EVALUATION OF MENTAL HEALTH STATUS OF ANXIETY AMONG THE YOUNG WOMEN IN BANGLADESH.

By

Md. Robiul Islam 20346053

A thesis submitted to the School of Pharmacy in partial fulfillment of the requirements for the degree of Bachelor of Pharmacy

School of Pharmacy Brac University September 2024

© 2024. Brac University All rights reserved.

Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at Brac University.

2. The thesis does not contain material previously published or written by a third party, except

where this is appropriately cited through full and accurate referencing.

3. The thesis does not contain material which has been accepted, or submitted, for any other

degree or diploma at a university or other institution.

4. I have acknowledged all main sources of help.

Student's Full Name & Signature:

Md. Robiul Islam 20346053

ii

A	p	p	r	0	V	al

The thesis titled "Evaluation of mental health status of anxiety among the young females in Bangladesh." submitted by Md. Robiul Islam (20346053), of spring, 2024 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Bachelor of Pharmacy.

Supervised By:	
	Dr. Md. Rabiul Islam
	Associate Professor
	School of Pharmacy
	Brac University
Approved By:	
Dean:	
	A.F.M. Yusuf Haider, PhD
	Acting Dean, School of Pharmacy

Professor, Department of Mathematics and

Natural Sciences

Brac University

Ethics Statement

This project does not involve any kind of animal and human trial.

Abstract/ Executive Summary

Mental health is essential for general well-being and significantly impacts global disability

rates. Anxiety disorders are prevalent, impacting newborns, adolescents, and young adults,

especially females. The chi-square statistic, t-test statistic, and Pearson correlation coefficient

were calculated using IBM-SPSS for statistical analysis. A robust relationship was evidenced

by a substantial chi-square value and a minimal p-value, indicating a meaningful association

between anxiety and a certain group. The Pearson correlation coefficient demonstrates a

positive association between stress and outside time, whereas a negative correlation implies the

opposite. The research examines the mental health status of young women in Bangladesh,

concentrating on the age categories 18-25, 26-35, and 35-45. The research identified a strong

link between anxiety, body mass index (BMI), and Generalized Anxiety Disorder (GAD). The

results indicate that primary care physicians and educators ought to utilize markers and

stethoscopes for the early identification of worry, and impart knowledge to young women via

workshops and community talks.

Keywords: Anxiety, Anxiety Disorder, GAD Group, GAD-7, Generalized Anxiety Disorder.

V

Dedication

This project is dedicated to my parents, the unyielding foundation of my life.

Acknowledgement

I am extremely grateful to have worked under the guidance of Dr. MD. Rabiul Islam. He has been exceptionally supportive, providing constant direction throughout the project. Dr. MD. Rabiul Islam taught me how to effectively engage with people during data collection. Whenever I faced challenges, he was always there to offer help. I would like to extend my heartfelt gratitude to the School of Pharmacy and BRAC University for their invaluable help.

Table of Contents

Declaration	ii
Approval	iii
Ethics Statement	iv
Abstract/ Executive Summary	V
Dedication (Optional)	vi
Acknowledgement	vii
Table of Contents	viii
List of Tables	ix
List of Figures	xi
List of Acronyms	xiii
Glossary	xiiii
Chapter 1 Introduction	1
1.1 Background	1
1.2 Generalized Anxiety Disorder	2
1.3 Knowledge Gap	2
1.4 Objective	3
1.5 Significance	3
1.6 Why young women are more prone to anxiety	4
1.7 Prevalence's and Consequences	5

Chapter 2 literature Review6
2.1 Global Prevalence of anxiety6
Chapter 3 Methodology7
3.1 Detailed Questionnaire8
3.1.1 Generalized Anxiety Disorder (GAD-7)9
3.2 Data collection
3.2.1 Study population and site
3.3 Statistical Analysis12
Chapter 4 Result13
4.1 Description of demographic data13
4.2 Analysis of various continuous data collected for study
4.3 Results of T-test and Pearson Correlation coefficient
Chapter 5 Discussion16
5.1 Analysis of t-test
5.2 Analysis of Pearson Correlation Coefficient valus
Chapter 6 Conclusion18
References19
Annendix A

List of Table

Table 1: Generalized Anxiety Disorder – 7 (GAD-7) scale9
Table 2: Classification of anxiety based on GAD-7 scores
Table 2: Comparison between age ranges with GAD group
Table 4: Independent Samples Test (T test) between continuous group and GAD score15
Table 5: comparison between GAD and continuous variables to find p value and Pearson
correlation value

List of Figures

Line chart 1: Analysis of participant age range.	14
Line chart 2: Participants BMI range.	14
Line chart 3: Participants marital profile.	14
Line chart 4: Participants Residency profile.	14
Line chart 5: Participants Economic profile	14
Line chart 6: Participants smoking profile	14

List of Acronyms

GAD Generalized Anxiety Disorder

GHQ General Health Questionnaire

ASIR Age-Standardized Incidence Rate

DALYs Disability-Adjusted Life Years

Glossary

ASIR:

The age-standardized incidence rate is a summary measure that accounts for differences in age distribution when comparing disease rates across different populations.

DALYs:

Disability-Adjusted Life Years (DALYs) quantify the total burden of disease. They denote the aggregate years forfeited owing to poor health, incapacity or untimely demise. Established in the 1990s, DALYs facilitate the comparison of health and life expectancy among various nations.

