 37  (100.0%) |
| >55 Years | 17  (53.1%) | 15  (46.9%) | 32  (100.0%) |
| Total | 167  (45.5%) | 200  (54.5%) | 367  (100.0%) |

P = 0.207 (>.05)

Table 38 shows relationship between age and anxiety status of the respondents. Severity of anxiety is minimal to mild in 35-44 years age group 53.4% (n = 47). Moderate to severe anxiety is more in bellow 24 years age group 64.6% (n = 42). Here p value is 0.207 (>0.05). So, the difference is statistically not significant.

**Table 39. Relationship between sex and depression status (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Sex of the participant | Level of depression | | Total |
| Minimal to mild depression | Moderate to severe depression |
| Male | 22  (13.1%) | 146  (86.9%) | 168  (100.0%) |
| Female | 22  (11.1%) | 177  (88.9%) | 199  (100.0%) |
| Total | 44  (12.0%) | 323  (88.0%) | 367  (100.0%) |

P = 0.549

Table 39 shows relationship between sex and depression status of the respondents. Minimal to mild depression is more in males 13.1% (n = 22). Moderate to severe depression is more in females 88.9% (n= 177). Here p value is 0.549 (>0.05). So, the difference is statistically not significant.

**Table 40. Relationship between sex and anxiety status (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Sex of the participant | Level of anxiety | | Total |
| Minimal to mild anxiety | Moderate to severe anxiety |
| Male | 82  (48.8%) | 86  (51.2%) | 168  (100.0%) |
| Female | 85  (42.7%) | 114  (57.3%) | 199  (100.0%) |
| Total | 167  (45.5%) | 200  (54.5%) | 367  (100.0%) |

P = 0.243

Table 40 shows relationship between sex and anxiety status of the respondents. Minimal to mild anxiety is more in males 48.8% (n = 82). Moderate to severe anxiety is more among female 57.3% (n = 114). Here p value is 0.243 (>0.05). So, the difference is statistically not significant.

**Table 41. Relationship between type of family and level of depression (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Family type | Level of depression | | Total |
| Minimal to mild depression | Moderate to severe depression |
| Extended | 21  (23.9%) | 67  (76.1%) | 88  (100.0%) |
| Nuclear | 23  (8.2%) | 256  (91.8%) | 279  (100.0%) |
| Total | 44  (12.0%) | 323  (88.0%) | 367  (100.0%) |

P = 0.000 (<0.05)

Table 41 shows relationship between type of family and depression status of the respondents. Minimal to mild depression is more in extended family 23.9% (n = 21). Moderate to severe depression is more in nuclear family 91.8% (n= 256). Here p value is 0.000 (<0.05). So, the difference is statistically significant.

**Table 42. Relationship between type of family and level of anxiety (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Family type | Level of anxiety | | Total |
| Minimal to mild anxiety | Moderate to severe anxiety |
| Extended | 44  (50.0%) | 44  (50.0%) | 88  (100.0%) |
| Nuclear | 123  (44.1%) | 156  (55.9%) | 279  (100.0%) |
| Total | 167  (45.5%) | 200  (54.5%) | 367  (100.0%) |

P = 0.331 (>0.05)

Table 42 shows relationship between type of family and anxiety status of the respondents. Minimal to mild anxiety is more in extended family 50.0% (n = 44). Moderate to severe anxiety extended family 55.9% (n = 156). Here p value is 0.331 (>0.05). So, the difference is statistically not significant.

**Table 43. Relationship between type of monthly income and level of depression (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Monthly family income | Level of anxiety | | Total |
| Minimal to mild anxiety | Moderate to severe anxiety |
| No Income | 85  (47.0%) | 96  (53.0%) | 181  (100.0%) |
| Do have Income | 82  (44.1%) | 104  (55.9%) | 186  (100.0%) |
| Total | 167  (45.5%) | 200  (54.5%) | 367  (100.0%) |

P = 0.580 (>.05)

Table 43 shows relationship between having monthly family income and level of anxiety of the respondents. Minimal to mild anxiety is more in respondents who have no monthly family income 47% (n = 85) whereas moderate to severe anxiety are more in families who have monthly family income 55.9% (n = 104). Here p value is 0. (>0580.05). So, the difference is statistically not significant.

**Table 44. Relationship between having monthly family income and level of anxiety (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Income Status | Level of depression | | Total |
| Minimal to mild depression | Moderate to severe depression |
| No Income | 25  (13.8%) | 156  (86.2%) | 181  (100.0%) |
| Do have Income | 19  (10.2%) | 167  (89.8%) | 186  (100.0%) |
| Total | 44  (12.0%) | 323  (88.0%) | 367  (100.0%) |

P = 0.289 (>0.05)

Table 44 shows relationship between having monthly family income and level of depression of the respondents. Minimal to mild depression is more in respondents who have no monthly family income 13.8% (n = 25) whereas moderate to severe depression are more in families who have monthly family income 89.8% (n = 167). Here p value is 0.289 (>0.05). So, the difference is statistically not significant.

