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Prevalence and Predisposing Factors of Suicidal Ideation Among the University Students in Bangladesh: A Single-Site Survey

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Abstract

Recently, suicide among Bangladeshi university students has become a serious problem. However, to date, there have been no studies assessing suicidal behaviors among Bangladeshi students. Therefore, the present study investigated suicidal ideation (SI) and its risk factors among this population. A classroom-based convenience sampling method was utilized to survey 665 students of a university in Bangladesh (67.5% males; aged 21.16 years: $SD \pm 1.6$). In addition to socio-demographic questions, the survey also included the Smartphone Application-Based Addiction Scale, Bergen Facebook Addiction Scale, and Depression Anxiety Stress Scale–21. Results showed that the prevalence of suicidal ideation was 2.3% in the past 24 h, 4.8% in the past 15 days, 6.9% in the past month, 14.7% in the past year, and 61.1% in the lifetime. The unadjusted regression model showed that being divorced (or separated) from a partner ($OR = 4.486$, 95% $CI = 1.972–10.207$, $p < 0.0001$), Facebook addiction ($OR = 1.550$, 95% $CI = 1.006–2.388$, $p = 0.047$), depression ($OR = 1.657$, 95% $CI = 1.677–4.211$, $p < 0.0001$), anxiety ($OR = 2.649$, 95% $CI = 1.624–4.320$, $p < 0.0001$), and stress ($OR = 2.626$, 95% $CI = 1.673–4.122$, $p < 0.0001$) were the risk factors of past-year SI. Compared with global prevalence rates, the present study reported higher levels of SI prevalence. Therefore, supportive suicide prevention programs are needed to tackle SI and alongside comorbid psychopathology.

Keywords Suicidal ideation · Psychopathology · Facebook addiction · Depression · Anxiety · Stress · Bangladeshi students

Suicidal behaviors are complex life-threatening phenomena that can adversely affect individuals' health and can have consequences for the emotional state of families and the community (Eaton et al. 2011). Suicidal phenomena can comprise various degrees and types of suicidal ideation, suicidal attempts, and actual suicide occurrences (Klonsky et al. 2016). The

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relationship between these phenomena and vulnerable populations is of great relevance to clinicians in their attempts to identify those at highest risk of suicide (Bebbington et al. 2010; Klonsky et al. 2016).

Suicide and suicidal behaviors are closely related and the associated risk factors can be divided into two major groups (i.e., distal [predisposing] factors and proximal [precipitating] factors) (Blasco et al. 2019; Klonsky et al. 2016). Proximal risk factors are those factors that have a direct contributing role in suicidality such as hopelessness, depression, impaired memory specificity, and psychiatric disorders (e.g., bipolar disorders, anxiety disorders, stress-related disorders). Distal risk factors are predisposing risk factors that often contribute to and/or interplay with the aforementioned proximal factors (e.g., childhood adversities, interpersonal violence, bullying or dating violence in early life, parental psychopathology, parental death, family divorce and/or discord, epigenetic changes, and genetic influences) (Beautrais 2000; Blasco et al. 2019; Franklin et al. 2017; Turecki and Brent 2016). Additionally, recent studies have suggested problematic technology use (i.e., internet addiction, Facebook addiction, smartphone addiction) can also play direct and indirect roles in suicide and suicidal behaviors via associated behaviors such as emotional distress and sleep disturbance (Becker et al. 2004; Cheng et al. 2015; Guo et al. 2018; Jasso-Medrano and Lopez-Rosales 2018; Kim et al. 2019; Luxton et al. 2012; Mok et al. 2015; Wong et al. 2013).

As reported by the World Health Organization (WHO), approximately 80% of world suicides occur in low- and middle-income countries such as Bangladesh, where the present study was carried out (WHO 2019). The country has been reported to have approximately eight suicides per 100,000 people annually although the actual rate is believed to be higher than that reported rate because many Bangladeshi individuals would rather have the cases be classed as accidental deaths rather than suicide to avoid post-mortem complexities such as families not wanting to get the police involved and families not wanting the burial of the body to be delayed (Arafat 2019). This is reflected by recent retrospective studies among Bangladeshi student populations (Arafat and Mamun 2019; Griffiths et al. 2020; Mamun et al. 2020a, b; Mamun and Griffiths 2020a, b), and by Feroz et al. (2012) who claimed the suicide rate in Bangladesh was approximately 129 per 100,000 population (although this was a non-representative study carried out in a rural area).

