Literacy and stigma of suicide in Bangladesh: Scales validation and status assessment among university students

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Abstract

Background: Increased suicide literacy and reduced stigma toward suicide facilitate the care-seeking for suicidal behavior. However, no attempt has been identified to determine these two vital aspects in Bangladesh.

Objectives: We aimed to validate the literacy of suicide scale and stigma of suicide scale into Bangla along with the determination of the level of suicide literacy and stigma toward suicide.

Methods: We conducted this study between April and June 2021. Data were collected from medical school and university students by Google form. We used a questionnaire consisting of four segments (i.e., sociodemographic questionnaire, a questionnaire for suicidal behavior, Bangla literacy of suicide scale [LOSS-B], and Bangla stigma of suicide scale [SOSS-B]) for data collection. We tested the psychometric properties of the scales in a sample of 529 students and examined factors associated with suicide stigma and literacy.

Results: The mean age of the students was 22.61 ± 1.68 (range 18–27) years, 274 (51.8%) were males, 476 (89.9%) were graduate students, and 490 (92.6%) were unmarried. The mean score of LOSS was 4.27 ± 1.99 ranging from 0 to 10. Factor analysis revealed acceptable psychometric properties of SOSS-B. The literacy was significantly higher in females, students of medicine, having a family history of suicidal attempts, and a history of student nonfatal attempts, while stigma was significantly lower among the females and a history of past attempts.

Conclusions: This study revealed the level of literacy and stigma and culturally tested the psychometric properties of the LOSS-B and SOSS-B among university students in Bangladesh.

KEYWORDS
psychometric properties, reliability, stigma, suicide in Bangladesh, suicide literacy, validity
1 | INTRODUCTION

Suicide is an important cause of mortality across the globe. More than 8,00,000 people are dying every year by suicide, and it is the second leading cause of death among the 15–29 years old age group (World Health Organization [WHO], 2014). Suicide attempts are more than 20 times higher than the suicides that cause significant economic burdens (WHO, 2014). It happens as a result of a complex interaction between several risk factors (WHO, 2014; Zalsman et al., 2016). Studies revealed that 90% of the suicides have at least one psychiatric disorder (Zalsman et al., 2016). Therefore, psychiatric disorders have been identified as an important risk factor for suicide, and adequate psychiatric care is an important suicide prevention strategy (Zalsman et al., 2016). However, several factors such as a higher level of stigma toward suicidal behavior, inadequate suicide and/or mental health literacy, cultural representation, and criminal legal status hinder the care-seeking for suicidal behaviors (Aldalaykeh et al., 2020; Batterham et al., 2013a, 2013b; Calear et al., 2012 cited in Batterham et al., 2013a, 2013b; Calear et al., 2014; United for Global Mental Health, 2021).

The literacy of suicide scale-short form (LOSS-SF) was developed by Calear et al. in 2012, and the stigma of suicide scale-short form (SOSS-SF) was developed by Batterham et al. in 2013a in Australia (Aldalaykeh et al., 2020; Batterham et al. 2013a, 2013b; Calear et al., 2012 cited in Batterham et al., 2013b). These instruments were validated and used in several languages such Arabic (Aldalaykeh et al., 2020), Chinese (Han et al., 2017), and Turkish (Oztürk et al., 2017) to assess the suicide literacy and stigma toward suicide. These instruments are short, focused, and easily administrable.