GAD Generalized Anxiety Disorder

GHQ General Health Questionnaire

Chapter 1

Introduction

1.1 Background

Mental health and wellness are crucial to total well-being. Our emotional, physical, and social health are interconnected (Galson, 2009). The prevention of mental diseases has emerged as a fundamental aspect of contemporary clinical psychiatry (Fusar-Poli et al., 2020). Mental disorders are acknowledged as a major public health issue and a primary contributor to global disability, especially with the loss of productive years in the lives of affected individuals (Singh et al., 2022). The repercussions of these mental health concerns resonate across society. Individuals grappling with mental health issues experience significant psychological suffering and misery, as these conditions frequently hinder their capacity to lead fulfilled lives. They may face challenges in sustaining relationships, seeking educational or employment prospects, and engaging in social activities. Furthermore, mental health issues significantly impact the general functioning of communities and the nation. Reduced productivity, both in professional environments and domestic settings, is a substantial economic repercussion. Mental health disorders frequently result in absenteeism, diminished job efficiency, and prolonged disability, adversely affecting workforce productivity and economic development (Meghrajani et al., 2023).

1.2 Generalized Anxiety Disorder

The GAD-7 item scale is adaptable and highly effective tool for assessing anxiety. The GAD-7 is intended to evaluate the severity of generalized anxiety disorder. It functions as a minor anxiety investigator, posing seven essential inquiries regarding your emotions from the preceding fortnight. Participants evaluate each item on a continuum ranging from "not at all" to "nearly every day."

The GAD-7 covers various signs of GAD which include:

- Feeling uneasy.
- Worrying all the time.
- Worrying too much.
- A sense of unease.
- Having trouble unwinding.
- Apprehension that something terrible may occur.

1.3 Knowledge Gap

Inadequate understanding and related stigma impact mental health. Furthermore, ignorance on psychiatric disorders may foster stigmatizing attitudes toward mental illnesses or impede the provision of mental health care, whereas interaction with individuals suffering from mental illness may cultivate positive attitudes and informed viewpoints. Understanding the deficiencies in understanding and awareness of mental health illnesses, along with their management, is crucial (Siddique et al., 2022).

1.4 Objective

The main aim is to comprehensively assess and understand the prevalence, risk factors, and impact of anxiety among young Bangladeshi females aged 18 to 45. By employing rigorous research methodologies, we seek to unravel the intricate threads connecting cultural norms, family dynamics, and personal aspirations to their mental well-being. Through this exploration, we hope to inform evidence-based interventions, improve mental health services, and foster resilience in this vulnerable population.

1.5 Significance

Anxiety denotes the brain's reaction to perceived threats, stimuli that an organism would endeavor to evade. It is generally not pathological, as it is adaptive in numerous situations where it aids in the avoidance of danger. Robust cross-species similarities—both in organisms' reactions to peril and in the fundamental neural circuitry activated by threats—probably signify these adaptive dimensions of anxiety (Pine et al., 2008). Anxiety is often conceptualized as maladaptive when it disrupts functioning, which is likely to arise when anxiety is too frequent, intense, and enduring. Pathological anxiety is defined by disturbances in mood, cognition, behavior, and physiological functioning. They are classified into many disorders, including panic disorder, agoraphobia, GAD, specific phobia, social phobia, obsessive-compulsive disorder, acute stress disorder, and PTSD (Wolgensinger, 2015; Adwas et al., 2019). Anxiety disorders are common and incapacitating conditions that typically emerge during childhood, adolescence, and early adulthood. They are marked by a disproportionate response to the real threat and a prolonged nature, hence impairing daily functioning, unlike developmentally normative or stress-induced transient anxiety. Numerous anxiety problem impact about twice as many women as men (Craske & Stein, 2016). The historical prevalence of anxiety has garnered considerable research interest (Javaid et al., 2023).

1.6 Why young women are more prone to anxiety

Women demonstrate a markedly greater frequency of anxiety disorders. This phenomenon is ascribed to women, especially young women, being more vulnerable to several factors that may contribute to mental health disorders, including biological, psychological, and cultural influences within the local society. Anxiety symptoms may present differently in women and men, as well as during distinct times of the female lifespan. The female lifetime includes several phases of hormonal activity: adolescence, the premenstrual period, pregnancy or postpartum (in some women), and the menopausal transition. These stages present considerable therapeutic challenges in managing anxiety among women (Hantsoo & Epperson, 2017). A study including over 20,000 persons in the United States, conducted by the Collaborative Psychiatric Epidemiology Studies, revealed elevated lifetime diagnosis rates for nearly all anxiety disorders in women (McLean et al., 2011). Gender disparities in anxiety symptom trajectories may become more pronounced around middle-to-late adolescence. Teenage girls have consistently demonstrated a greater susceptibility to anxiety disorders and report elevated levels of anxiety symptoms compared to teenage boys (Ohannessian et al., 2016). A substantial body of research indicates that adolescent girls encounter elevated stress levels compared to boys, particularly concerning interpersonal stressors such as adverse occurrences and issues connected to classmates, romantic relationships, and family dynamics. Adolescence reveals that girls demonstrate a higher incidence of emotional issues compared to boys, encompassing symptoms of despair and anxiety (Moksnes et al., 2010).

