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Research article

Mental health knowledge and awareness among university students in Bangladesh

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ABSTRACT

Negative attitudes toward mental illness and treatment are attributed to a lack of or inaccurate mental health knowledge. We aimed to assess the current mental health knowledge and awareness among Bangladeshi university students and identified socio-demographic factors that affect them. Between February and April of 2021, a cross-sectional study of 2036 university students in Bangladesh was conducted. Two different questionnaires (i.e., knowledge and awareness) were developed to assess mental health knowledge and awareness. The two outcome variables in this study were mental health knowledge level and awareness level. The cut-off value was taken as 80% of the total scores of both the knowledge and awareness scales and divided into higher and lower groups. Data were analyzed using different descriptive statistical tools and binary logistic regression model. We found more than half (62.1%) of the students had higher knowledge, and 85.1% of the students had a higher awareness of mental health problems. Female students (OR 1.41, 95% confidence interval (CI): 1.15–1.72) and students managing their expenses by personal income and family support were significantly positively associated with the high knowledge of the mental health (OR 1.79, 95% CI: 1.40–2.29). Similarly, age (OR 1.47, 95% CI: 1.01–2.14) was significantly associated with high awareness. Good mental health was significantly negatively associated with the high knowledge (OR 0.72, 95% CI: 0.6–0.87) and positively associated with the high awareness (OR 1.48, 95% CI: 1.15–1.91). Although mental health awareness is high among Bangladeshi university students, knowledge of mental health is insufficient. As a result, it is essential to comprehend the gaps in knowledge and awareness of mental health disorders, as well as how they are addressed.

1. Introduction

The mental health of university students is becoming a growing problem throughout the world [1]. After graduating from higher secondary school (high school in some developed countries), students may encounter a variety of issues (e.g., dormitory life, study stress, lack of time management, unhealthy eating habits, sleeping disorders, smoking, problematic internet usage, and sedentary behavior) in their new academic setting [2]. During this period of transition, students struggle to deal with the intellectual and social obstacles of university studies, which is vital for their preparation for professional jobs through the development of professional knowledge and experience [3, 4, 5]. Even, the development of an autonomous personal life requires various psycho-social and psychological adjustments for most undergraduate students [6]. Moreover, the university environment may possess a lot of surprises and sometimes can be unbearable and bring unexpected problems for some fresher students, and they may lack the psychological resilience to deal with such situations [3, 7].

As a result, after a given period, students may experience severe stress, anxiety, self-harm, including suicidal ideation or attempt, and so on. In recent years, for example, multiple mental health-related incidents (e.g., suicidal attempts or suicide) have taken place in several universities in Bangladesh [5]. Previous research has found that university students throughout the world, not only in Bangladesh, suffer from high rates of psychological morbidity, including depression and anxiety [8]. In Australia, poor mental health was found to be marginally connected to

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poor test performance and subsequent university dropout. Over 44% of overseas graduate university students said that they had had an emotional or stress-related problem that had a major impact on their well-being or academic performance [9]. A study conducted in Yogyakarta, Indonesia showed that one-third of university students, for example, suffer from a diagnosable mental illness, and 64% of those who dropped out of college did so because of a mental condition [10].

Around 70%–75% of adults have mental health issues, and mental illnesses begin in adolescence or early adulthood (12–25 years) [11]. It accounts for 13% of the worldwide burden of disease as assessed by disability-adjusted life years [7]. However, it is a little lower in Bangladesh (11.2%) [12]. According to Global Burden of Disease (GBD) 2017, Bangladesh has a 0.2% schizophrenia incidence, compared to 0.3 % Asia and 0.3% worldwide. The estimations of epilepsy and bipolar disorder in Bangladesh are close to regional and worldwide figures [13]. Depression is more common in Bangladesh (2.8%) than in the rest of Southeast Asia (2.2%), particularly among women (3.6% vs 2.7%). In Bangladesh, women commit suicide at a greater rate than males (8.7 vs. 6.8) suicide deaths per 100,000 population. The prevalence estimates for schizophrenia and associated psychotic illnesses in the adult population from the Bangladesh household mental health survey were 1.0% and 6.7%, respectively, which is much higher than the estimation of GBD reports [14, 15]. As a result, mental diseases are one of the top ten priority health problems in Bangladesh, as recognized by the government of Bangladesh [16].

According to the research of adolescents, increasing awareness of mental diseases led to more empathy and sensitivity toward those with mental health problems [17]. Previous research, however, indicated that public attitudes regarding persons with mental illness had not changed over the last several decades [18, 19]. This might be due to a lack of mental health knowledge and awareness. For example, Abolfotouh's study with adults aged 18 or above in Saudi Arabia found that 87.5% of participants have lack mental health knowledge [20]. According to research conducted among students at an Indonesian university, 50.23 % were knowledgeable about mental health [21]. Even among medical students, in their early years, a study identified significant knowledge and attitude inadequacies [22].