Moreover, utilizing suicide press reports Shah et al. (2017) suggested that individuals aged below 30 years comprise 61% of total suicide cases reported cases in Bangladesh. Arguably, many of these are likely to be students. However, it should be noted that the mass media may selectively report specific suicides more than others, including youth suicides which are considered to be more newsworthy. Additionally, Bangladesh still lacks any kind of epidemiological study concerning suicidal behaviors among students (i.e., suicidal ideation, plans, attempts), although suicidality among the general population has been examined in a few studies (e.g., Arafat et al. 2018; Begum et al. 2017; Feroz et al. 2012; Salam et al. 2017). Consequently, there is a large knowledge gap because Bangladeshi student suicides are a neglected topic by researchers, health policymakers, and the medical profession (Arafat 2019; Mashreky et al. 2013). Therefore, the present study examines suicidal ideation among Bangladeshi students particularly because adequate benchmark data concerning suicidal behaviors and its associated risk factors among this cohort are needed to help develop and implement effective suicide prevention programs.

Methods

Participants and Procedure

The present cross-sectional convenience sample "paper and pencil" survey study was conducted in the English language among the students of Bangabandhu Sheikh Mujibur Rahman Science and Technology University (Gopalganj, Bangladesh). The study involved students who were present in the classroom and who were willing to participate in the study during survey administration (March to April 2019). A total of 913 participants were eligible to take part during the survey period, of which 682 participated. Of these, 665 completed the whole survey (67.5% males; 21.16 ± 1.6 years) following the removal of incomplete questionnaires (response rate = 72.9%).

Ethics

Formal clearance to carry out the study was obtained from the ethics committee of the Institute of Allergy and Clinical Immunology of Bangladesh [Reference ID: IRBIACIB/CEC/ 07201919/301] and signed permission from the respective authorities of the participants' departments prior to the survey. Participants were also informed that all their data would be kept anonymous and confidential, and all of them were provided with information about the study nature and purpose, the procedure, and the right to withdraw their data. Before being able to access the questions, the detailed procedure of the study, rights of participation, data security, and confidentiality were provided according to the Helsinki Declaration 1975.

Instruments

Socio-demographic Variables The socio-demographic variables assessed included age, gender, permanent residence, relationship status, socio-economic status, year of academic study, smoking status, and the regular daily exercise. For family socio-economic status, income less than 15,000 BDT was categorized as lower income, 15,000 to 30,000 BDT as middle income, and more than 30,000 BDT for upper income (Begum et al. 2017; Rafi et al. 2019). Participants were asked if they were cigarette smokers by utilizing a dichotomous response (i.e., yes/no). Exercise status was assessed by asking participants if they engaged in at least 30 min of moderate daily physical activities that resulted in an increase in breathing or heart rate (based on the procedure of Mamun and Griffiths 2019a).

Suicidal Ideation To assess suicidal ideation, participants were asked if they had ever thought about suicide during specific time periods, i.e., the past day, past 15 days, past month, past year, and lifetime (Jahan et al. 2020; McKinnon et al. 2016; Peltzer et al. 2017).

Depression, Anxiety, and Stress The Depression Anxiety and Stress Scale-21 (DASS-21; Lovibond and Lovibond 1995) assesses depression (e.g., "I couldn't seem to experience any positive feeling at all"), anxiety (e.g., "I was worried about situations in which I might panic and make a fool of myself"), and stress (e.g., "I felt that I was using a lot of nervous energy"). The scale comprises 21 items that provides scores based on three 7-item subscales with each item rated on a 4-point scale (0 = *did not apply to me at all* to 3 = *applied to me very much or most of the time*). Original scores are multiplied by two for a final score, and a severity rating

index was used to define levels of depression (0–9 normal, 10–13 mild, 14–20 moderate, 21–27 severe, and 28+ extremely severe), anxiety (0–7 normal, 8–9 mild, 10–14 moderate, 15–19 severe, and 20+ extremely severe), and stress (0–14 normal, 15–18 mild, 19–25 moderate, 26–33 severe, and 34+ extremely severe. Acceptable internal consistency was obtained previously for the subscales (Mamun et al. 2019a, b; Rafi et al. 2019). For example, Cronbach's alphas for the depression, anxiety, and stress subscales were 0.77, 0.78, and 0.83, and the overall Cronbach's α was 0.91 (Mamun et al. 2019b). In the present study, Cronbach's alphas for the depression, anxiety, and stress subscales were good (0.78, 0.75, and 0.74, respectively) and Cronbach's α for the overall scale was very good (0.89).