1.7 Prevalence's and Consequences

Anxiety disorders are widespread worldwide (Yang et al., 2021). Anxiety disorders affect around 301 million people worldwide or around 4.05% of the total population. According to Javaid et al. 2023, the number of affected individuals has risen by approximately 55% between 1990 and 2019. Further research has confirmed that one in every 14 individuals meets the diagnostic criteria for an anxiety disorder (Craske & Stein, 2016). The increasing incidence of global anxiety significantly jeopardizes public health and quality of life, as individuals experiencing anxiety may suffer from a range of physiological symptoms, including fatigue, dizziness, headaches, nausea, abdominal pain, palpitations, shortness of breath and urinary incontinence (Racine et al., 2021). Excessive or improper anxiety adversely impacts social interactions. Anxiety diminishes the urge to engage in communication, leading persons with high anxiety to be more prone to avoiding social interactions (Wu et al., 2012). Anxiety can induce emotions of hopelessness and mental health disorders, prompting individuals to consider self-harm. This transpires due to individuals experiencing worry lacking affirmation and assistance from proximate persons, such as family and pals (Sharil et al., 2023).

Chapter 2

Literature review

2.1 Global prevalence of anxiety

Approximately 1 in 12 children and 1 in 4 teenagers are affected by anxiety disorders, which is a shockingly high number. Anxiety disorders in children and adolescents were reported at an alarming 932 million cases worldwide in 2019. In just 15 months, the frequency of depression among college students increased by 22.5% and anxiety by 27.1% (Europe PMC, 2016). Additionally, we must not overlook our teenagers. One out of four people on the planet suffer from an anxiety problem, but things are starting to change. The worldwide incidence and burden have declined throughout the last 30 years, however industrialized nations continue to face increasing rates (Lee et al., 2021). The aggregate DALYs attributable to anxiety disorders reached an astounding 380.62 million, and the age-standardized incidence rate (ASIR) was almost 739 per 100,000 individuals. Curiously, there has been a 2.2% decline in the occurrence of anxiety disorders over the last 30 years. Developed nations, on the other hand, are seeing a consistent rise in the incidence, while other regions are seeing a decline. Portugal has the highest ASIR, but Mexico has been showing no signs of slowing down, boasting the fastest rate of increase. However, when it comes to DALYs attributable to anxiety disorders in 2019, India ranked last. It appears that the availability of mental health specialists is directly correlated with the burden of anxiety disorders.

Chapter 3

Methodology

Mental health is a vital component of total well-being, and comprehending its condition within certain populations is crucial for focused interventions. In this study, we focus on young females in Bangladesh, aged 18 to 45, to assess their mental health using the GAD-7 scale. It is a widely recognized surveys administered to individuals that measures symptoms of anxiety and provides valuable insights into an individual's mental health status. Bangladesh, a densely populated South Asian country, faces unique socio-cultural challenges that impact mental health. Particularly, young females navigate a complex landscape of societal expectations, family roles, and economic pressures. Despite these challenges, there has been limited research specifically examining mental health in this demographic. Our study aims to address this gap by exploring anxiety symptoms and their prevalence among young Bangladeshi women. The inadequate understanding of mental health in Bangladesh results in insufficient care programs, thereby disregarding the mental health requirements of the populace.

This study focuses on young females, typically aged between 18 and 45 years. These participants reside in various regions across Bangladesh, representing both urban and rural settings. The study includes a mix of educational backgrounds, ranging from high school graduates to university students. Participants come from diverse occupational backgrounds, including students, professionals, and housewives. We consider a broad spectrum of income levels, acknowledging the economic diversity within this group. Participants belong to various family structures like nuclear families, joint families, or extended families. Cultural expectations significantly influence their lives, affecting decisions related to education, marriage, and career. We assess access to mental health services, considering factors like affordability, stigma, and awareness. We also try to understand how Education impacts mental well-being. We employed a stratified random sampling technique to ensure representation

across different regions and socioeconomic backgrounds. At first we collected amount of 910 reports from various region of Bangladesh. But due to some risk factor that can affect the overall analysis of this study, we deduct some report. Finally, this study includes approximately 868 young female's reports among 910 that provide a robust dataset for analysis.

3.1 Detailed questionnaire

To evaluate mental health status of anxiety among the young females in Bangladesh, this project also covers some General health questionnaires that consist of 9 questions. General health questionnaires play a crucial role in understanding and assessing various aspects of an individual's well-being. General health questionnaires provide a snapshot of a person's overall health status. By asking about various aspects like physical, mental, and emotional questions, they help to gauge how well someone is functioning. Mental health is intricately connected to physical health. By incorporating a general health questionnaire, researchers and clinicians can assess both aspects simultaneously. This holistic approach recognizes that mental well-being is influenced by factors such as overall health, lifestyle, and medical conditions. For young females, understanding their physical health alongside mental health provides a more comprehensive picture. For instance, anxiety might be exacerbated by physical health issues like chronic pain, hormonal imbalances, or sleep disturbances. Detecting these connections helps tailor treatment plans effectively (Ajele Kenni Wojujutari et al., 2024). Early detection of mental health issues is crucial. A general health questionnaire can act as a screening tool, allowing for timely intervention. If a young woman reports physical symptoms (e.g., fatigue, sleep disturbances) alongside anxiety symptoms, healthcare providers can explore further and offer support. Bangladesh has unique cultural, social, and economic contexts. General health questions help contextualize mental health findings.

