**PROPOSAL**

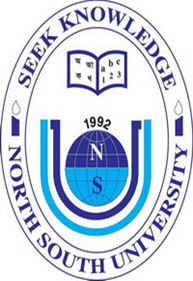
**ON**

AWARENESS ON POLYCYSTIC OVARIAN SYNDROME AMONG THE UNDERGRADUATE FEMALE STUDENTS

**This proposal is prepared for the partial fulfillment of the requirements of the Degree of Master of Public Health (MPH) of North South University, Dhaka, Bangladesh.**

**AFNAN MANNA SATHI**

**ID# 1825149080**

****

**MASTER OF PUBLIC HEALTH PROGRAM**

**DEPARTMENT OF PUBLIC HEALTH**

**SCHOOL OF HEALTH & LIFE SCIENCES**

**NORTH SOUTH UNIVERSITY**

**BASHUNDHARA, BANGLADESH 2019**

The Proposal Entitled

**AWARENESS ON POLYCYSTIC OVARIAN SYNDROME AMONG THE UNDERGRADUATE FEMALE STUDENTS**

Is submitted to the Department of Public Health, North South University for the partial fulfillment of the requirements of the degree of Master of Public Health (MPH)

Date :…………………. Students Signature :………………..

ID: 1825149080

**NORTH SOUTH UNIVERSITY**

**DEPARTMENT OF PUBLIC HEALTH**

**MASTER OF PUBLIC HEALTH**

We, the members of the Proposal Defense Committee have carefully evaluated the following thesis and recommended to the Dean, School of Health & Life Sciences for approval. “**AWARENESS ON POLYCYSTIC OVARIAN SYNDROME AMONG THE UNDERGRADUATE FEMALE STUDENTS”** Submitted by Afnan Manna Sathi ID# 1825149080 for the partial fulfillment of the requirements of the degree of Master of Public Health (MPH)

………………………..

**Dr. Ahmed Hossain**

Ph.D. (UT, Canada), M. Sc. (Canada)

Professor

Department of Public Health,

Supervisor

……………………….

**Dr. Mohammad Delwer Hossain Hawlader**

Ph.D (Japan), MPH (Sweden), MBBS (SSMC)

Associate Professor

Department of Public Health

Member

...……………………... .…………………………….

**Dr. Mohammad Hayatun Nabi Dr. Hasan Mahmud Reza**

MPH (AUS), MPHM (AUS), MBBS (DU) PhD

Senior Lecturer Professor and Dean

Department of Public Health School of Health & Life Sciences

Member North South University

**Executive Summary**

Globally, Polycystic ovary syndrome (PCOS) is a common reproductive and endocrinologic disorder which is found in 6-10% of the female population. In Bangladesh, many studies have already demonstrated that the prevalence of PCOS is alarming among women in their reproductive age. PCOS can have many variable and subtle symptoms and has a high percentage who remain undiagnosed when visiting their clinician which is estimated to be as high as 75%. Moreover, PCOS is the most common form of female-related infertility caused by the absence of ovulation and may also lead to several serious health complications. Therefore, PCOS Awareness is an important first step as there’s no single test to definitively diagnose PCOS among women. Understanding the signs and symptoms is regarded as the most important step for diagnosed correctly.

This will be an analytical cross-sectional study among the female undergraduate students aged 19-25 years in Dhaka city. A purposive sampling technique will be used for selecting female students in this study. Participants socio-demographic factors, prevalence of awereness, Knowledge level regarding disease information, symptoms, complication and measure to decrease the symptoms domain will be assessed to improve knowledge and awereness in these domains. Descriptive statistics and chi-square test will be performed to find the associated factors considering p-value<.05 with the previous knowledge of PCOS.

This will be one of the few studies conducted among female undergraduate students in Bangladesh on the awereness level of PCOS in their reproductive age. It is expected that considering the global and regional high prevalence of PCOS, effective intervention design may be planned to increase the awereness level of PCOS in Bangladesh.

Contents

[**CHAPTER Ι** 6](#_Toc57745613)

[**Introduction** 6](#_Toc57745614)

[1.1 Introduction 6](#_Toc57745615)

[1.2 Justification of the study 7](#_Toc57745616)

[1.3 Operational Defination: 8](#_Toc57745617)

[1.4 Research Question 9](#_Toc57745618)

[**CHAPTER ΙΙ** 10](#_Toc57745619)

[**LITERATURE REVIEW** 10](#_Toc57745620)

[2.1 Literature Review 10](#_Toc57745621)

[**CHAPTER ΙΙΙ** 14](#_Toc57745622)

[**RESEARCH METHODOLOGY** 14](#_Toc57745623)

[3.1 Study Objectives 14](#_Toc57745624)

[3.1.1 General Objectives 14](#_Toc57745625)