Insufficient knowledge and associated stigma affect mental health [23]. Moreover, lack of knowledge of psychiatric diseases may impact stigmatizing attitudes toward mental diseases [24] or create a barrier to the delivery of mental health care [25], while engagement with mentally ill persons may result in positive attitudes and enlightened perspectives. Due to insufficient knowledge, mental health problems are not often seen as a health issue, and they are rarely given the utmost attention in healthcare delivery. These problems are more prevalent in low and medium-income nations than economically developed ones [26]. It is shocking how common depression, anxiety, and stress symptoms are among university students.

In the US, national epidemiological research has found that over a half of college students tested to fit the criteria for mental disease, but only about a 1⁄4 sought treatment [27]. Another study found that almost 70%–80% of young adults do not get the treatment they need all over the world [27]. It indicates that undergraduate students' psychological morbidity is a neglected public health issue with important consequences [28]. As a result, undergraduate education is a crucial period in a student's life, and many people consider it crucial for creating systems and intervention approaches that can help prevent mental illnesses [8, 29].

This emphasizes the need for primary and secondary preventive strategies, as well as the creation of necessary and suitable support services for this particular group [8]. Therefore, mental health studies are required to identify the prevalence of mental health knowledge and awareness among university students to establish targeted initiatives to address such prevalences [11] and awareness through anti-stigma campaigns and public education via schools and the media are crucial [20, 22]. Although previously, one study by Nazim et. al., conducted in a rural area of Bangladesh, investigated the level of awareness, knowledge, and help-seeking attitudes and behaviors among adults regarding mental health disorders [11]. However, to the best of our knowledge, no study has been conducted in Bangladesh to assess overall mental health knowledge and awareness among university students. Thus, our objective is to evaluate mental health knowledge and awareness status among university students in Bangladesh and assess a variety of socio-demographic parameters that might affect them.

2. Methods

2.1. Study population, data source and sample size

We conducted a cross-sectional study of 2036 (1379 male and 657 female) university students of Bangladesh between February and April 2021. The optimum sample size for this cross-sectional study was calculated approximately 2036 by applying the following sample size formula for our study where P = 0.5 was assumed as population proportion was unknown, and margin of error was set as 0.025.

$$S = Z^2 \times \frac{P(1-P)}{d^2}$$

where.

S = Sample size.
Z = Z-score.
P = Population proportion (Assumed as 0.5).
d = Margin of error (0.02).

We collected data from five different schools of discipline, i.e., applied science, arts, business administration, life science, and physical science of 96 public and private universities in Bangladesh. Most university students in Bangladesh study in one of these five schools. As a result, we picked these schools for our study. Then students were selected from the schools according to the proportional allocation. Moreover, we excluded medical, public health, and psychology department students because they might learn necessary pieces of knowledge about mental health in their academic curriculum. We conducted an online questionnaire survey (Appendix-1). There are 155 universities in Bangladesh (52 public and 103 private universities) [30]. During the data collecting period, a strict lockdown was imposed all over the country due to the COVID-19 pandemic. Therefore, we conducted an online questionnaire survey (Appendix-1). The online questionnaire survey is convenient, cheaper, and time-saving [31, 32]. To ensure that our sample is representative of the population, we contacted students of all the universities in Bangladesh and requested them to fill up the questionnaire. After collecting our estimated sample size (2036), we found that the collected samples covered 96 universities (39 public and 57 private universities), which was approximately two-thirds of the total number of universities in Bangladesh and ensure the representativeness (Appendix 1).

2.2. Ethics approval and consent to participate

The study's aims and purposes were thoroughly explained to the respondents before the data collection and consent were taken from all participating students. Collected data was kept safe and participants' anonymity and data confidentiality were assured. The ethical clearance was approved by the Biostatistics Research Ethical Review Committee of the Department of Statistics, Shahjalal University of Science and Technology, Sylhet, Bangladesh (no. sta/2021/7/Mehran_Ovi/02). It was carried out in compliance with the ethical codes stated in the 1964 Helsinki Declaration and its subsequent revisions. Moreover, respondents' concerns regarding the research were clarified, and misconceptions were resolved. Respondents were assured that their participation in the research was completely voluntary and that they might quit at any moment.

2.3. Study instruments

We had developed a four-section questionnaire to describe the demographic characteristics, knowledge, and awareness of mental health

among students in Bangladeshi universities and validated the questionnaire by two expert psychometricians. We have also used Goldberg's GHQ-12 (General Health Questionnaire) questionnaire items for assessing participants' mental health conditions [33, 34]. From earlier studies [21, 35, 36, 37, 38], twenty-four questions for assessing mental health knowledge and twelve questions for testing mental health awareness and seven questions for measuring belief towards mental health were employed. We collected the questionnaire items from those studies and validated the correct answers by checking them. The questions were designed to highlight a list of issues on an understanding of mental health knowledge concerning mental diseases and social stigma or other components impacting mental health (like ADHD, OCD, etc.). Students were able to understand the multiple components of mental health knowledge. Without some positive questions, especially "OCD (Obsessive Compulsive Disorder) is one of the psychological problems", "ADHD or lack of confidence is one of the psychological problems", "Children of mentally ill patients may also develop mental illness", "Psychological problems can develop during or after pregnancy", and one reverse-coded question ("Most mental disorders cannot be cured"), more than 80% of participants answered the remaining questions properly. It indicates satisfying mental health knowledge of university students in multidimensional perspectives.