3.1.1 Generalized Anxiety Disorder-7 (GAD-7)

In order to evaluate mental health, we implemented standardized surveys administered to individuals that comprised the GAD-7 scale. The data acquisition process was conducted from April to September of 2024, and it lasted approximately six months. We ensured that all participants provided informed consent and that strict confidentiality was maintained throughout the study. The GAD-7 is a surveys administered to individuals that is intended to assess the intensity of symptoms related to anxiety. It comprises seven items, each of which evaluates distinct aspects of anxiety that have been encountered within the past two weeks. Sum the scores of each item to obtain a cumulative score that ranges from 0 to 21. The GAD-7 has shown to be highly sensitive and specific in detecting GAD and other common anxiety disorders (Spitzer et al., 2006).

Generalized Anxiety Disorder 7-item (GAD-7) scale

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all sure	Several days	Over half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it's hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
 Feeling afraid as if something awful might happen 	0	1	2	3
Add the score for each column	+	+	+	
Total Score (add your column scores) =				

 $https://www.researchgate.net/figure/The-generalized-anxiety-disorder-7-item-GAD-7-scale_fig1_7064924$

The GAD-7 is composed of seven items, each of which evaluates distinct aspects of anxiety that have been experienced within the past twelve days. Sum the scores of each item to obtain a cumulative score that ranges from 0 to 21. Spitzer et al., 2006 have demonstrated that the GAD-7 is capable of detecting generalized anxiety disorder and other prevalent anxiety disorders with a high degree of specificity and sensitivity. If we categorized anxiety based on severity or score of GAD-7 score then the result is given below:

GAD-7 Scores	Anxiety level
0 – 4	No anxiety
5 - 9	Mild anxiety
10 - 14	Moderate anxiety
15 - 21	Severe anxiety
GAD-7 Scores	Anxiety level

Table 2: Classification of anxiety based on GAD-7 score

3.2 Data Collection

Awareness of mental health issues has been on the rise worldwide in recent years, and Bangladesh is not an exception. Among the various demographic groups affected, young females face unique challenges related to societal expectations, cultural norms, and gender roles. This thesis aims to evaluate the mental health status of young women in Bangladesh, shedding light on factors like anxiety.

3.2.1 Study population and site

In the pursuit of understanding the mental health landscape among young females in Bangladesh, a critical phase of this study involved data collection. This intricate process spanned both urban and rural settings, allowing us to capture a comprehensive view of the challenges and nuances faced by this demographic.

- Urban data collection: The bustling campus of BRAC University became our initial focal point. Here, I engaged with students who are our future leaders and change makers. Their perspectives were invaluable, as they straddle the complexities of academic pressures, social expectations, and personal aspirations. Through structured surveys and candid conversations, the representative convinced them to fill the data form so that a sufficient amount of urban data can be obtained. From university, the sufficient data of young females (age ranges from 18 to 25 years) was collected. To collect data of others ages, University students were requested to collect responses from parents and siblings where most of them do help to completely collect all survey data. Moreover, several responses or data have been collected from other universities and streets.
- Rural data collection: We all know that rural areas have more population than urban areas. To facilitate the data collection effort, the help was taken from some village shop owners and some relatives. As there are some well-known village shopkeepers, help is taken from them to facilitate the data collection. Whenever a female customer came to the store to buy a product, the representative there tried to convince her, if she agreed then she helped in data collection by filling the form. Moreover, village relatives have helped a lot in some data collection. In this way all the data has been collected from the rural areas.

3.3 Statistical Analysis

In this study, IBM-SPSS is used to find out chi square value, t test value and Pearson correlation coefficient values. The chi-square test helps by figure out if there's a significant association between a particular group and anxiety. If the chi-square value is large and the p-value (significance level) is small (usually less than 0.05), it means there's a strong relationship. The t-test compares the average scores between these two groups. If the t-value is large and the p-value is small, it means there's a significant difference in performance. The Pearson correlation coefficient tells you if there's a relationship between stress and outdoor time. If it's close to +1 (positive correlation), it means that as outdoor time increases, stress tends to decrease. If it's close to -1 (negative correlation), it means the opposite.

Chapter 4

Result

4.1 Description of demographic data

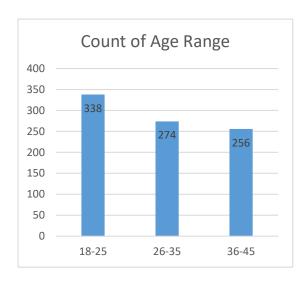
We analyze data and seek patterns that transcend demographics. We tread carefully, knowing that each participant's story is a universe unto itself.

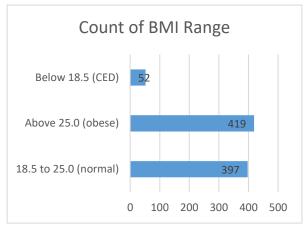
Age Range	GAD Group (No)	GAD Group (Yes)	Total
	11.40 %	88.60 %	
18-25	37	276	313
26-35	37	255	292
35-45	25	238	263
Total	99	769	868

Table 3: comparison between Age ranges with GAD group.