Bangladesh is a densely populated country in South Asia with more than 160 million populations (World Population Review, nd), while Bangla is the sixth most widely used language (Ethnologue, nd). The country lags far behind in formulating a national suicide prevention strategy and prioritizing suicide prevention (Arafat, 2021). Suicide has still been a criminal offense in the legal system that hinders the disclosure of suicidal behavior and help-seeking for that. There is no suicide surveillance system, and quality suicide data are scarce in the country (Arafat, 2019a; United for Global Mental Health, 2021). There are also sporadic and scanty prevention activities and only one psychiatric setup specialized for suicide prevention (Arafat, 2019a). None of the prevention initiatives are available 24/7. The country has 0.13 psychiatrists per 100,000 population, which is much lower to cope with the mental health burden (Mental Health ATLAS, 2017). The case–control psychological autopsy study revealed that 61% of suicides had at least one psychiatric disorder; among them, only 13% were under psychiatric care and diagnosed before their death (Arafat et al., 2021). There have been strong negative cultural attitudes and stigma toward suicide resulting in the hindrance of suicidal behavior and delayed or lack of help-seeking from the mental health professionals (Arafat, 2019a). However, there is no available instrument in Bangla to measure literacy and the stigma of suicide in the country. Against this background, we aimed to adapt and validate the literacy of suicide scale and stigma of suicide scale into Bangla. We also aimed to determine the level of suicide literacy and stigma toward suicide in Bangladesh. The study results would act as a baseline reference as well as facilitate further studies and policy-making while formulating the national suicide prevention strategy in the country.

2 | METHODS

2.1 | Study place and procedure

We conducted this cross-sectional study among the university students of Bangladesh between April and June 2021. We selected three institutions conveniently, namely Enam Medical College (EMC), Dhaka; University of Liberal Arts Bangladesh (ULAB), Dhaka; and Noakhali Science and Technology University (NSTU), Noakhali for data collection. The EMC is a private medical college located at the periphery of the capital city, Dhaka; ULAB is a private university located at the center of the capital; and NSTU is a public university located about 200 km away from the capital. This study was conducted through an online survey using Google form. We created the Google form mentioning the items obtained from the instrument adaptation process and forwarded the links to the students of the selected institutions. During the COVID-19 pandemic, there were online classes in the institutions that facilitate the link forwarding as the students have regular WhatsApp/Messenger groups. We approached students conveniently and requested them to forward the link to other batch mates. Therefore, the responses included other few institutions. We mentioned a summary of the survey including study objectives and investigators’ details at the starting of the survey, followed by the consent form. Native Bangla-speaking Bangladeshi university students aged 18 years and above were included in the study. Foreign students were excluded from the study.

Data were collected between May 23 and June 10, 2021. Data cleaning was done by the first author and cross-checked by the second author. In the current study, the first and the second authors acted as gate-keeper, and only they had the access to data. After cleaning, data were stored in Microsoft Excel software. The responses were collected anonymously. A total of 534 students participated in the survey. However, five students did not have consent resulting in inaccessibility of contents. Therefore, we dropped them and analyzed 529 responses. Duplications were checked by e-mail addresses, and no duplicate responses were identified.

2.2 | Instruments

2.2.1 | Sociodemographic questionnaire

It consisted of age, sex, marital status, educational attainment, institution, faculty, subject, studying year, religion, family type (nuclear/joint), family income, chronic illness, mental disorder, medication history, and exposor to suicide (family member or any familiar person).
2.2.2 | Questionnaire for suicidal behavior

It consisted of suicidal thoughts in the past year and life time, suicidal plan, attempt, and disclosure of suicidal thoughts.

2.2.3 | Bangla literacy of suicide scale (LOSS-B)

It was adapted from the original instrument that was developed by Calear et al. in 2012 consisting of 26 items with short-form having 12 items (Aldalaykeh et al., 2020; Batterham et al., 2013a, 2013b; Calear et al., 2012). The 12 statements have three responding options, namely yes, no, and do not know. The total score is calculated based on the correct answer. Therefore, the total score ranges from 0 to 12. It assesses literacy about suicide in four dimensions: signs and symptoms (three items), nature of suicide (four items), risk factors (three items), and preventive measures (two items) (Calear et al., 2012; Chan et al., 2014). Due to the response pattern (yes, no, and do not know), internal consistency form of reliability and factor analysis are not justified for LOSS. Our adapted LOSS-B has true statements in 2, 4, 6, and 8 numbers, and rests are false.

2.2.4 | Bangla stigma of suicide scale

It was adapted from the original instrument that was developed by Batterham et al. (2013a, 2013b) and consists of 16 items. The scale contains a common descriptor, that is, "people who die by suicide are:" The respondents would mention their amount of agreement with each descriptor by indicating one from the five mentioned options, that is, strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). The scale has three subscales: stigmatization (eight items), isolation/depression (four items), and normalization/glorification (four items). The score of each subscale score is determined by calculating the mean of responses to the items within the subscale (Aldalaykeh et al., 2020). The subscales revealed an acceptable internal consistency measured by Cronbach's alpha greater than 0.78 (Batterham et al., 2013a, 2013b).