[3.1.2 Specific Objectives 14](#_Toc57745626)

[3.2 Conceptual Framework 15](#_Toc57745627)

[3.3 Study Design 16](#_Toc57745628)

[3.4 Target Population & Study Population 16](#_Toc57745629)

[3.5 Study Site & Area 16](#_Toc57745630)

[3.6 Study Period 16](#_Toc57745631)

[3.7 Sample Size 16](#_Toc57745632)

[3.8 Inclusion Criteria 17](#_Toc57745633)

[3.10 Exclusion Criteria 17](#_Toc57745634)

[3.11 Sampling Technique 17](#_Toc57745635)

[3.12 Data Collection Tool 17](#_Toc57745636)

[3.13 Data Management & Analysis Plan 18](#_Toc57745637)

[3.14 Quality Control & Quality Assurance 18](#_Toc57745638)

[3.15 Ethical Considerations 19](#_Toc57745639)

[3.16 Expected Outcome 19](#_Toc57745640)

[**CHAPTER ΙV** 20](#_Toc57745641)

[**RESULTS** 20](#_Toc57745642)

[**Chapter VI** 37](#_Toc57745643)

[**REFERENCES** 37](#_Toc57745644)

[**Chapter V** 40](#_Toc57745645)

[**APPENDICES** 40](#_Toc57745646)

[APPENDIX-A 40](#_Toc57745647)[APPENDIX-B 41](#_Toc57745648)

[APPENDIX – C: Questionnaire (English) 44](#_Toc57745649)

# **CHAPTER Ι**

## **Introduction**

# 1.1 Introduction

The polycystic ovarian syndrome was originally described in 1935 by Stein and Leventhal. PCOS is a common endocrine disorder in women of reproductive age all over the world [1]. This is a disease for which the actual mechanism is unknown. The main cause of PCOS assumed to this may occur mainly due to misbalance or disturbance of androgenic hormone of female in their reproductive age. The androgenic and endocrinological abnormality of PCOS starts just after menarche. Women who have PCOS are at high risk of having infertility, metabolic abnormality, late menopause, insulin resistance, type 2 diabetes mellitus, dyslipidemia, cardiovascular infection, hyperandrogenism, anxiety, depression, endothelial cancer.

The effects of the new modern era and also the revolution of technological achievement changed our day to day life as well as our habits. Now a days, we mostly focused on eating junk food, fatty food, sugar-containing food, soft drinks. Those unhealthy diets, physical inactivity also can occur PCOS. The signs and symptoms of PCOS are Oligomenorrhoea/Amennhorea, Infertility, Miscarriage, Hirsutism, Acne, Androgenic alopecia, Hypertension, Dyslipidemia, Obesity, Impaired glucose tolerance, insulin resistance, Type 2 diabetes mellitus, Weight gain, Sleep apnea.

PCOS is a multifactorial and polygenic condition. Diagnosis is based upon the presence of any two of the following three criteria (ASRM/ESHRE,2003)-Oligo and /or anovulation, Hyperandrogenism (clinical and/or biochemical), polycystic ovaries. Transvaginal Ultrasonography, Serum Testosterone level, Anti-mullerian hormone, Thyroid function test, and some other tests are important for diagnosing PCOS along with clinical signs and symptoms.

Prevention of PCOS can be done by modifying lifestyle, healthy diet, exercise. Treatment of PCOS is done by maintaining a healthy lifestyle, hormone therapy, regular checkup, medication like clomiphene, eflornithine, metformin, oral contraceptives, pioglitazone, rosiglitazone, spironolactone, acarbose, desogestrel, finasteride, flutamide, letrozole, sibutramine [2].

The prevalence of PCOS is 9.71% in Bangladesh. Awareness about PCOS not only about recognize the disease as well as identify the healthy lifestyle issue. Prevalence of PCOS was conducted in Alabama, Greece, Spain, USA, Canada, Australia, India, Pakistan, China, Saudi Arabia, Sri Lanka, United Kingdom. Studies about awareness of PCOS were done in Thandalam India (Nimo Biam,2015), Mansura, Egypt [3].

# 1.2 Justification of the study

Polycystic ovarian syndrome is a common condition that affects 20% of reproductive women. (4). The percentage is increasing day by day. Now a days even teenage girls are diagnosed with PCOS. At present this is an alarming condition so this has the signs and symptoms of normal hormonal imbalance. In a developing country like Bangladesh, many people have not even heard about PCOS and are not concerned about signs and symptoms unless or until problems arise with conceiving.

Now many women are facing infertility, hirsutism, miscarriage, obesity, acne. The major problem with PCOS is it has no definite cause and it is not completely curable.