Questionnaire items were slightly modified to use the appropriate language for the target population, and a translation to Bangla was added to each item. Participants were asked to respond to the statements on a five-point Likert scale as follows: strongly agree (=1), through neutral (=3), to strongly disagree (=5). A pilot study was conducted with 56 respondents to examine reliability. Then the finalized questionnaires were distributed among the participants. 2055 participants completed and submitted the questionnaire, of which 2036 were useable. The resultant pilot research data was not included. Some questions were constructed negatively for analytical reasons; their replies were reverse coded so that we could assess the overall mental health knowledge and awareness.

2.4. Outcome variables

Each statement within the knowledge and awareness domains was graded on a scale of one to five. A higher score indicates a higher knowledge of mental health. The knowledge scale had a total possible score ranging from 24 to 120 points and the awareness scale from 12 to 60 points, respectively. Based on the total of these values, a knowledge and awareness score variable was created and used as an outcome variable. As the knowledge and awareness scores of the participants did not follow the normal distribution, the scores were categorized using the 80 percent cut-off score, which in this instance was 96 for knowledge and 48 for awareness. Similar cut-off values were taken in different previous studies [39, 40, 41]. Therefore, a score $\geq$96 indicates a higher level of knowledge, while a score $<$96 indicates a lower level of knowledge. Similarly, $\geq$48 scores in awareness indicate the higher awareness and $<$48 indicates the lower awareness, respectively.

2.5. Explanatory variables

Through literature review, the socioeconomic variables, i.e. participants' gender, age [11, 21, 24], university type, academic year, sources of personal expenses, and mental well-being were included in this study. Participants' age was divided into two groups (17–22, and 23 years old or above). For university types, two general types were used for classification: public and private universities. The sources of expenses of the participants were factored in as personal income, support from family, and both. Mental health well-being was assessed using a 12-item version of the widely used General Health Questionnaire (GHQ-12), a self-administered assessment tool intended for use in mental health screening to identify the severity of a mental problem [33, 34].

2.6. Statistical analysis

Descriptive statistics (e.g., frequencies, percentages, and means) were used to describe the demographic characteristics of the respondents. A binary logistic regression model was used to analyze the effects of socio-demographic and other variables on outcome variables, i.e., the degree of knowledge or awareness. The logistic regression results were used to determine 95% confidence intervals of the estimates. A p-value of less than 0.05 was regarded as significant. All analyses were performed using SPSS Version 25 (Chicago, IL), R version 4.0.3 and Microsoft Excel. We have found standardized Cronbach's alpha for checking the reliability of two scales, i.e., knowledge and awareness, at 0.77 and 0.85, respectively.

3. Result

3.1. Demographic characteristics

The mean knowledge question scores for different demographic categories of the participants were shown in Table 1. A total of 2036 residents completed the questionnaires excluding 177 respondents from medical colleges with a response rate of 96.56% with a response rate of 95.1%, and their demographic characteristics were presented in (Table 1). Male students comprised the majority of participants (67.7%) and followed by female students (32.3%). The fourth year had the highest of participants (22.9%), while the fifth year had the lowest percentage (11.9%). The majority (83.4%) of students heard about mental health. More than half of the students heard about World Sleep Day and Suicide Prevention Day (51.2% and 52.2%, respectively).

Most of the respondents (61.64%) managed the expenses by support from family, while 17.7% of students managed by personal income and rest of the of students (20.63%) managed in both ways.

The data also represented that, applied science had the highest rate (41.66%) of participation among the other disciplines. Moreover, the majority of the students (78.8%) attended from public universities, and more than half of the students (62.8%) were less than 22 years old (Table 1).

Table 1. Demographic characteristics of participants.

Demographic characteristics	N (%)
Gender	
Female	657 (32.3)
Male	1379 (67.7)
Academic Year	
First Year	408 (20.0)
Second Year	464 (22.8)
Third Year	454 (22.3)
Fourth Year	467 (22.9)
Fifth Year or Masters	243 (11.9)
Sources of expenses	
Personal income	361 (17.7)
Support from family	1255 (61.6)
Personal income and support from family	420 (20.6)
Type of University	
Public	1605 (78.8)
Private	431 (21.2)
Age	
17–22 years	1279 (62.8)
>22 years	757 (37.2)
School of Discipline	
Applied Science	809 (41.66)
Arts	264 (13.59)
Business Administration	257 (13.23)
Life Science	110 (5.66)
Physical Science	502 (25.85)