Smartphone Addiction Smartphone addiction was assessed using the six-item Smartphone Application-Based Addiction Scale (SABAS; Csibi et al. 2018). The scale uses a 6-point scale to rate each item (1 = *strongly disagree* to 6 = *strongly agree*) and includes such items as "My smartphone is the most important thing in my life" and "Conflicts have arisen between me and my family (or friends) because of my smartphone use." The higher the score, the higher the risk of developing an addiction to smartphone applications. Good psychometric properties and internal scale consistency have been found previously (Chen et al. 2019; Lin et al. 2019). Cronbach's alpha in the present study was good (0.72).

Facebook Addiction The six-item Bergen Facebook Addiction Scale (BFAS; Andreassen et al. 2012) was used to assess the risk of Facebook addiction. BFAS items are assessed using a 5-point scale (1 = *very rarely* and 5 = *very often*) and includes such items as "How often in the last year have you spent a lot of time thinking about Facebook or planned use of Facebook?" and "How often in the last year have you used Facebook in order to forget about personal problems?" The scores range from 6 to 30 and a higher score suggests a higher risk of being addicted to Facebook. Good psychometric properties and internal scale consistency have been found previously (Chen et al. 2019; Mamun and Griffiths 2019a). Cronbach's alpha in the present study was very good (0.80).

Statistical Analysis

Statistical Package for Social Science (SPSS) version 22.0 and Microsoft Excel 2016 were used for the statistical analysis. First, the data were entered into Excel, and then prepared for input into the SPSS. Descriptive statistics (i.e., frequencies, percentages, mean values with standard deviations) were used to describe the data. Additionally, chi-square tests were calculated using SPSS. Chi-squares (for all variables) and binary regression tests (for the significant variables) were performed with past-year suicidal ideation as the dependent variable as has been done in previous studies (e.g., Blasco et al. 2019; Eskin et al. 2016). Based on the suggestive cutoff score, smartphone addiction was categorized if the participants scored a total 21 on the SABAS (out of 36; Lin et al. 2019), whereas those who scored 19 (out of 30) on the BFAS were categorized as being at risk of Facebook addiction (Bányai et al. 2017). Participants were categorized as being depressed, anxious, and/or stressed if they scored between moderate to extreme on each DASS-21 subscale. The results of logistic regression are reported as unadjusted and adjusted odds ratios with 95% confidence intervals.

Results

The participants' socio-demographic information is presented in Table 1. Most of the participants were male (67.5%), not in relationship (65.0%), came from rural area (71.7%), and were non-smokers (82.6%) (Table 1). Approximately four-fifths of the participants reported to be at risk of smartphone addiction (78.8%), 37.9% at risk of Facebook addiction, 49.5% depressed, 57.0% anxious, and 46.3% stressed. Results also showed the SI prevalence rates among participants to be 2.3% (past day), 4.8% (past 15 days), 6.9% (past month), 14.7% (past year), and 61.1% (lifetime) and there were no significant differences in all suicidal behaviors (except past year) and gender (Table 3).

Only relationship status was found to be associated significantly with past-year SI. More specifically, participants who had separated or divorced from their partner had a predominantly higher SI prevalence, whereas the second highest prevalence was reported among participants in a relationship ($\chi^2 = 34.705$, df = 1, $p < 0.001$) (Table 1). In respect to psychopathology, Facebook addiction (18.3% vs. 12.6%; $\chi^2 = 3.9951$, df = 1, $p = 0.046$), depression (20.7% vs. 8.9%; $\chi^2 = 18.234$, df = 1, $p < 0.001$), anxiety (19.5% vs. 8.4%; $\chi^2 = 16.080$, df = 1, $p < 0.001$), and stress (21.1% vs. 9.2%; $\chi^2 = 18.510$, df = 1, $p < 0.001$) were all significantly associated with past-year SI. There was no association between past-year SI and smartphone addiction ($\chi^2 = 0.533$, df = 1, $p < 0.457$) (Table 2).