In Bangladesh most of the people are uneducated. The goal of the study is to make undergraduate female students familiar with the term as well as make them aware of the consequences of PCOS. And also the study questionnaire is designed such that will enable them to assess the signs and symptoms of the condition, so they can seek help from the doctors at the earliest stage. The study will warn the population under the risk of developing PCOS to maintain a healthy lifestyle so that the developing of PCOS in later life can be prevented.

The study also focuses on the importance of having a balanced diet, exercise. Though treatment of PCOS is eventually directly related to a healthy lifestyle.

Hence the concerned people have awareness and be aware of the consequences that arise from PCOS and also early diagnosis and treatment can be taken by them.

# 1.3 Operational Defination:

* + **Awareness:** In this study, it refers to the level of understanding of the female undergraduate students regarding Polycystic Ovarian Syndrome as measured by the correct response of them to the awareness items of the questionnaire.
  + **PCOS:** PCOS means polycystic ovarian syndrome. It is a heterogeneous disorder characterized by excessive androgen production by the ovaries mainly and manifested by amennhorea, hirsutism, obesity, and polycystic ovaries.

# 1.4 Research Question

What is the prevalence and risk factors of awareness about PCOS among female undergraduate students?

# **CHAPTER ΙΙ**

# **LITERATURE REVIEW**

# 2.1 Literature Review

**Knowledge and awareness of PCOS among female nonmedical undergraduate students in Dhaka, Bangladesh**

It was a self-administered survey-based study which was focused on awareness of PCOS, signs, and symptoms, the consequence of it. Data was collected from 350 non-medical female undergraduate students. 58 % had minimal awareness about the condition and only 6% were highly aware of it.56% had difficulty in pregnancy,48% had an irregular period, 44.12% were suffering from anxiety, and 41.18% of depression. The study also showed that dietary patterns exercise also influenced the condition [5].

**PCOS: Symptoms and Awareness in Urban Pakistani Women**

This study was focused on awareness and symptoms of PCOS among women in Karachi, Pakistan. It was done on 177 women, most of them were university students and a small portion was educated, housewives. Among them 36.7% had hirsutism,14% had an irregular period, 9% had oligomenorrhoea, 3% amennhorea and 10% were familiar with PCOS. This study did not show enough evidence of the prevalence of PCOS through ultrasonography [6].

**A Study to Assess the Awareness Regarding PCOS among Nursing students at NUINS(Nursing Usha Institute of Science**

This study was done on 150 nursing students. With a structural questionnaire, this study was done and data were analyzed with descriptive and inferential statistics. Among 150, 76% had average awareness and 10.7% had good awareness regarding PCOS. This study showed the relation between the consumption of junk food, dietary patterns of students with their level of awareness on PCOS [7].

**Awareness about PCOS and the Likelihood of the Symptoms in Adolescent Girls in a Semi-Urban Set-up: A Cross-Sectional Study**

To determine the prevalence and enhance the awareness of PCOS among the school going girls had been the main objective of this study. Researchers conducted this study in a government school in Sambalpur, Odisha State in India. Those researchers took essential information and needed data from 100 school going girls who were around 14-17 years old. From the study, it is known that 12% of the subject were found to have hirsutism, 20% had extreme acne and 36% had menstrual irregularity. Also, the study shows that 78% of the student never heard of PCOS before. The prevalence of clinical PCOS in the study was 12%. In conclusion, a timely diagnosis of PCOS in symptomatic adolescent girls is necessary for the initiation of appropriate screening and treatment in needed conditions [8].

**Perception and Attitude of Patients Regarding Polycystic Ovarian Syndrome (PCOS) in Tertiary Care Hospitals of Pakistan – A Survey Based Study**

This informative and quantitative study was performed in Pakistan. The objective of the study was to gain awareness about the perceptions of patients on polycystic ovarian syndrome (PCOS). The survey was performed for over 8 months. The SPSS and employed descriptive statistics analyzed the data.

A total of 270 patients were available for giving clinical information. The study revealed that 37% in the adult age group, 25.9% in middle age groups, and 22.2% in teenage groups whereas geriatrics were observed to be the least in number (14.8%). Regarding the scale of BMI, 51.8% of patients were observed to be obese enough and 22.2% were extremely obese. Also, it was reported that 55.6% of the patients did not know enough about PCOS and related diseases. The study found that the patients of the polycystic ovarian syndrome were mostly young people. Also, the comprehension and awareness regarding the diseases among the patients were found to be deficient in general. If the people are equipped with the necessary awareness about the diseases, they may lead to an improved quality of life. In this case, a pharmacist can play an important role according to this study [9]

**Women's Perceptions of Polycystic Ovarian Syndrome Following Participation in a Clinical Research Study: Implications for Awareness, Feelings, and Daily Health Practices**