**Table 45. Relationship between monthly income and level of depression (n= 186)**

|  |  |  |  |
| --- | --- | --- | --- |
| Monthly income | Level of depression | | Total |
| Minimal to mild depression | Moderate to severe depression |
| < 10000 BDT | 17  (9.5%) | 162  (90.5%) | 179  (100.0%) |
| >10000 BDT | 2  (28.6%) | 5  (71.4%) | 7  (100.0% |
| Total | 19  (10.2%) | 167  (89.8%) | 186  (100.0%) |

P = 0.102 (>0.05)

Table 45 shows relationship between monthly family income and depression status of the respondents. Minimal to mild depression is more in respondents who’s monthly family income is more than 10000 taka 28.6% (n = 02) whereas moderate to severe depression is more in respondents who’s monthly family income is less than 10000 taka 90.5% (n = 162). Here p value is 0.102 (>0.05). So, the difference is statistically not significant.

**Table 46. Relationship between monthly income and level of anxiety (n= 186)**

|  |  |  |  |
| --- | --- | --- | --- |
| Monthly income | Level of anxiety | | Total |
| Minimal to mild anxiety | Moderate to severe anxiety |
| < 10000 BDT | 79  (44.1%) | 100  (55.9%) | 179  (100.0%) |
| >10000 BDT | 3  (42.9%) | 4  (57.1%) | 7  (100.0%) |
| Total | 82  (44.1%) | 104  (55.9%) | 186  (100.0%) |

P = 0.947 (>0.05)

Table 46 shows relationship between monthly family income and anxiety status of the respondents. Minimal to mild depression is more in respondents who’s monthly family income is less than 10000 taka 44.1% (n = 79) whereas moderate to severe depression is more in respondents who’s monthly family income is more than 10000 taka 57.1% (n = 04). Here p value is 0.947 (>0.05). So, the difference is statistically not significant.

**Table 47. Relationship between type of presence of disease and level of depression (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Disease Status | Level of depression | | Total |
| Minimal to mild depression | Moderate to severe depression |
| Yes | 20  (24.1%) | 63  (75.9%) | 83  (100.0%) |
| No | 24  (8.5%) | 260  (91.5%) | 284  (100.0%) |
| Total | 44  (12.0%) | 323  (88.0%) | 367  (100.0%) |

P = 000 (<0.05)

Table 47 shows relationship between presence of disease and depression level of the respondents. Minimal to mild depression is more in respondents who is suffering from disease 24.1% (n = 20). Moderate to severe depression is more in people who are not suffering from any disease 91.5% (n = 260). Here p value is 0.000 (<0.05). So, the difference is statistically significant.

**Table 48. Relationship between presence of disease and level of anxiety (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Disease Status | Level of anxiety | | Total |
| Minimal to mild anxiety | Moderate to severe anxiety |
| Yes | 40  (48.2%) | 43  (51.8%) | 83  (100.0%) |
| No | 127  (44.7%) | 157  (55.3%) | 284  (100.0%) |
| Total | 167  (45.5%) | 200  (54.5%) | 367  (100.0%) |

P = 0.576 (>0.05)

Table 48 shows relationship between presence of disease and anxiety level of the respondents. Minimal to mild anxiety is more in respondents who is suffering from disease 48.2% (n = 40). Moderate to severe anxiety is more in people who are not suffering from any disease 55.3% (n = 157). Here p value is 0.576 (>0.05). So, the difference is statistically not significant

**Table 49. Relationship between access to health care services and travel restriction inside the camp (n= 367)**

|  |  |  |  |
| --- | --- | --- | --- |
| Face problem to access healthcare services | Travel restriction inside the camp during COVID-19 pandemic | | Total |
| Yes | No |
| Yes | 76  (80.0%) | 19  (20.0%) | 95  (100.0%) |
| No | 247  (90.8%) | 25  (9.2%) | 272  (100.0%) |
| Total | 323  (88.0%) | 44  (12.0%) | 367  (100.0%) |

P = 0.005 (<0.05)

Table 53 describes the relationship between access to health care services and travel restriction inside the camp. Respondents who face problems to access healthcare services80% of them had travel restriction inside the camp and 20% didn’t. Those who didn’t face any problem accessing healthcare services, 90.8% of them faced travel restriction where 9.2% of them didn’t. Here P value is 0.005 (0.05). So, the difference is statistically significant.