In this study, we try to assess the mental health condition of young females in Bangladesh. We divided the participants into three age groups: 18-25, 26-35, and 35-45. Here's what we found, in 18-25 Age Group, there were 37 participants did not report symptoms of anxiety. Among this age group, 276 participants experiencing anxiety symptoms. So, a total of 313 young women fell into this age category. Similarly, in 26-35 Age Group, 276 participants reported symptoms of generalized anxiety. But the majority of 37 participants did not experience anxiety symptoms in that range. Overall, 292 women were part of this age group. Finally, in 35-45 Age Group which is the older age group, there 238 participants reported anxiety symptoms. The remaining 25 participants did not exhibit anxiety symptoms. A total of 263 women were in this age bracket. To sum up, in total we had collect 868 reports of young women which were collected from different region of Bangladesh. Among all, 88.60% participants experiencing anxiety while 11.40% did not.

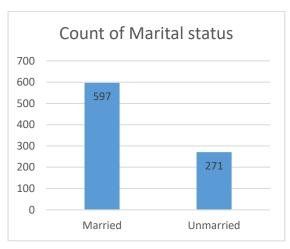
4.2 Analysis of various demographic data collected for study

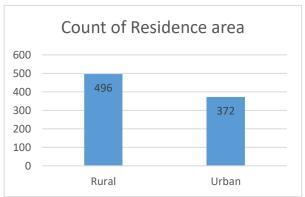




Line chart 1: Analysis of participant age range. Line ch

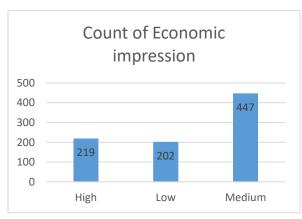
Line chart 2: Participants BMI range.

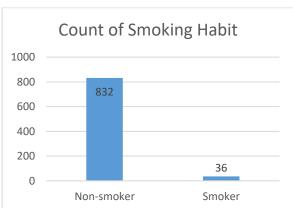




Line chart: Participants marital profile.

Line Chart 4: Participants Residency profile.





Line Chart 5: Participants Economic profile

Line Chart 5: Participants smoking profile

In this study, we assess the mental health status of young females in Bangladesh where age range is divided into 3 categories as described earlier, the BMI range is also divided into 3 categories which are below 18.5, below 25, and above 25. There were 52 participants who reported experiencing BMI below 18.5(CED), 419 participants experiencing BMI between 18.5 to 25 (normal) and 397 participants experiencing BMI above 25 (obese). On the other hand, there are 597 participants who are married and 271 participants are unmarried. Additionally, from overall reports, 496 reports are collects from rural area and 372 reports are collects from urban areas.

4.3 Results of t-test and Pearson correlation coefficient

Demographic data	Significance (p value)
Age in years	0.098
BMI	0.003
Family income	0.104

Table 4: Independent Samples Test (T test) between demographic data and GAD score.

Demographic data	Pearson correlation	Significance (p value)
Age in years	0.041	0.232
BMI	0.077	0023
Family income	0.080	0.019

Table 5: comparison between GAD and demographic data to find significance (p value) and Pearson correlation value.

Chapter 5

Discussion

In the bustling streets of Dhaka and the serene villages of rural Bangladesh, a cohort of young women silently grapples with the complexities of anxiety. These resilient souls, aged between 18 and 45 form the heart of this study which is a tapestry woven from their hopes, fears, and whispered vulnerabilities. Our study canvas spans diverse backgrounds such as university students balancing academic expectations and daughters tending to familial responsibilities. In this study, we tried to explore the intricate threads that connect cultural norms, family dynamics, and personal aspirations to their mental well-being. In this study, we wield questionnaires like brushes, painting statistical portraits of anxiety prevalence.

5.1 Analysis of T-test

A t-test is a powerful tool used to compare sample means and draw conclusions about population means. It's like the Sherlock Holmes of statistical analysis, trying to uncover hidden differences between groups. After analyzing all the data by IBM-SPSS, it is clear by observing the P value that BMI and age has a strong correlation with Anxiety. The BMI has a P value of 0.003, which is lower than the threshold of 0.05. So, BMI has a strong relation with anxiety as the P value is much less than 0.05. The value of P of age is 0.003 which is less than 0.05. So, BMI has a strong relation with anxiety as the P value is much less than 0.05.

5.2 Analysis of Pearson Correlation Coefficient values:

In the bustling the Pearson correlation coefficient (often denoted as "r") is calculated between two variables. We're essentially assessing the strength and direction of their linear relationship between two variables. However, it's not enough to just look at the value of r alone; we also need to consider the sample size (n) to evaluate the reliability of our findings. P value is also a

very effective tool to identify the results. The value of P of BMI is 0.023 which is below than 0.05. So, BMI has a strong relation with GAD as the P value is much below than 0.05. The P value of family income is 0.019 which also means the family income is also has a strong relation with GAD.

Chapter 6

Conclusion

Anxiety is not a mere whisper; it echoes through the corridors of young minds. Our study reveals that approximately 88.60% of our collected data of young females experiencing mild, moderate, severe anxiety in Bangladesh who are experience mild to severe anxiety symptoms. Consequently, primary care physicians and educators must equally employ their markers and stethoscopes. Routine anxiety screening during health check-ups and in educational institutions can detect murmurs before they escalate into tempests. Empowering young women with knowledge can be achieved through workshops, pamphlets, and community lectures. It is imperative that they acknowledge anxiety as a shared human experience, rather than as a sign of frailty. We request that mental health support be integrated into the current healthcare infrastructure. It is imperative that we monitor these young women over the course of several years. In the tranquility of our research rooms, we envision a Bangladesh in which compassion replaces anxiety and the voices of young women are not echoed in dread, but in hope.