The study assessed changes in awareness, feelings, and daily health practices related to PCOS in clinical research study participants. While participating in a clinical research study, 68 women who had received previous counseling and awareness about PCOS, were invited to complete an online survey. The survey assessed many pieces of information on levels of concern, awareness, healthy dieting, active living, and health care satisfaction before and after the study. The survey was completed by 43 women. They took part in a clinical research study and the women who participated in this study ensured that they gain more information and concern about the etiology and health consequences of polycystic ovarian syndrome (PCOS), more healthy lifestyle practices, and increased health-care satisfaction. Enriched information of PCOS was affirmatively associated with needed changes in general dietary habits and activity levels. Completing this study, researchers found that, participants felt encouraged to engage themselves in the management of their condition and communicate with the general health-care providers [10].

**Women's Experiences of Polycystic Ovary Syndrome Diagnosis**

To explore the perceived experience of polycystic ovary syndrome diagnosis, this was a cross-sectional research study performed in Australia. This study was followed by the construction of a guideline for PCOS assessment and management. The study was completed by gaining necessary information from 210 women (age limit: 18 to 45 years) who were diagnosed having PCOS in the past medical history. PCOS diagnosis was completed more than two years in 24% of women. And 39% of the participants took healthcare and information about PCOS from three or more healthcare providers before their diagnosis. It is reported that 60% of the participants were not given awareness sources in diagnosing. Only 20% were receiving details about PCOS and 20% were given less information than they needed. Participants persons reporting provision of information at diagnosis, the percentage of persons who were not satisfied with awareness given about PCOS was 62%. It was reported that 79% gained awareness about lifestyle management, 89% had information on medical therapy, 83% on long-time occurring problems, and 95% on potential infertility [11].

**Awareness of PCOS (Polycystic Ovarian Syndrome) in Adolescent and Young Girls**

Polycystic ovarian syndrome ( and its related diseases) is nowadays, became a common endocrine disorder of women in their reproductive period. Proper awareness and necessary diagnosis is the main step in managing PCOS because it improves the lifestyle of the patients. To assess the information of PCOS among the medical pupils, the study was performed. The study was completed with 200 girls who were also medical students studying in the first, second, and third year of different medical colleges. In the study, 51% of them had normal BMI, 19.5% were found overweight, 16.5% were obese and 13% were underweight. In the study, 33.5% of participants had acne, 16% had menstrual irregularity, 5% of them had hirsutism and 2% had infertility. In the current study, about 70% of the students got enough information about PCOS. On the other hand, 28% of the young girls were unaware of PCOS. Enough information about PCOS and other related diseases should be added in the textbooks which will give adolescents awareness of lifestyle modification. Proper diagnosis of PCOS at a younger age may be a solution [12].

**Survey of Polycystic Ovarian Disease (PCOD) Among the Girl Students of Bishop Heber College, Tiruchirappalli, Tamil Nadu, India**

The study is an effective attempt to assess the prevalence of PCOD in the girl students of Bishop Heber College, Tiruchirappalli city in Tamil Nadu. The survey was undertaken among the girl students of 18 to 31 years. There were 252 participants and this study lasted for 5 months from November 2015 to March 2016.

The healthcare providers gave enough information about PCOS and helped the participant to deal with problems occurring by PCOS and its related diseases. Of course, the study created awareness about PCOS among the participants. The purpose of the study was to help the adolescent girls to have a better reproductive life later. In the study, the researchers and health care providers guided on taking regular diagnosis and treatment with the advice of a gynecologist. In married young girls, those who are having risk factors of infertility, early conception was advised for them in the current study [13].

# **CHAPTER ΙΙΙ**

# **RESEARCH METHODOLOGY**

# 3.1 Study Objectives

# 3.1.1 General Objectives

To find the prevalence and risk factors of awareness about PCOS among female undergraduate students.

# 3.1.2 Specific Objectives

1. To explore knowledge among undergraduate students of variable study background about signs and symptoms, risk factors, lifestyle modification, prevention, and treatment.
2. To know the treatment-seeking behavior among attendees of the rehabilitation centers
3. To evaluate students' perception about PCOS.
4. To highlight the importance of early diagnosis, treatment, and prevention.

# 3.2 Conceptual Framework

**Independent Variables Dependent Variable**

**Socio-Demographic Factors**

* Age
* Marital Status
* Religion
* Faculty
* Age at menarche
* Parents education
* Monthly family income

**Level of Awereness of PCOS**

**School level factors**

* SSC background

**Awewreness related factors**

* Symptoms of PCOS
* Complication of PCOS
* Measure to decrease PCOS
* Disease realted information

# 3.3 Study Design

An analytical type of cross-sectional study.

# 3.4 Target Population & Study Population

Female undergraduate students of the private university, studying in different departments, aged 19-25 years.