A binary regression analysis was carried out to examine the associations between past-year SI and all the significant variables in bivariate analysis. The unadjusted model confirmed that being separated or divorced (OR = 4.486; 95% CI = 1.972–10.207, $p < 0.001$), addicted to

Table 1 Distribution of the socio-demographic variables with last year suicidal ideation

Variables	Total; n (%)	Past-year suicidal ideation; n (%)	χ^2 test value	p value
Gender				
Male	449 (67.5)	60 (13.4)	2.076	0.150
Female	216 (32.5)	38 (17.6)		
Year of study				
1st year	227 (34.1)	42 (18.5)	8.831	0.065
2nd year	166 (25.0)	28 (16.9)		
3rd year	109 (16.4)	9 (8.3)		
4th year	118 (17.7)	12 (10.2)		
Masters	43 (6.5)	6 (14.0)		
Relationship status				
Separated/divorced	28 (4.2)	14 (50.0)	34.705	<0.001
Single	432 (65.0)	47 (10.9)		
In a relationship	203 (30.5)	37 (18.2)		
Permanent residence				
Rural	477 (71.7)	66 (13.8)	1.672	0.196
Urban	179 (26.9)	32 (17.9)		
Family monthly income				
Lower income	231 (34.7)	32 (13.9)	1.899	0.387
Middle income	186 (28.0)	23 (12.4)		
Upper income	217 (32.6)	37 (17.1)		
Smoking status				
Yes	113 (17.0)	22 (19.5)	2.352	0.125
No	549 (82.6)	76 (13.8)		
Exercise status				
Yes	230 (34.6)	31 (13.5)	0.524	0.469
No	430 (64.7)	67 (15.6)		

Table 2 Distribution of the behavioral health variables with last year suicidal ideation

Variables	Total; n (%)	Past-year suicidal ideation; n (%)	χ^2 test value	p value
Smartphone addiction				
Yes	524 (78.8)	80 (15.3)	0.553	0.457
No	141 (21.2)	18 (12.8)		
Facebook addiction				
Yes	252 (37.9)	46 (18.3)	3.9951	0.046
No	413 (62.1)	52 (12.6)		
Depression				
Yes	329 (49.5)	68 (20.7)	18.234	< 0.001
No	336 (50.5)	30 (8.9)		
Anxiety				
Yes	379 (57.0)	74 (19.5)	16.080	< 0.001
No	286 (43.0)	24 (8.4)		
Stress				
Yes	308 (46.3)	65 (21.1)	18.510	< 0.001
No	357 (53.7)	33 (9.2)		

Facebook (OR = 1.550; 95% CI = 1.006–2.388, p = 0.047), depressed (OR = 1.657; 95% CI = 1.677–4.211, p < 0.001), anxious (OR = 2.649; 95% CI = 1.624–4.320, p < 0.001), and stressed (OR = 2.626; 95% CI = 1.673–4.122, p < 0.001) were significantly associated with SI (Table 4).

Discussion

The present study examined suicidal ideation (SI) and associated risk factors among Bangladeshi students. Results showed the SI prevalence rates among participants to be 2.3% (past day), 4.8% (past 15 days), 6.9% (past month), 14.7% (past year), and 61.1% (lifetime) (Table 3). To date, no previous study has ever examined SI prevalence among Bangladeshi university students, although one previous study among the adolescents reported a 5% lifetime SI (aged 14–19 years; Begum et al. 2017) which is much lower than the 61.1% rate reported in the present study (but the present study included older participants).

Some of the participants in the study were teenagers, and compared with the global rates, a recent study (McKinnon et al. 2016) of adolescent past-year SI of 32 low- and middle-income countries (like Bangladesh) reported similar past-year SI prevalence (12.2 to 16.2%) similar to the 14.7% past-year prevalence rate in this study. Another large-scale cross-national study reported the past-year SI prevalence as 11.7% across 12 nations' university students (i.e., Australia (15.9%), China (7.1%), Japan (9.5%), Jordan (17.7%), Iran (15%), Italy (4.3%), Palestine (16%), Saudi Arabia (10%), Turkey (8.8%), Tunisia (8.5%), UK (15.3%), and USA (10%)), whereas the overall lifetime SI prevalence was reported to be 27.4% (i.e., Australia (47.6%), China (21.8%), Japan (25.9%), Jordan (22%), Iran (29.7%), Italy (19.4%), Palestine (22.2%), Saudi Arabia (17.7%), Turkey (24.2%), Tunisia (20.9%), UK (39.3%), and USA (31.4%)) (Eskin et al. 2016). Again, these past-year SI rates are similar to that found in the present study. Additionally, another study reported a 12% lifetime SI prevalence among the university students of six Association of Southeast Asian Nations (ranging from 6.9 to 16.3%; Peltzer et al. 2017) which was much lower than the 61.1% reported in the present study. A recent meta-analysis among college students (i.e., Mortier et al. 2018) suggested a similar