References

- 1. Islam, M. S., & Rahman, M. E. (2016). "Depression and anxiety among university students in Bangladesh: A pilot prevalence study." North American Journal of Medical Sciences, 8(3), 162–164.
- 2. Hossain, M. D., & Ahmed, H. U. (2019). "Mental disorders in Bangladesh: A systematic review." BMC Psychiatry, 19(1), 49.
- 3. Spitzer RL, Kroenke K, Williams JBW, Lowe B. A brief measure for assessing generalized anxiety disorder. Arch Inern Med. 2006;166:1092-1097
- Hasan, M. T., Anwar, T., Christopher, E., Hossain, S., Hossain, M. M., Koly, K. N., Saif-Ur-Rahman, K. M., Ahmed, H. U., Arman, N., & Hossain, S. W. (2021). The current state of mental healthcare in Bangladesh: part 1 an updated country profile. BJPsych International, 18(4), 1–5.
 https://doi.org/10.1192/bji.2021.41
- 5. Ajele Kenni Wojujutari, Erhabor Sunday Idemudia, & Lawrence Ejike Ugwu. (2024). The evaluation of the General Health Questionnaire (GHQ-12) reliability generalization: A meta-analysis. *PLoS ONE*, *19*(7), e0304182–e0304182. https://doi.org/10.1371/journal.pone.0304182
- 6. Europe PMC. (2016). *Europe PMC*. Europepmc.org. https://europepmc.org/article/PMC/PMC7781410
- 7. Lee, J., Jeong, H. J., & Kim, S. (2021). Stress, anxiety, and depression among undergraduate students during the COVID-19 pandemic and their use of mental health services. *Innovative Higher Education*, 46(5). https://doi.org/10.1007/s10755-021-09552-y

- 8. Adwas, Almokhtar & Jbireal, J. & Azab, Azab. (2019). Anxiety: Insights into Signs, Symptoms, Etiology, Pathophysiology, and Treatment. The South African journal of medical sciences. 2. 80-91.
- Beesdo, K., Knappe, S., & Pine, D. S. (2009). Anxiety and Anxiety disorders in children and Adolescents: Developmental issues and implications for DSM-V. *Psychiatric Clinics of North America*, 32(3), 483–524.
 https://doi.org/10.1016/j.psc.2009.06.002
- Craske, M. G., & Stein, M. B. (2016). Anxiety. *The Lancet*, 388(10063), 3048–3059.
 https://doi.org/10.1016/s0140-6736(16)30381-6
- 11. Farhane-Medina, N. Z., Luque, B., Tabernero, C., & Castillo-Mayén, R. (2022). Factors associated with gender and sex differences in anxiety prevalence and comorbidity: A systematic review. *Science Progress*, 105(4), 003685042211354. https://doi.org/10.1177/00368504221135469
- Fusar-Poli, P., De Pablo, G. S., De Micheli, A., Nieman, D. H., Correll, C. U., Kessing,
 L. V., Pfennig, A., Bechdolf, A., Borgwardt, S., Arango, C., & Van Amelsvoort, T.
 (2020b). What is good mental health? A scoping review. European Neuropsychopharmacology.

https://doi.org/10.1016/j.euroneuro.2019.12.105

- Galson, S. K. (2009). Mental Health Matters. *Public Health Reports*, 124(2), 189–191. https://doi.org/10.1177/003335490912400202
- 14. Hantsoo, L., & Epperson, C. N. (2017). Anxiety Disorders among Women: A Female Lifespan approach. FOCUS the Journal of Lifelong Learning in Psychiatry, 15(2). https://doi.org/10.1176/appi.focus.20160042

- Javaid, S. F., Hashim, I. J., Hashim, M. J., Stip, E., Samad, M. A., & Ahbabi, A. A. (2023). Epidemiology of anxiety disorders: global burden and sociodemographic associations. *Middle East Current Psychiatry*, 30(1).
 https://doi.org/10.1186/s43045-023-00315-3
- 16. Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H. U., & Kendler, K. S. (1994). Lifetime and 12-Month prevalence of DSM-III-R psychiatric disorders in the United States. *Archives of General Psychiatry*, 51(1). https://doi.org/10.1001/archpsyc.1994.03950010008002
- 17. Moksnes, U. K., Moljord, I. E., Espnes, G. A., & Byrne, D. G. (2010). The association between stress and emotional states in adolescents: The role of gender and self-esteem. Personality and Individual Differences, 49(5), 430–435. https://doi.org/10.1016/j.paid.2010.04.012
- 18. McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness.

 Journal of Psychiatric Research, 45(8), 1027–1035.

 https://doi.org/10.1016/j.jpsychires.2011.03.006
- 19. Manwell, L. A., Barbic, S. P., Roberts, K., Durisko, Z., Lee, C., Ware, E., & McKenzie, K. (2015). What is mental health? Evidence towards a new definition from a mixed methods multidisciplinary international survey. *BMJ Open*, 5(6), e007079. https://doi.org/10.1136/bmjopen-2014-007079
- Munir, S., & Takov, V. (2022). Generalized Anxiety Disorder. In *StatPearls*. StatPearls
 Publishing.