# 3.5 Study Site & Area

Dhaka

# 3.6 Study Period

The study will be conducted from April 2020 to October 2020.

# 3.7 Sample Size

The sample size will be calculated from the following formula:

**Here,**

n= desired sample size

z= standard normal deviate (which is usually set at 1.96 which corresponds to 95% Confidence Interval and 5% level of significance)

p= Anticipated proportion of the population

**here** p= 0.5 (to get maximum sample size assuming 50% of female students are aware of Polycystic ovarian syndrome).

q= (1-p) = (1-0.5) = 0.5

d= allowable error in the study (considered as 6.5% for this study)

**So,**

= 228

**Hence,** the sample size for the study will be **228**.

# 3.8 Inclusion Criteria

1. All-female undergraduate students
2. Those, who are participating in this study, are voluntarily agreed to give an interview.
3. Those female participants, who are available at the time of data collection.

# 3.10 Exclusion Criteria

1. Male students.
2. Female students who will not agree to give any information or were absent during the data collection.

# 3.11 Sampling Technique

Purposive sample collecting techniques will be counted to include all available participants. This considered technique will be a type of non-probable sample collecting technique where the units will be investigated based on the judgment of the researcher. This sample collecting technique will be included an existing interview of the participants of this study.

# 3.12 Data Collection Tool

A properly structured questionnaire will be prepared and it is in both Bangla and English language. The questionnaire will have different parts consisting of personal details, familiarity and perception about PCOS, signs, and symptoms of PCOS, risk factors and complications of PCOS, feeling and lifestyle of PCOS patients, diagnosis and treatments of PCOS, and preventive measures of PCOS and other relative diseases. Study subjects will be invited to take part voluntarily by explaining the purpose of the study and data will be collected after obtaining informed written consent. A total of 228 participants will be interviewed for the study. The prepared questionnaire consists of multiple choice type questions. The data will be collected by both face to face interview and by questionnaire supply.

# 3.13 Data Management & Analysis Plan

All interviewed questionnaires will be examined for its properness and consistency to exclude missing or inconsistent data. Data will be checked, verified, and summarized in a master sheet to facilitate proper analysis. The studies will be based on primary data with a descriptive cross-sectional design filled directly with the help of the respondent. Non-medical undergraduate female students' PCOS awareness score will be calculated out of 20 awareness specific questions. Good awareness of PCOS and related terms will be given to those respondents who the data will be sorted and analyzed by using the software SPSS. The analyzed data will be presented according to the variables of the study showing percentage and relationships between variables and appropriate statistical methods in tables, graphs, charts, and bars. Descriptive statistics will be used for the interpretation of the findings.

# 3.14 Quality Control & Quality Assurance

The standard guideline will be followed for report writing provided by the University for the better quality of research work. A pre-test of the questionnaire will be taken from North South University. Double-entry data systems will be followed for better research quality. Data analysis will be done by SPSS 21 vision. The data will be noted very carefully and systematically. Each of the participants will be given their cade and inter separately with coding different variables, to conceal their identity.

# 3.15 Ethical Considerations

* Before conducting the data collection process, an introduction letter will be collected from the Chairman of the Public Health Department, School of Health & Life Sciences, North South University.
* An approval letter will be collected from the concerned departments of North South University to provide necessary support and cooperation for data collection.
* Written informed consent will be taken from each participant and they should be explained about the purpose of the study.
* Participants will have the right to refuse and withdraw from the study process anytime.
* Each eligible candidate will be assured that she will not be penalized for not participating and her response will be not affect health care services.
* The privacy of the participants will be be of utmost concern.
* The study will be carried out at North South University with prior permission from the concerned authority. Written consent will be obtained from the female students who accept to participate in the study.

# 3.16 Expected Outcome

* We are expecting to know the current level of awareness on Polycystic ovarian syndrome of female undergraduate students.
* Special attention should be given to increase awareness about PCOS among female undergraduate students.

# 

# **Chapter VI**

# **REFERENCES**

1. Baqai, Z., Khanam, 2 Majidah and Parveen, S. (2010). *PREVALENCE OF PCOS IN INFERTILE PATIENTS*. [online] www.semanticscholar.org. Available at: https://www.semanticscholar.org/paper/PREVALENCE-OF-PCOS-IN-INFERTILE-PATIENTS-Baqai-KHANAM/c6018e7823229c9c652e31a1d1c450e71483cc52 [Accessed 30 Nov. 2020].

2. Pillai, R.S., Bhattacharyya, S.N. and Filipowicz, W. (2007). Repression of protein synthesis by miRNAs: how many mechanisms? *Trends in Cell Biology*, [online] 17(3), pp.118–126. Available at: https://pubmed.ncbi.nlm.nih.gov/17197185/ [Accessed 30 Nov. 2020].