2.3 | Adaptation of LOSS and SOSS into Bangla

The adaptation of the instruments was performed following standard recommendations forward-backward translation (Arafat et al., 2016; Beaton et al., 2000). One medical graduate who was informed about the study and one university graduate who was disguised about the study were involved in forward translations. The forward translated versions were compared, contrasted, and a single forward translated version was compiled after addressing the discrepancies. Then, the compiled forward version was translated back into English by another medical graduate and another university graduate. All the translators are native speakers of Bangla and fluent in English. As per the recommendation, we created a complied back-translated version following the same methods while compiling the forward translations. Subsequently, all four versions were assessed by the expert committee, which was formed for this study. The expert committee reviewed and suggested the final adaptation of the instruments. With that version, pretesting was done among the 34 persons and adaptation was finalized. During adaptation, several items were modified. We linguistically modified item numbers 2 and 4 and the scoring of item 11 on the LOSS scale. We included, in item 2 ("seeing a psychiatrist or psychologist can help prevent someone from suicide"), mental health professional as defined in the mental health act of Bangladesh instead of a psychiatrist to broaden the services settings as the country has an inadequate number of psychiatrists (Mental Health Act, 2018). We included, in item 4 ("there is a strong relationship between alcoholism and suicide"), substance addiction instead of alcoholism as studies revealed that other forms of substances are major risk factors for suicide (Arafat et al., 2021). Moreover, as a Muslim majority country, alcoholism is not a major public health problem in the country. We had to change the scoring of item 11 ("men are more likely to commit suicide than women") due to the reverse gender pattern of suicide in Bangladesh (Arafat, 2019b; WHO, 2018).

2.4 | Data analysis

We collected 529 responses and analyzed them by Statistical Package for the Social Science version 23.0 software and Microsoft Excel (2010). Sociodemographic and suicidal behaviors were variables expressed in frequency and percentages. The psychometric properties of LOSS-B and Bangla stigma of suicide scale (SOSS-B) were assessed following standard recommendations (Arafat et al., 2016). The internal consistency form of reliability was measured by Cronbach's alpha coefficient, and a cut-off of ≥0.70 was considered acceptable. Face and content validities were assessed while performing the adaptation of the instruments (Arafat et al., 2016). We tested the construct validity by exploratory factor analysis. Factor rotation was performed to identify the factors of the construct which is preloaded in the statistical package. Items with loading value <0.5 was considered to drop from the construct as considered in previous studies (Aldalaykeh et al., 2020; Batterham et al., 2013a, 2013b). Independent t-test was performed to assess the differences between the groups.

2.5 | Ethical aspects

We conducted the study complying with the declaration of Helsinki (1964). Before starting the study, we took formal permission from the instrument developing authors (Batterham et al., 2013a, 2013b) on April 13, 2021. Ethical approval was taken from the ethical review committee of Enam Medical College on May 22, 2021 (EMC/ERC/2021/05-1). Informed consent was obtained from the participants before entering the main questionnaire. Data were collected avoiding the identification details of the respondents.
3 | RESULTS

The mean age of the students was 22.61 ± 1.68 years ranging from 18 to 27 years. Among the 529 university students, 274 (51.8%) were males, 476 (89.9%) were graduate students, 490 (92.6%) were unmarried, 443 (83.7%) were Muslim, and 451 (85.3%) were living in nuclear families (Table 1). The majority of the students (29.7%) were studying in the third year of graduation, followed by fourth year (16.6%), second year (16.1%), and first year (13.6%) (Table 1). The majority of the students were studying in NSTU (43.3%), followed by EMC (27.6%) and ULAB (Table 1). The mean score of LOSS was 4.27 ± 1.99 ranging from 0 to 10 where 56.7% of the students scored 0–4 and 43.3% scored above 5–10. Correct responses to items of the literacy of suicide scale are shown in Table 2. The lowest correct response was found in item 1 (1.89%), and the maximum correct response was found in item 2 (77.1%) (Table 2). The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.83 which was statistically significant (p < .0001). The internal consistency of the SOSS-B was measured by Cronbach's alpha which was 0.76 for the stigma subscale, 0.88 for the isolation subscale, and 0.68 for the glorification subscale.