21. Meghrajani, V. R., Marathe, M., Sharma, R., Potdukhe, A., Wanjari, M. B., & Taksande, A. B. (2023). A Comprehensive Analysis of Mental Health Problems in India and the Role of Mental Asylums. *Cureus*. https://doi.org/10.7759/cureus.42559

22. Ohannessian, C. M., Milan, S., & Vannucci, A. (2016). Gender Differences in Anxiety

Trajectories from Middle to Late Adolescence. *Journal of Youth and Adolescence*,

46(4), 826–839.

https://doi.org/10.1007/s10964-016-0619-7

- 23. Pine, D. S., Helfinstein, S. M., Bar-Haim, Y., Nelson, E., & Fox, N. A. (2008).
 Challenges in Developing Novel Treatments for Childhood Disorders: Lessons from
 Research on Anxiety. *Neuropsychopharmacology*, 34(1), 213–228.
 https://doi.org/10.1038/npp.2008.113
- 24. Purtle, J., Nelson, K. L., Counts, N. Z., & Yudell, M. (2020). Population-Based Approaches to Mental Health: History, Strategies, and Evidence. *Annual Review of Public Health*, 41(1), 201–221.
 https://doi.org/10.1146/annurev-publhealth-040119-094247
- 25. Penninx, B. W., Pine, D. S., Holmes, E. A., & Reif, A. (2021). Anxiety disorders. *The Lancet*, 397(10277), 914–927.
 https://doi.org/10.1016/s0140-6736(21)00359-7
- 26. Quek, N., Tam, N., Tran, N., Zhang, N., Zhang, N., Ho, N., & Ho, N. (2019). The Global Prevalence of Anxiety among Medical Students: A Meta-Analysis. International Journal of Environmental Research and Public Health, 16(15), 2735. https://doi.org/10.3390/ijerph16152735

- 27. Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021).
 Global prevalence of depressive and anxiety symptoms in children and adolescents during
 COVID-19. JAMA Pediatrics, 175(11), 1142.
 https://doi.org/10.1001/jamapediatrics.2021.2482
- 28. Sharil, S., Roshdan, N. F. M., Asan, A. H. @., & Zhaffar, N. M. (2023). Causes and effects of anxiety among young women. *International Journal of Academic Research in Business and Social Sciences*, *13*(11). https://doi.org/10.6007/ijarbss/v13-i11/19417
- 29. Singh, V., Kumar, A., & Gupta, S. (2022). Mental Health Prevention and Promotion— A Narrative Review. Frontiers in Psychiatry, 13. https://doi.org/10.3389/fpsyt.2022.898009
- 30. Wood, A. M., & Joseph, S. (2010). The absence of positive psychological (eudemonic) well-being as a risk factor for depression: A ten year cohort study. *Journal of Affective Disorders*, 122(3), 213–217.
 https://doi.org/10.1016/j.jad.2009.06.032
- 31. Siddique, M. a. B., Ovi, M. R., Ahammed, T., Chowdhury, M. a. B., & Uddin, M. J. (2022). Mental health knowledge and awareness among university students in Bangladesh. *Heliyon*, 8(10), e11084. https://doi.org/10.1016/j.heliyon.2022.e11084
- 32. Wolgensinger, L. (2015). Cognitive behavioral group therapy for anxiety: recent developments. *Dialogues in Clinical Neuroscience*, 17(3), 347–351. https://doi.org/10.31887/dcns.2015.17.3/lwolgensinger
- 33. Wu, T., Luo, Y., Broster, L. S., Gu, R., & Luo, Y. (2012). The impact of anxiety on social decision-making: Behavioral and electrodermal findings. *Social Neuroscience*, 8(1), 11–21. https://doi.org/10.1080/17470919.2012.694372

Appendix A:

A study on the prevalence and associated risk factors for mental health problems among the young females in Bangladesh.

[বাংলাদেশী মহিলাদের উপর মানসিক স্বাস্থ্য (অ্যাংজাইটি) এবং তার কারণ নিয়ে একটি গবেষণা।

The survey is designed to assess the mental health of the young females in Bangladesh. This research work has received ethical approval from an Institutional Review Board (UAP/REC/2023/201-S). This is completely an anonymous survey where no one will identify you or compromise your privacy requested here. All information collected here only for explaining the various aspects of this study that will be kept confidential. Your consent to participate in this survey is very important. Thank you in advance for your cooperation in this noble initiative.

্রিই গবেষণাটি বাংলাদেশের মহিলাদের মানসিক স্বাস্থ্য এবং তার কারণ মূল্যায়ন করার জন্য করা হয়েছে। এই গবেষণা কার্যক্রমটি একটি ইনস্টিটিউশনাল রিভিউ বোর্ড (UAP/REC/2023/201-S) থেকে নৈতিক অনুমোদন পেয়েছে। এটি সম্পূর্ণরূপে একটি অজ্ঞাতনামা নামবিহীন জরিপ যেখানে আপনাকে শনাক্ত করা যাবে না কিংবা আপনার প্রধানকৃত তথ্য শতভাগ গোপন ও সুরক্ষিত থাকবে। আপনার দেওয়া সকল তথ্য শুধুমাত্র গবেষণার কাজে এবং একাডেমিক উদ্দেশ্যে গোপনীয়তা বজায় রেখে ব্যবহার করা হবে। এই গবেষণায় অংশগ্রহণের জন্য সম্মতি খব গুরুত্বপর্ণ। এই মহৎ উদ্যোগে আপনার সহযোগিতার জন্য অগ্রিম ধন্যবাদ।