3. Mohamed, H.A.A. (2016). Effect of educational program on the level of knowledge regarding polycystic ovarian syndrome among adolescent girls. *Journal of Nursing Education and Practice*, 6(10).

4. Sirmans, S. and Pate, K. (2013). Epidemiology, diagnosis, and management of polycystic ovary syndrome. *Clinical Epidemiology*, [online] p.1. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3872139/.

5. <http://dspace.ewubd.edu/handle/2525/2667>

6. Patel, J. and Rai, S. (2018). Polycystic ovarian syndrome (PCOS) awareness among young women of central India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 7(10), p.3960.

7. B., S. and Nayak, S. (2016). A Study to Assess the Knowledge Regarding PCOS (Polycystic Ovarian Syndrome) among Nursing Students at NUINS. *Journal of Health and Allied Sciences NU*, 06(03), pp.24–26.

8. P. Rajkumari, Janmejaya Sahoo, Pendyala Sujata, Gangadhar Sahoo, Jagdish Hansa (n.d.). *Awareness about PCOS and the Likelihood of Its Symptoms in Adolescent Girls in a Semi-Urban Set-Up: A Cross Sectional Study*. [online] jmscr.igmpublication.org. Available at: http://jmscr.igmpublication.org/home/index.php/archive/90-volume-4-issue-11-nov-2016/1372-awareness-about-pcos-and-the-likelihood-of-its-symptoms-in-adolescent-girls-in-a-semi-urban-set-up-a-cross-sectional-study [Accessed 30 Nov. 2020].

9. P. Rajkumari, Janmejaya Sahoo, Pendyala Sujata, Gangadhar Sahoo, Jagdish Hansa (n.d.). *Awareness about PCOS and the Likelihood of Its Symptoms in Adolescent Girls in a Semi-Urban Set-Up: A Cross Sectional Study*. [online] jmscr.igmpublication.org. Available at: http://jmscr.igmpublication.org/home/index.php/archive/90-volume-4-issue-11-nov-2016/1372-awareness-about-pcos-and-the-likelihood-of-its-symptoms-in-adolescent-girls-in-a-semi-urban-set-up-a-cross-sectional-study.

10. Colwell, K., Lujan, M.E., Lawson, K.L., Pierson, R.A. and Chizen, D.R. (2010). Women’s perceptions of polycystic ovary syndrome following participation in a clinical research study: implications for knowledge, feelings, and daily health practices. *Journal of obstetrics and gynaecology Canada: JOGC = Journal d’obstetrique et gynecologie du Canada: JOGC*, [online] 32(5), pp.453–459. Available at: https://pubmed.ncbi.nlm.nih.gov/20500954/.

11. Gibson-Helm, M.E., Lucas, I.M., Boyle, J.A. and Teede, H.J. (2014). Women’s experiences of polycystic ovary syndrome diagnosis. *Family Practice*, 31(5), pp.545–549.

12. Upadhye, J.J. and Shembekar, C.A. (2017). Awareness of PCOS (polycystic ovarian syndrome) in adolescent and young girls. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 6(6), p.2297.

13. Chatterjee M, Bandyopadhyay SA. Assessment of the prevalence of polycystic ovary syndrome among the college students: A case–control study from Kolkata. J Mahatma Gandhi Inst Med Sci 2020;25:28-32.

# **Chapter V**

# **APPENDICES**

# APPENDIX-A

**Inform Decision Making Consent Form**

**Serial No**……… **Date** ……………

**Name of Respondent** …………………………………………………………………

I, Afnan Manna Sathi, student of MPH program of North South University, am doing a research on ““**Awareness on Polycystic Ovarian Syndrome among Female Undergraduate Students**”.

As a part of this study, your participation would be highly appreciated and would contribute a lot to this research study. You will be asked to answer a number of questions for the purpose of research only. Your identity will not be disclosed and will be kept confidential.

Your participation in this study will not involve any inconvenience or risks. If any questions asked to you during the study poses embarrassment or discomfort, you are free to refuse to answer those questions. Your participation is absolutely voluntary. Refusal to participate or withdrawal of your consent or discontinued participation in the study will not result in any penalty or loss of benefits. The results of this study will be presented anonymously.

North South University has reviewed and approved the procedures of this study. If you have any questions about this study, you should feel free to ask now or anytime throughout the study. If you have understood the nature of the study and have agreed to participate, please sign in the place, indicated below. Thanking you,

……………………………... ………………………………

**Participant’s signature & date**  **Investigator’s signature & date**

………………………………..