Table 3 Distribution of suicidal ideation across gender

Variables	Total; n (%)	Gender		χ^2 test value	p value
		Male; n (%)	Female; n (%)		
Suicidal ideation - past day					
Yes	15 (2.3)	11 (2.4%)	4 (1.9%)	0.237	0.627
No	655 (97.7)	438 (97.6%)	212 (98.1%)		
Suicidal ideation - past 15 days					
Yes	32 (4.8)	21 (4.7%)	11 (5.1%)	0.055	0.815
No	638 (95.2)	428 (95.3%)	205 (94.9%)		
Suicidal ideation - past month					
Yes	46 (6.9)	27 (6.0%)	19 (8.8%)	1.754	0.185
No	624 (93.1)	422 (94.0%)	197 (91.2%)		
Suicidal ideation - past year					
Yes	98 (14.7)	60 (13.4%)	38 (17.6%)	2.076	0.150
No	567 (85.3)	389 (86.6%)	178 (82.4%)		
Suicidal ideation - lifetime					
Yes	406 (61.1)	254 (56.6%)	152 (70.4%)	11.681	< 0.001
No	259 (38.9)	195 (43.4%)	64 (29.6%)		

prevalence rate for past-year SI (i.e., 10.6% compared with 14.7% in the present study), although the lifetime prevalence was higher in the present study (61.1% compared with 22.3%). Compared with these worldwide prevalence levels, the present study had a much higher lifetime SI rate.

There are many possible reasons for the differences in these prevalence rates including cultural differences as well as socio-demographic and education system differences among the participants surveyed. Based on previous retrospective studies, proximal factors implicated in Bangladeshi student suicides include relationship problems, educational issues such as exam failure, economic problems, and not having a good relationship with parents (Arafat and Mamun 2019; Mamun et al. 2020a, b, c; Mamun and Griffiths 2020a, c). Again, these proximal factors are likely to differ across cultures. Irrespective of the differing prevalence rates, it is estimated that 61% of the total suicide cases are among those below the age of 30 years in Bangladesh, although the country still lacks appropriate suicide prevention programs (Griffiths et al. 2020; Mamun and Griffiths 2020b; Shah et al. 2017).

In the present study, the past-year SI prevalence rate among participants who were separated or divorced from their partners was approximately five times higher than those who were single and not currently in a relationship. This can be perhaps be explained by the interpersonal theory of suicide (Van Orden et al. 2010), because many the people with relationship problems develop proximal suicide risks such as hopelessness, loneliness, and thwarted belongingness (Dueweke and Schwartz-Mette 2018; Li et al. 2019; Van Orden et al. 2010). Long ago, Durkheim (1951) emphasized the importance of marriage in protecting against suicidality because such individuals are integrated in supportive social networks (Kõlves et al. 2010; Wyder et al. 2009). However, a few authors have claimed that being in a relationship (typically marital status) has little influence on the incremental risk of suicide (e.g., Giddens 2001). In the present study, the group of participants that were separated or divorced from their partner was a small proportion of the total sample (4.2%), and the findings may simply be a reflection of the strain associated with marital breakdown. Therefore, additional study should be carried out to further examine relationship status and its related factors (e.g., relationship strain) in contributing to suicidality.

Previously, the association between psychopathology and suicide has been studied globally (Table 4). It has been estimated that more than 90% of suicides occur due to associated psychiatric suffering (i.e., depression, substance abuse and addiction, anxiety disorders, sleeping disorders, stress). The present study also found that depression, anxiety, and stress were SI risk factors confirming the findings of previous studies (e.g., Dsouza et al. 2020; Fleischmann et al. 2005; Franklin et al. 2017; Harris and Barraclough 1997; Islam et al. 2020; Mamun and Griffiths 2020d, e; Mamun and Ullah 2020). A recent systematic review among 11,557 college students reported that 14 studies (from a total of 29) demonstrated a significant and strong relationship between suicide risk and depression (Li et al. 2019). Furthermore, systematic reviews and meta-analyses have examined the relationship between anxiety disorders (e.g., obsessive-compulsive disorder, panic disorder, generalized anxiety disorder, body dysmorphic disorder) and suicidal behaviors (Bentley et al. 2016; Kanwar et al. 2013). It was suggested that individuals with anxiety disorders are approximately three times more likely than those without such disorders to be at risk of suicidal behaviors (Kanwar et al. 2013). However, Bentley and colleagues (Bentley et al. 2016) argued that anxiety played no role in suicide death. Recent review papers have also reported that stress is consistently associated with suicide ideation and attempts (Liu and Miller 2014; Serafini et al. 2015). The number of adversities or negative life events experienced appears to have a positive dose-response association with suicidal behaviors (Cheng et al. 2015).