We performed the factor analysis by principal component analysis with varimax rotation, observed the scree plot, and fixed the instrument as three factor-solutions. The three extracted factors covered 61.65% (35.27, 17.32, and 9.05) of variance. The factor analysis revealed three factors where item 5 (an embarrassment), 12 (pathetic), and 13 (shallow) took loadings 0.45, −0.18, and 0.15, respectively, in stigma subscale. We dropped these three items as the factor loading was <0.5. The final SOSS-B contains 13 items (five in stigma subscale, four in isolation subscale, and four in glorification subscale). The revised item distribution into three subscales is mentioned here. Stigma subscale consists of item numbers 2, 5, 6, 12, and 13; isolation subscale consists of 4, 7, 8, and 9; and glorification subscale consists of 1, 3, 10, and 11. The factor loading is shown in Table 3. The highest agreement was noted in the isolated subscale, followed by the stigma subscale, and the lowest agreement was reported in the glorification subscale (Table 3).

The correlation assessment revealed that stigma and isolation subscales were positively correlated (p < .0001) (Table 4). The suicide literacy was significantly higher in females, students of medicine, having a family history of suicidal attempts, and a history of student nonfatal attempts, while stigma was also significantly lower among the females and a history of past attempts (Table 5). It is interesting to note a significantly higher score in the glorification subscale among the students with past attempts (Table 5).

4 | DISCUSSION

4.1 | Main findings of the study

We aimed to adapt and assess the psychometric properties of LOSS-B and SOSS-B and determine the level of suicide literacy and stigma
TABLE 2  Correct responses to items of the literacy of suicide scale (n = 529)

| Item number | Item                                                                                                    | Dimension                  | n (%)  |
|-------------|---------------------------------------------------------------------------------------------------------|----------------------------|--------|
| 1           | “If assessed by a psychiatrist, everyone who suicides would be diagnosed as depressed” (F)              | Cause/nature               | 10 (1.89) |
| 2           | “Seeing a psychiatrist or psychologist can help prevent someone from suicide” (T)                      | Treatment/prevention       | 408 (77.13) |
| 3           | “Most people who suicide are psychotic” (F)                                                             | Risk factor                | 130 (24.57) |
| 4           | “There is a strong relationship between alcoholism and suicide” (T)                                      | Risk factor                | 334 (63.14) |
| 5           | “People who talk about suicide rarely kill themselves” (F)                                              | Sign/symptom               | 125 (23.63) |
| 6           | “People who want to attempt suicide can change their mind quickly” (T)                                  | Sign/symptom               | 176 (33.27) |
| 7           | “Talking about suicide always increases the risk of suicide” (F)                                        | Cause/nature               | 97 (18.34)  |
| 8           | “Not all people who attempt suicide plan their attempt in advance” (T)                                 | Sign/symptom               | 324 (61.25) |
| 9           | “People who have thoughts about suicide should not tell others about it” (F)                            | Treatment/prevention       | 315 (59.55) |
| 10          | “Very few people have thoughts about suicide” (F)                                                       | Cause/nature               | 154 (29.11) |
| 11          | “Men are more likely to suicide than women” (F)                                                         | Risk factor                | 113 (21.36) |
| 12          | “A suicidal person will always be suicidal and entertain thoughts of suicide” (F)                       | Cause/nature               | 71 (13.42)  |