**Witness’s signature & date**

# APPENDIX-B

**CONSENT FORM**

নর্থ সাউথ বিশ্ববিদ্যালয়

কোডঃ……… তারিখঃ…………

উত্তর দাতার নামঃ………………

আসসালামু আলাইকুম।

আমি , নর্থ সাউথ বিশ্ববিদ্যালয় এর এমপিএইচ প্রোগ্রামের ছাত্র।

আমি একটি গবেষণা কর্ম করছি যার শিরোনাম হল “**Awareness on Polycystic Ovarian Syndrome among Female Undergraduate Students**” আমি আপনাকে এই গবেষণায় অংশগ্রহনের আমন্ত্রণ জানাচ্ছি। আপনার কাছ থেকে কিছু তথ্য জানতে চাই। আপনাকে এই গবেষণা কর্মের জন্য কিছু প্রশ্নের উত্তর দিতে হবে যা এই ফরমে উল্লেখ আছে।

আমি আপনাকে জানাতে চাই যে আপনার প্রদত্ত তথ্য সমূহ গবেষণা ছাড়া অন্য কোন কাজে ব্যবহার করা হবে না। আপনার নাম গোপন রাখা হবে। এই গবেষণা কর্মে আপনার অংশগ্রহন ঐচ্ছিক এবং আপনি যে কোন সময় এতে অংশ নেয়া থেকে বিরত থাকতে পারবেন। ইন্টার্ভিউ চলাকালীন কোন নির্দিষ্ট প্রশ্নের উত্তর না দেয়ার অধিকার আপনি রাখেন।

আমি আপনার সহযোগিতায় কৃতজ্ঞ থাকব। আপনি যদি এই গবেষণা কর্মে অংশ নিতে রাজি থাকেন তাহলে নিচের নির্দিষ্ট স্থানে সাক্ষর করুন।

তথ্য গ্রহণকারীর সাক্ষর ও তারিখ ………………

গবেষণায় অংশগ্রহণকারীর সাক্ষর ও তারিখ ………………

গবেষকের সাক্ষর ও তারিখ ………………

**QUESTIONNAIRE ( Bengali )**

ক**.** অংশগ্রহণকারীর সামাজিক -পরিচিতিমূলক বৈশিষ্ট্য

**১.** বয়স সীমা

□ ১৯ – ২১ বছর □ ২২ – ২৫ বছর

২**. ধর্ম**

□ ইসলাম □ হিন্দু □ বৌদ্ধ □ খ্রিষ্টান

৩. **অনুষদ**

□ বিবিএ □ অনুজীববিজ্ঞান □ আইন □ ইংরেজি □অন্যান্য

৪. **মাসিক পারিবারিক আয় ( টাকায়)**

□ < ২৫,০০০ □ ২৫,০০০ – ৫০,০০০ □ > ৫০,০০০

৫. **বৈবাহিক অবস্থা**

□ বিবাহিত □ অবিবাহিত

৬. **ঋতুস্রাব আরম্ভের বয়স**

□ ৮ – ১১ □ ১১ – ১৩ □ ১৩ এর অধিক

**খ. পি.সি.ও.এস. এর লক্ষণ সমূহ সম্বন্ধে সচেতনতা**

১.আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে অনিয়মিত ঋতুস্রাব সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

২. আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে মুখে ব্রণ সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

৩. আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে অবাঞ্ছিত লোম গজানোর সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

৪. আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে উর্বরতা হ্রাসের সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

৫. আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে স্থুলতা সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

৬. আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে মাথায় চুল ঝরে পড়ার সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

৭. . আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে কোমরে ব্যথার সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

৮. . আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে গর্ভপাতের সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

৯. . আপনি কি জানেন, পিসিওএস এ আক্রান্ত হলে অকাল বয়ঃসন্ধির সমস্যা দেখা দেয়?

□ হ্যাঁ □ না □ আমার জানা নেই

**গ. পি.সি.ও.এস. এর স্বাস্থ্য সমস্যা সম্বন্ধে সচেতনতা**

১. আপনি কি জানেন, ডায়াবেটিকস একটি পিসিওএস দ্বারা ঘটিত স্বাস্থ্য সমস্যা?

□ হ্যাঁ □ না □ আমার জানা নেই

২. আপনি কি জানেন, সি.ভি.এস. উপসর্গ একটি পিসিওএস দ্বারা ঘটিত স্বাস্থ্য সমস্যা?

□ হ্যাঁ □ না □ আমার জানা নেই

৩. আপনি কি জানেন, স্তন ও জরায়ু ক্যান্সার হলো পিসিওএস দ্বারা ঘটিত স্বাস্থ্য সমস্যা?

□ হ্যাঁ □ না □ আমার জানা নেই

৪. আপনি কি জানেন, যৌন হরমোন বৃদ্ধি একটি পিসিওএস দ্বারা ঘটিত স্বাস্থ্য সমস্যা?