The present study also reported that higher risk of SI was associated with being at risk for Facebook addiction but not for being at risk of smartphone addiction. It has been established that for the small minority experiencing social media addiction (including Facebook addiction), it is often associated with other psychopathological problems (major depression, bipolar disorder, borderline personality disorder and post-traumatic stress disorders, sleep problems, anxiety disorders) where excessive social media use is used as a coping strategy to alleviate problems the individual may have (Andreassen et al. 2016; Guo et al. 2018; Jasso-Medrano

Table 4 Logistic regression analysis of the variables with past-year suicidal ideation

Variables	Unadjusted model			Adjusted model		
	Odds ratio (OR)	95% confidence interval (CI)	p value	Adjusted odds ratio (AOR)	95% confidence interval (CI)	p value
Relationship status						
Separated/-divorced	4.486	1.972–10.207	< 0.001	4.403	1.876–10.335	< 0.001
Single	0.548	0.343–0.874		0.586	0.363–0.947	
In a relationship	Reference			Reference		
Social media addiction						
Yes	1.550	1.006–2.388	0.047	1.096	0.686–1.750	0.029
No	Reference			Reference		
Depression						
Yes	1.657	1.677–4.211	< 0.001	1.679	0.953–2.957	0.073
No	Reference			Reference		
Anxiety						
Yes	2.649	1.624–4.320	< 0.001	1.661	0.915–3.016	0.095
No	Reference			Reference		
Stress						
Yes	2.626	1.673–4.122	< 0.001	1.449	0.827–2.539	0.195
No	Reference			Reference		

and Lopez-Rosales 2018). Such addictions are also associated with an increased incidence of self-harm and suicidal behaviors (Mamun and Griffiths 2019b; Pan and Yeh 2018). This may occur due to poorer self-control and higher levels of impulsivity and risky decision-making. Those addicted to social media may have difficulty in fulfilling their social and academic responsibilities and experience more tension in their lives. Additionally, such individuals tend to adopt avoidant and inflexible coping styles (e.g., suicidal behaviors in extreme cases) when encountering stressful life events (Cheng et al. 2015; Guo et al. 2018).

Limitations

The present study is limited by its nature of being a cross-sectional study with a modestly sized convenience sample from a single university of Bangladesh. The university from which the participants were sampled from is not necessarily representative of other Bangladeshi universities. Two-thirds of the sample were males which may also have influenced the overall prevalence of suicidal ideation (e.g., if female students are more likely to experience suicidal ideation, then the prevalence rate of suicidal ideation in the present study would be an underestimation). It should also be noted that the study only asked participants "if they had ever thought about suicide". If a different wording had been used (such as "Have you ever seriously thought about killing yourself"), different prevalence rates might have been reported. It should also be noted that the study did not include other variables that could have influenced mental health suffering including various mental and physical health conditions, family history of mental illness or suicide, stressful life events, alcohol or substance use, sexual abuse history, and personality characteristics. Future research is needed using representative student samples and including a wider range of possible variables that might predict suicidal ideation both in and outside of Bangladesh. Ideally such research should be carried out utilizing longitudinal designs to establish causal pathways between the variables examined in the present study.

Conclusions

Despite these limitations, the study provides novel data on suicidal ideation, in a country where there has been no previous survey study examining student cohorts. The present study found high levels of SI compared with previous studies published in other countries. To protect Bangladeshi university students, special attention is needed. Before considering any awareness and prevention programs, three general aims must be met (i.e., "(i) to enhance awareness regarding suicide among students, (ii) to educate students to recognize possible signs of suicidal behavior for one's own safety and that of others, and (iii) to provide students with information about school and community resources available for aiding" (Shaffer et al. 1988, p.43). The proposed suicide prevention programs should include awareness/education curricula, screening, peer leadership training, skills training, student support centers, and gatekeeper training towards mental health problems and suicide (Arafat and Mamun 2019; Bhuiyan et al. 2020; Cusimano and Sameem 2011; Masud et al. 2020; Katz et al. 2013). Additionally, internet-based interventions such as posting suicide awareness–related information on social

media sites may be helpful in suicide prevention (Jasso-Medrano and Lopez-Rosales 2018; Luxton et al. 2012).

Data Availability Data will be available on request.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in this study involving human participants were in accordance with the ethical standards of the University's Research Ethics Board and with the 1975 Helsinki Declaration.

Informed Consent Informed consent was obtained from all participants.

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