Express your consent to participate in the research and processing of anonymous data for scientific purposes [এই নাম বিহীন/অজ্ঞাতনামা বৈজ্ঞানিক সমীক্ষায় অংশগ্রহণের জন্য সম্মতি প্রকাশ করুন।]

*I am a Bangladeshi citizen and have no objection to the privacy policy of this survey and the information collected. I voluntarily agree to take part in this study. [আমি একজন বাংলাদেশী নাগরিক এবং এই সমীক্ষায় গোপনীয়তা নীতি এবং সংগৃহীত তথ্য নিয়ে আমার কোন আপন্তি নেই। আমি স্ব-ইচ্ছায় গবেষণায় অংশ নিতে সম্মত।

```
o I do agree (আমি একমত)
```

o I do not agree (আমি একমত নই)

Please tick one box for each statement [প্রতিটি উক্তির জন্য যেহেতু আপনার মতামতকে সবচেয়ে ভালোভাবে বর্ণনা করে তার চিহ্নিত করুন্

Section 01: General Questions (সাধারণ প্রশ্ন)

- 6. Family income monthly (KBDT) [পারিবারিক মাসিক আয় (হাজারে)]
 - o
- 7. Living status [বসবাসের অবস্থা]
 - o With family (পরিবারের সাথে)
 - o Without family (পরিবার ছাড়া)
- 8. Smoking habit [ধুমপানের অভ্যাস]
 - o Non-smoker (অধুমপায়ী)
 - o Current smoker (ধুমপায়ী)
 - o Ex-smoker (আগে ধূমপায়ী ছিলেন)
- 9. Residence area [বসবাসের এলাকা]
 - o Urban (শহর)
 - o Rural (গ্রাম)

Section 2: Mental Health Related Questions (মানসিক স্বাস্থ্য

সম্পর্কিত প্রশ্ন) GAD-7 for Anxiety

- 1. Over the last 2 weeks, how often have you been bothered by feeling nervous, anxious or on edge? [বিগত দুই সপ্তাহে কতবার আপনি বিচলিত, উদ্বিগ্ন এবং চিন্তিত অনুভব করেছেন?]
 - o Not at all (0) (একবারেই না)
 - o Several days (1) (মাঝে মাঝে)
 - o More than half the days (2) (বেশিরভাগ দিন)
 - o Nearly every day (3) (প্রায়ই)
 - 2. Over the last 2 weeks, how often have you been bothered by not being able to stop or control worrying? [বিগত দুই সপ্তাহে কতবার আপনি উদ্যোগ প্রশমিত অথবা নিয়ন্ত্রণ করতে ব্যর্থ হয়েছেন?]
 - o Not at all (0) (একবারেই না)
 - o Several days (1) (মাঝে মাঝে)
 - o More than half the days (2) (বেশিরভাগ দিন)
 - o Nearly every day (3) (প্রায়ই)
- 3. Over the last 2 weeks, how often have you been bothered by worrying too much about different things? [বিগত দুই সপ্তাহে আপনি কতবার বিভিন্ন বিষয় নিয়ে অতিরিক্ত উদ্বিগ্নবোধ করেছে?]
 - o Not at all (0) (একবারেই না)
 - o Several days (1) (মাঝে মাঝে)
 - o More than half the days (2) (বেশিরভাগ দিন)
 - o Nearly every day (3) (প্রায়ই)
 - 4. Over the last 2 weeks, how often have you been bothered by trouble relaxing? [বিগত দুই সপ্তাহে আপনি কতবার শান্ত অথবা স্থির হতে ব্যর্থ হয়েছে?]
 - o Not at all (0) (একবারেই না)
 - o Several days (1) (মাঝে মাঝে)
 - o More than half the days (2) (বেশিরভাগ দিন)
 - o Nearly every day (3) (প্রায়ই)

5. Over the last 2 weeks, how often have you been bothered by being so restless that it's hard to sit still' [বিগত দুই সপ্তাহে কতবার আপনি এতটাই অস্থিরতা বোধ করেছেন যে আপনার কাছে স্থির হয়ে বস্থোকা কঠিন মনে হয়েছে?] o Not at all (0) (একবারেই না)	
o Several days (1) (মাঝে মাঝে) o More than half the days (2) (বেশির ভাগ দিন) o Nearly every day (3) (প্রায়ই)	
o Nearly every day (3) (প্রার্থ) 6. Over the last 2 weeks, how often have you been bothered by becoming easily annoyed or irritable? [বিগত দুই সপ্তাহের কতবার আপনি অতি সহজে বিরক্ত বোধ করেছেন ?] o Not at all (0) (একবারেই না) o Several days (1) (মাঝে মাঝে) o More than half the days (2) (বেশির ভাগ দিন) o Nearly every day (3) (প্রায়ই)	
7. Over the last 2 weeks, how often have you been bothered by feeling afraid as if something awful migh happen? [বিগত দুই সপ্তাহে কতবার আপনি ভয়াবহ কিছু ঘটার সম্ভাবনের ভীত বোধ করে বিচলিত হয়েছেন?] o Not at all (0) (একবারেই না) o Several days (1) (মাঝে মাঝে) o More than half the days (2) (বেশির ভাগ দিন) o Nearly every day (3) (প্রায়ই)	
Any comments [আপনার মতামত]	

Thank you for completing this survey [আপনার সহযোগিতার জন্যে অসংখ্য ধন্যবাদ।]