**CHAPTER V**

**5.1 Discussion**

The study was conducted to find out the health status and health related quality of life of Rohingya people in selected camps in Cox’s bazar, Bangladesh. Ministry of Health, Bangladesh, WHO and other health partners are working to address poor nutrition,

This study was conducted to find out the sociodemographic characteristics, mental and physical health status and also the health-related quality of life of the Rohingya people residing inside the camp during this pandemic.

Among the respondent’s female (54%) were higher than male (46%). The response per age group were 39.5 % aged 25-34 years being the largest, then 24% aged 35-44 years, 17.7% age less than 24 years and others were above 45 years old. Mean age of the participants was 34.50 (**±** 11.16**).** All of them were Muslims (100%) and majority of them were married (98.9%). Nuclear family was prevailing (76%) than extended family (24%) where 34.1% have 3-4 members in the family, 27.2% have 5-6 members, 27% have 7 or more members and 11.7% have less than 2 members in the family. Among the married families 31.6% have 3-4 children, 27% have 1 child, 24.5% have 2 children, 13.1% have 5-6 children and rest have 7 or more children. Most of the participants were uneducated (91.3%) which reflects the fact that when living in Myanmar, Rohingya populations had limited access to services, including education opportunities, with less than 60% of children arriving in Bangladesh attending school in Myanmar, with fewer than 10% graduating beyond primary level54.

More than half of the respondents were unemployed 62% and only 38% were employed where there was unequal distribution of working status between male and female. Here 48.2% male were employed and 51.8% were unemployed but on the other hand 28.6% female were employed and 71.4% were unemployed. This is similar to the employment status of refugees residing in Uganda which is 68% by march 202155.

Among the respondents most of them (47.1%) were day laborer, 40.1% were housewife, 6.8% did private job, 4.4% were doing business and others were farmer and teacher by their occupation. Almost half of them (49.3%) had no monthly family income. Those who had monthly family income, most of them (96.2%) earned less than 10000 BDT monthly.

Majority of the respondents (94.6%) arrived in the camp in 2017, then 1.6% arrived in 2018 and 3.8% arrived in 2020. No respondents arrived in 2019. This reflects that most of the refugees arrived in 2017 after the violence done with them in that year.

77% respondents were not suffering from any kind of disease where 23% were suffering from both acute and chronic diseases. Among the diseased persons 79% were suffering from acute diseases and 21% were suffering from chronic diseases where among the respondents suffering from chronic diseases 44.4% had hypertension, 38.9% had diabetes and rest of them were suffering from goiter, jaundice and eye diseases equally (5.6%). This mimics with the findings in a separate study done on this population that hypertension and diabetes are the prevalent non communicable diseases among Rohingya community56.

Among the diseased person almost all of them (99.7%) have taken treatment and among them 99.7% took allopathy treatment. Inside the camp to 96% respondents’ healthcare services were available and to only 4% were not available. 74% respondents also stated that they didn’t face any difficulties accessing healthcare services where 26% stated that they faced difficulties accessing health care services before the pandemic. But when asked if they face difficulties accessing them during the pandemic, 60% of the respondents said they face difficulties accessing the healthcare services where 40% had no problem to access the healthcare services. According to 88% of the respondents there were travel restriction inside the camp where to 12% there was no travel restriction. Here there was significant association found between accessing the health care services and travel restriction inside the camp.

Among all the respondents 85% said that COVID 19 pandemic had influence on their health and 15% said there was no influence of COVID 19 on their health. Those who said having influence of COVID 19 on their health, 86% of them said that it had positive influences which was maintaining personal hygiene (62%), becoming more health conscious (60%) and taking selfcare (16%). On the other hand, 14% of them said that they had negative influence of COVID 19 on their health which was fear of having COVID (66%), feeling low (11%) and mentally upset (23%). When asked if the availability of health care services during COVID-19 changed or not, 14% said there was no change but 86% respondents said positive about it which were according to 33.2% they had better consultation and treatment, 24.4% said about having handwashing points in the community, 21.2% said about more availability of masks and other 21.2% about more waiting space in hospitals. This exhibits thar, as the COVID-19 threat became apparent in the spring of 2020, UNICEF and its partners took numerous preventive and precautionary measures to minimize the risks for Rohingya and Bangladeshi children and families, while ensuring that critical activities continue to the maximum extent possible including risk communication and community engagement, health care, nutrition, protection and WASH services57.

Among 69% respondents said that they don’t feel safe to visit the health care facilities during COVID 19 and other 31% said they feel safe. This may be due to fear of getting infected from healthcare facilities or tested positive for COVID 19 and become isolated from the close ones. Regarding availability of services other than health 90% respondents said that they had those services during COVID 19 pandemic where to 10% those were not available.