□ হ্যাঁ □ না □ আমার জানা নেই

৫. আপনি কি জানেন, উচ্চ রক্তচাপ একটি পিসিওএস দ্বারা ঘটিত স্বাস্থ্য সমস্যা?

□ হ্যাঁ □ না □ আমার জানা নেই

৬. আপনি কি জানেন, বিষণ্ণতা ও দুশ্চিন্তা হলো পিসিওএস দ্বারা ঘটিত স্বাস্থ্য সমস্যা?

□ হ্যাঁ □ না □ আমার জানা নেই

**ঘ. পি.সি.ও.এস. ও এর লক্ষণসমূহ হ্রাসকরণে সচেতনতা**

১. আপনি কি জানেন, নিয়মিত শরীরচর্চা পিসিওএস ও এর দ্বারা ঘটিত স্বাস্থ্য সমস্যা হ্রাসে সহায়ক?

□ হ্যাঁ □ না □ আমার জানা নেই

২. আপনি কি জানেন, ওজন কমানো পিসিওএস ও এর দ্বারা ঘটিত স্বাস্থ্য সমস্যা হ্রাসে সহায়ক?

□ হ্যাঁ □ না □ আমার জানা নেই

৩. আপনি কি জানেন, জন্মনিয়ন্ত্রণ পদ্ধতি ব্যবহার পিসিওএস ও এর দ্বারা ঘটিত স্বাস্থ্য সমস্যা হ্রাসে সহায়ক?

□ হ্যাঁ □ না □ আমার জানা নেই

৪. আপনি কি জানেন, নিয়মিত শাকসবজি ও ফলমূল আহার পিসিওএস ও এর দ্বারা ঘটিত স্বাস্থ্য সমস্যা হ্রাসে সহায়ক?

□ হ্যাঁ □ না □ আমার জানা নেই

৫. আপনি কি জানেন, নিয়মিত আমিষ সমৃদ্ধ খাবার গ্রহণ পিসিওএস ও এর দ্বারা ঘটিত স্বাস্থ্য সমস্যা হ্রাসে সহায়ক?

□ হ্যাঁ □ না □ আমার জানা নেই

# APPENDIX – C: Questionnaire (English)

**QUESTIONNAIRE**

**A. Sociodemographic Characteristics of Study Population**

1. Age

□ 19 to 21 years □ 22 to 25 years

2. Religion

□ Islam □ Hinduism □ Buddhism □ Christianity

3. SSc background

□ Science □ Others

4. Monthly Family-Income (In Taka)

□ < 25,000 □ 25,000- 50,000 □ > 50,000

5. Marital Status

□ Married □ Unmarried

6. Age of Menarche

□ 8 – 11 □ 11 – 13 □ Above 13

**B**. **Awareness of Symptoms of PCOS**

1. Do you know PCOS can cause irregular menstrual cycle ?

**□** Yes □ No □ I don't know

2. Do you know, having facial acne is a symptom of PCOS ?

□ Yes □ No □ I don't know

3. Do you know PCOS can cause hirsutism ?

□ Yes □ No □ I don't know

4. Do you know, having PCOS can reduce fertility ?

□ Yes □ No □ I don't know

5. Do you PCOS can cause obesity ?

□ Yes □ No □ I don't know

6. Do you know PCOS can cause frontal hair loss ?

□ Yes □ No □ I don’t know

7. Do you know PCOS can cause pelvic pain ?

□ Yes □ No □ I don't know

8. Do you know PCOS can cause abortion ?

□ Yes □ No □ I don't know

9. Do you know PCOS can cause early puberty ?

□ Yes □ No □ I don't know

**C. Awareness of Complications of PCOS**

1. Do you know diabetes is a complication of PCOS ?

□ Yes □ No □ I don't know

**2**. Do you know CVS disease is a complication of PCOS ?

□ Yes □ No □ I don't know

3. Do you know breast & uterus cancer are complications of PCOS ?

□ Yes □ No □ I don't know

4. Do you know sex hormone increase is a complication of PCOS ?

□ Yes □ No □ I don't know

5. Do you know hypertension is a complication of PCOS ?

□ Yes □ No □ I don't know

6. Do you know depression and anxiety are complications of PCOS ?

□ Yes □ No □ I don't know

**D. Awareness to Decrease the Symptoms of PCOS**

1. Do you know doing exercise can decrease PCOS ?

□ Yes □ No □ I don't know

2. Do you know losing weight can decrease PCOS ?

□ Yes □ No □ I don't know

3. Do you know using contraceptives can decrease PCOS ?

□ Yes □ No □ I don't know

4. Do you know eating vegetables and fruits can decrease PCOS ?

□ Yes □ No □ I don't know

5. Do you know eating protein rich foods can decrease PCOS ?

□ Yes □ No □ I don't know