TABLE 3  Responses and factor loading for items from the Bangla stigma of suicide scale (SOSS-B)

| Item number | Item               | Agree and strongly agree (%) | Mean | SD  | Stigma | Isolation | Glorification |
|-------------|--------------------|-----------------------------|------|-----|--------|-----------|--------------|
| Q2          | Cowardly           | 34.78                       | 3.03 | 1.23| 0.74   | 0.21      | -0.18        |
| Q5          | Immoral            | 28.35                       | 2.94 | 1.04| 0.58   | 0.41      | -0.05        |
| Q6          | Irresponsible      | 41.77                       | 3.11 | 1.25| 0.59   | 0.50      | -0.15        |
| Q12         | Stupid             | 41.96                       | 3.15 | 1.28| 0.58   | 0.42      | 0.04         |
| Q13         | Vengeful           | 15.5                        | 2.66 | 1.02| 0.65   | 0.06      | 0.40         |
| Q4          | Disconnected       | 51.6                        | 3.33 | 1.18| 0.21   | 0.79      | 0.09         |
| Q7          | Isolated           | 58.2                        | 3.45 | 1.16| 0.24   | 0.85      | 0.03         |
| Q8          | Lonely             | 60.49                       | 3.52 | 1.20| 0.20   | 0.88      | 0.02         |
| Q9          | Lost               | 39.69                       | 3.12 | 1.14| 0.17   | 0.74      | 0.05         |
| Q1          | Brave              | 18.9                        | 2.36 | 1.19| -0.41  | 0.23      | 0.65         |
| Q3          | Dedicated          | 15.12                       | 2.57 | 1.03| 0.15   | 0.23      | 0.57         |
| Q10         | Noble              | 3.78                        | 1.95 | 0.95| -0.01  | -0.23     | 0.76         |
| Q11         | Strong             | 6.42                        | 2.15 | 1.00| -0.03  | -0.01     | 0.82         |

Note: Bold values indicate factor loading >0.5.

TABLE 4  Correlation between Bangla literacy of suicide scale (LOSS-B) and three subscales of Bangla stigma of suicide scale (SOSS-B)

|                      | LOSS   | Stigma | Isolation | Glorification |
|----------------------|--------|--------|-----------|---------------|
| LOSS                 | Pearson correlation | -0.09 | 0.08      | 0.03          |
|                      | Significance (two-tailed) | 0.05 | 0.08      | 0.47          |
| Stigma               | Pearson correlation | -0.085 | 0.61** | -0.06         |
|                      | Significance (two-tailed) | 0.050 | 0.00      | 0.19          |
| Isolation            | Pearson correlation | 0.08 | 0.61** | 0.09          |
|                      | Significance (two-tailed) | 0.08 | 0.00      | 0.05          |
| Glorification        | Pearson correlation | 0.03 | -0.06    | 0.09          |
|                      | Significance (two-tailed) | 0.47 | 0.19      | 0.05          |

Note: Bold values indicate positive correlation.
**Correlation is significant at the 0.01 level (two-tailed).
The mean age of the respondents was 22.61 ± 1.68, and the majority of them were male (51.8%), graduate students (89.9%), unmarried (92.6%), and Muslim (83.7%) (Table 1). The study population is quite similar to the other studies. The primary instrument development study was done among 676 Australian university populations (Batterham et al., 2013a). The Arabic validation was performed among 160 university students (Aldalaykeh et al., 2020). The Turkish validation study was done among 1100 university students (Oztürk et al., 2017). The Chinese validation study was done among 224 university students (Han et al., 2017). Among the students, only 12.1% had a suicidal attempt, 9.6% had a family history of suicide attempts, and 5.6% had a family history of suicide (Table 1). It was reported 11.3% each in the Arabic study (Aldalaykeh et al., 2020), 12.6% (attempt) and 8.5% (family history of suicidal attempt) in Turkey (Oztürk & Akin, 2018), 10.7% in Chinese college students (Li et al., 2014).