During this pandemic situation people had to change their hygiene practice. When asked to the respondents, 92% admitted that they changed their hygiene practice which were maintaining three feet distance (36%), washing hand with soap (32.1%), wearing mask (25.6%) and use tissue or elbow during sneezing and coughing (6.3%) but 8% of them said that they had no change in their hygiene practice. A study done on prevalence of COVID-19 symptoms, risk factors, and health behaviors in host and refugee communities in Cox’s Bazar also found that 89∙9%‐94∙7% (p=0∙128) have a surgical or homemade mask to wear outside of their home, and 87∙9%‐99∙9% (p=0∙005) report having covered their mouth and nose with a bent elbow when coughing or sneezing58.

97.3% of respondents said that they follow the instructions to keep themselves safe from COVID 19 like maintaining social distance (23.5%), washing hands with soap (28.6%), wearing mask (42%) and use tissue or elbow during sneezing and coughing (5.9%) where 2.7% said that they don’t follow those instructions. If suspected or confirmed COVID 19 positive76% respondent agreed that they will go to COVID 19 treatment center, 16.6% said may be and other 7.4% said that they will not go.

Before COVID 19 pandemic a study was done on the Rohingya refugees residing in Bangladesh where they used PHQ 9 questionnaire to assess the level of depression among this population which reported 70% of Rohingya refugees suffering from moderately severe depression and 8.7% lived with severe depression52. Using the same questionnaire during this pandemic situation this study found that 82% of the respondents were suffering from moderate depression, 12% from mild depression and 6% suffering from moderately severe depression.

A study conducted to elucidate the mental health disorders among the Rohingya refugees residing in Malaysia using GAD 7 questionnaire to find out the prevalence of anxiety among them which reported 41.8% prevalence of anxiety59. Using same questionnaire this study found 53.4% of respondents having moderate anxiety, 44.4% having mild anxiety and 1.1% having severe and minimal anxiety each. This ensures that depression and anxiety still prevail among this population during this COVID pandemic situation and indicates the importance of strengthening the mental health and psychosocial services. We didn’t find any statistically significant association between anxiety and age, sex, type of family, monthly income, marital status or with presence of disease. There was also no significant association between depression and age, sex, monthly income or marital status. But there was significant association of type of family and presence of disease with depression. Also, there was significant association between sex and the working status of the respondents.

Health related quality of life (HRQoL) is considered as an individual’s or group’s perceived physical and mental health over time21. This study used a modified version of the SF-12v1 to assess the HRQoL questionnaire and presented as physical (PCS) and mental (MCS) component summary scores. The mean PCS and MCS scores of the sample were 40.44 (SD±4.70) and 40.37 (SD±5.34) respectively. Using similar questionnaire, a study was done to assess the HRQoL of asylum seekers and refugees in Germany on 2020 which reported the PCS and MCS scores of the sample 53.4 and 47.9 respectively60. Another Study was done on health-related quality of life among refugees and asylum seekers in Northern Greece using SF-36 health survey which found PCS and MCS 43.9 and 39.5. Both of these studies found the PCS and MCS poor among the respondents61. Comparing with these studies it is obvious that the health-related quality of life of the Rohingya refugees is poor.

**5.2 Limitations**

There were some drawbacks during conducting this research.

* This study was conducted within a small proportion of the population
* A wider range and variety of individuals might be included in this study, making it more effective.
* It would be more suitable if could be done throughout the whole camp.

**5.3 Conclusion**

The study concluded that:

* Moderate level of depression (82%) and anxiety (53.4%) is prevailing among the respondents during this pandemic situation.
* Health related quality of life is poor among this community (PCS = 40.44, MCS = 40.37)
* This COVID 19 situation has changed the hygiene practice among the respondents (92%).
* Hypertension and Diabetes are the most common chronic disease among the respondents.
* There was significant association between depression and presence of disease, type of family but no relation with age, sex, monthly income or marital status
* There was no significant association between anxiety and age, sex, type of family, monthly income or marital status but there was significant association with presence of disease.

**5.4 Recommendations**

After the completion of this research, some recommendations are found. Some of which are

* More samples should be included in order to provide more specific and reliable data on the prevalence of health status and health related quality of life across the camp.
* Policy makers need to give more focus on strengthening the services related to mental health and psychosocial support as depression and anxiety is prevailing among this population.
* Government and health care organizations should construct more clinics and health facilities inside the camp so that all the people residing inside the camp can access and avail the healthcare services more easily.

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**CHAPTER VI**

**References**

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**ANNEXURE-I**

**Curriculum Vitae**

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**Employment history:**

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Program: Rohingya Response

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1. **Deputy Program Manager- Primary Health Care Centre**

Program: Rohingya Response

Organization: Save The Children International

1. **Medical Officer**

Program: Rohingya Response

Organization: Association for Socio-Economic Advancement of Bangladesh

1. **Emergency Medical Officer- ICU**

Northern International Medical College and Hospital.

**Academic Qualification:**

1. **MBBS (2016)**

Northern International Medical College

1. **HSC (2009)**

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