The current study revealed a low literacy in suicide as the mean value of the LOSS-B was 4.27, and only 43.3% of the students scored more than 4 (Table 2). The students had extremely low knowledge of

| Variable                          | n (%)   | LOSS Mean (± SD) | p-Value | Stigma Mean (± SD) | p-Value | Isolation Mean (± SD) | p-Value | Glorification Mean (± SD) | p-Value |
|----------------------------------|---------|-----------------|---------|-------------------|---------|----------------------|---------|-------------------------|---------|
| Total                            |         | 4.27 (±1.99)    |         | 14.88 (±4.19)     |         | 13.4 (±4.01)         |         | 9.03 (±2.98)            |         |
| Sex                              |         |                 |         |                   |         |                      |         |                         |         |
| Male                             | 274 (51.80) | 4 (±1.86)        | .007    | 15.4 (±4.26)      | .004    | 13.68 (±3.98)        | .11     | 8.92 (±2.9)             | .42     |
| Female                           | 254 (48.02) | 4.51 (±2.11)     |         | 14.35 (±4.05)     |         | 13.13 (±4.03)        |         | 9.13 (±3.06)            |         |
| Education                        |         |                 |         |                   |         |                      |         |                         |         |
| HSC (grade 12)                   | 476 (89.98) | 4.27 (±2.01)     | .81     | 14.82 (±4.2)      | .32     | 13.4 (±4.07)         | .88     | 9.02 (±2.97)            | .91     |
| Graduate                         | 53 (10.02)  | 4.2 (±1.88)      |         | 15.43 (±4.08)     |         | 13.49 (±3.56)        |         | 9.07 (±3.05)            |         |
| Marital status                   |         |                 |         |                   |         |                      |         |                         |         |
| Unmarried                        | 490 (92.63) | 4.24 (±1.96)     | .42     | 14.82 (±4.27)     | .21     | 13.38 (±4.05)        | .59     | 9.02 (±2.96)            | .79     |
| Married                          | 39 (7.37)   | 4.51 (±2.45)     |         | 15.69 (±3.02)     |         | 13.74 (±3.57)        |         | 9.15 (±3.28)            |         |
| Religion                         |         |                 |         |                   |         |                      |         |                         |         |
| Islam                            | 443 (83.74) | 4.23 (±1.99)     | .37     | 14.93 (±4.25)     | .61     | 13.42 (±4.09)        | .88     | 9.17 (±2.68)            | .63     |
| Others                           | 86 (16.26)  | 4.44 (±2.03)     |         | 14.67 (±3.91)     |         | 13.35 (±3.63)        |         | 9.01 (±3.03)            |         |
| Faculty                          |         |                 |         |                   |         |                      |         |                         |         |
| Medicine                         | 162 (30.62) | 4.57 (±1.89)     | .018    | 15.13 (±4.16)     | .38     | 13.6 (±3.95)         | .45     | 8.77 (±3.02)            | .17     |
| Others                           | 367 (69.38) | 4.13 (±2.03)     |         | 14.78 (±4.21)     |         | 13.32 (±4.05)        |         | 9.15 (±2.95)            |         |
| Family type                      |         |                 |         |                   |         |                      |         |                         |         |
| Nuclear                          | 451 (85.26) | 4.3 (±2.02)      | .40     | 14.8 (±4.17)      | .27     | 13.43 (±4.06)        | .81     | 9.03 (±2.91)            | .92     |
| Joint                            | 78 (14.74)  | 4.09 (±1.82)     |         | 15.37 (±4.32)     |         | 13.31 (±3.75)        |         | 9.06 (±3.38)            |         |
| History of mental illness        |         |                 |         |                   |         |                      |         |                         |         |
| Yes                              | 61 (11.53)  | 4.52 (±1.81)     | .28     | 14.15 (±4.3)      | .14     | 13.3 (±4.18)         | .82     | 9 (±3.2)                | .92     |
| No                               | 468 (88.47) | 4.23 (±2.02)     |         | 14.99 (±4.17)     |         | 13.42 (±4)           |         | 9.04 (±2.95)            |         |
| Family history of suicide attempt|         |                 |         |                   |         |                      |         |                         |         |
| Yes                              | 51 (9.64)   | 4.82 (±1.93)     | .036    | 14.08 (±3.72)     | .15     | 13.65 (±3.57)        | .66     | 9.69 (±3.23)            | .1      |
| No                               | 478 (90.36) | 4.21 (±2)        |         | 14.97 (±4.23)     |         | 13.38 (±4.06)        |         | 8.96 (±2.94)            |         |
| Family history of suicide        |         |                 |         |                   |         |                      |         |                         |         |
| Yes                              | 30 (5.67)   | 4.5 (±1.7)       | .51     | 15.37 (±4.04)     | .52     | 14.43 (±3.69)        | .15     | 10 (±3.61)              | .07     |
| No                               | 499 (94.33) | 4.25 (±2.01)     |         | 14.86 (±4.2)      |         | 13.35 (±4.03)        |         | 8.98 (±2.93)            |         |
| History of suicidal attempt      |         |                 |         |                   |         |                      |         |                         |         |
| Yes                              | 64 (12.09)  | 4.81 (±2.05)     | .020    | 13.91 (±3.97)     | .046    | 13.02 (±4)           | .40     | 9.8 (±2.67)             | .029    |
| Others                           | 465 (87.91) | 4.19 (±1.98)     |         | 15.02 (±4.21)     |         | 13.46 (±4.02)        |         | 8.93 (±3.01)            |         |

Note: Bold values indicate p < .05.
Abbreviation: HSC, higher secondary.
implications of study findings

The major implications of this study are threefold. First, it provides preliminary evidence of the reliability and validity of the LOSS and SOSS scales in a different religious and cultural setting. This demonstrates the applicability of these instruments to diverse populations and contexts. Next, it has identified setting specific knowledge gaps in suicide literacy that may be used to inform suicide awareness programs. Finally, data from the study will assist in developing strategies for dealing with stigmatizing attitudes to commit suicide and enhance suicide-related awareness of society. We suggest that the validity of these scales be examined in the community-related samples with different demographic attributes as suicide-related stigma may
vary as a function of age and educational attainment (Griffiths et al., 2008).

### 4.3 | What is already known

Suicide is a neglected public mental health problem in Bangladesh where no attempt to determine the suicide literacy and stigma toward suicide was documented.

### 4.4 | What this study adds

This study validated the two vital instruments LOSS-B and SOSS-B into Bangla those could be utilized in several settings in Bangladesh. It also revealed the level of suicide literacy and stigma among the university students of the country.

### 4.5 | Future directions

Appropriate strategies should be designed to improve the literacy of suicide and reduce the stigma in Bangladesh. Future community-based studies assessing the relationship of help-seeking and level of literacy and stigma should be aimed.

### 4.6 | Strengths and limitations

This is the first attempt to test the psychometric properties of the LOSS-B and SOSS-B as well as to determine the level of suicide literacy and stigma in Bangladesh. However, the study has several limitations. First, only internal consistency form of reliability was assessed without determining other forms such as test, retest, and inter-rater. Second, we did not assess the detailed psychometric properties of the LOSS-B as it is an edumetric instead of psychometric tool where there are correct answers rather than opinions/attitudes/behaviors. Third, data were collected from the university students that may restrict the generalization of study results. Fourth, samples were collected conveniently that might be a source of selection and response bias that hinders the generalization of study results.

### 5 | Conclusion

This study culturally adapted the literacy of suicide scales and stigma of suicide scales into Bangla and determined the psychometric properties of the latter among university students in Bangladesh. The SOSS contains 13 items in three subscales (stigma five, isolation four, and glorification four). The instrument showed acceptable psychometric properties in Bangla. The suicide literacy was significantly higher in females, students of medicine, having a family history of suicidal attempts and a history of student nonfatal attempts while stigma was also significantly lower among the females and a history of past attempts. These instruments could be utilized in further research and academic and clinical settings.

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### CONFLICT OF INTEREST

The authors declare no conflict of interest.

### AUTHOR CONTRIBUTIONS

Conception and design: S. M. Yasir Arafat. Methods and instrument development: S. M. Yasir Arafat, Fahad Hussain, and Md. Aminul Islam. Data collection: S. M. Yasir Arafat, Fahad Hussain, and Md. Aminul Islam. Data analysis: S. M. Yasir Arafat. Drafting the manuscript: S. M. Yasir Arafat and Vikas Menon. Revision and approval: All authors.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author.

### PEER REVIEW

The peer review history for this article is available at https://publons.com/publon/10.1002/brb3.2432.

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