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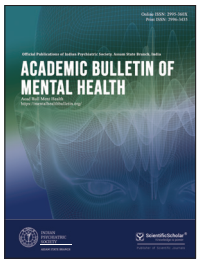

Original Article

Prevalence of Suicidal Ideation and its Association with Depression and Self-Esteem Among Bangladeshi Youth: A Web-based Cross-Sectional Study

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ABSTRACT

Objectives: Suicidal ideation (SI) among youth represents a growing public health concern in Bangladesh, yet remains underexplored within the socio-cultural context of a low-resource setting. This study investigated the prevalence of SI and its associations with depression, self-esteem (SE), and socio-demographic factors among Bangladeshi youth.

Material and Methods: A cross-sectional, web-based survey was conducted among 514 participants (213 male, 301 female) aged 18–30 years across Bangladesh, selected through purposive convenience sampling. Data were collected via Google Forms and analyzed using SPSS v27. Validated Bangla versions of the Beck Scale for Suicidal Ideation (BSSI), Patient Health Questionnaire-9 (PHQ-9), and Rosenberg Self-Esteem Scale (RSES) were used. Associations were examined using chi-square tests and effect sizes reported with Cramer's V.

Results: The study found an alarming prevalence of SI, with 50.4% reporting moderate and 19.1% reporting high levels. Depression showed a strong and statistically significant association with SI ($\chi^2 = 42.349$, $p < 0.001$), underscoring its critical role. Additionally, age group ($\chi^2 = 10.873$, $p = 0.028$), education level ($\chi^2 = 36.433$, $p < 0.001$), income ($\chi^2 = 12.911$, $p = 0.044$), and residential area ($\chi^2 = 9.086$, $p = 0.011$) were significantly linked to SI. Contrary to expectations, SE was not significantly associated.

Conclusion: This study reveals a significant mental health burden among Bangladeshi youth, with depression as a key predictor of SI. Urgent implementation of youth-centered mental health screening, culturally tailored interventions, and policy-level suicide prevention strategies is warranted to address this growing crisis.

Keywords: Depression, Mental health, Self-esteem, Suicidal ideation, Youth.

INTRODUCTION

Suicidal ideation (SI)—the contemplation or thoughts of ending one's life—is a critical mental health condition, often signaling deep psychological distress and serving as a precursor to suicide. Globally, suicide remains a pressing public health issue, affecting individuals across diverse demographic groups. The World Health Organization (WHO) reports that approximately 720,000 individuals die by suicide each year, with suicide ranked as the third leading cause of death among individuals aged 15 to 29.[1] An estimated 9.2% of people experience SI, with 3.1% forming plans and 2.7% attempting suicide.[2] Alarmingly, around 75% of these deaths occur in low- and middle-income countries (LMICs) like Bangladesh, where the burden of mental illness

is compounded by limited healthcare infrastructure and social stigma.[3]

Understanding the triggers of SI is essential for early intervention and prevention. A combination of psychological, biological, environmental, and cultural factors influences SI, with depression, trauma, and low SE consistently identified as key contributors.[4] Suicide is currently the second leading cause of death among those aged 15–29 worldwide, with men in high-income countries three times more likely to die by suicide than women, though in LMICs, the gender gap is smaller.[5,6] Socioeconomic vulnerabilities, such as unemployment, poverty, and familial instability, further increase risk.[7,8] In Bangladesh, mental health challenges are pervasive, with 16.8% of adults experiencing mental disorders.[9] However, social stigma, lack of awareness, and inadequate mental health services delay care and worsen outcomes.[10]

Young people in Bangladesh, particularly university students, are increasingly exposed to mental health stressors such as academic pressure, financial insecurity, and social isolation. Research highlights that depression, anxiety, and insomnia significantly increase the risk of suicidal behaviors in this group, while factors such as social media addiction, broken relationships, and gender-based disparities further exacerbate emotional vulnerability.[11-14] Women, in particular, appear more prone to self-harm.[11,15] Within this complex web of influences, SE emerges as a vital psychological buffer. Studies have shown that low SE not only increases susceptibility to depressive symptoms but also correlates strongly with SI, especially among adolescents.[16,17] The interplay between depression and SE amplifies the risk of suicidal thoughts, with those experiencing both conditions facing a compounded vulnerability.[14,17]

Despite the global urgency surrounding youth suicide, there remains a critical research gap in understanding how depression and SE interact with SI in Bangladeshi youth—especially in a digital context. As young people increasingly turn to online platforms for connection, expression, and support, examining mental health in a web-based environment has become more relevant than ever. However, existing studies have seldom focused on this intersection within the socio-cultural context of Bangladesh, leaving a significant void in the literature. This study addresses this gap by investigating the prevalence of SI among Bangladeshi youth and exploring its associations with depression and SE through a web-based cross-sectional survey.

The novelty of this study lies in its focus on Bangladeshi youth within an online framework—an underexplored but increasingly relevant domain given the country's growing digital connectivity. By capturing youth perspectives in real-time digital environments, the research provides timely, culturally sensitive insights that can inform scalable mental health interventions. Furthermore, by examining the dual influence of depression and SE on SI, the study offers a nuanced understanding of how psychological factors compound risk, helping to shape targeted prevention strategies.

Aim of the study

The study aims to:

1. Assess the prevalence of SI among Bangladeshi youth using a web-based cross-sectional survey.
2. Examine the association between SI and depression, identifying how depressive symptoms increase suicide risk.
3. Explore the relationship between SI and SE, particularly focusing on the impact of low self-worth.
4. Provide data-driven evidence to inform culturally responsive mental health interventions tailored to the specific needs of Bangladeshi youth.

By addressing these objectives, this study contributes to the growing body of literature on youth mental health in LMICs and supports the development of preventive strategies that are both contextually relevant and digitally adaptive—an urgent need in Bangladesh's rapidly evolving socio-technological landscape.

MATERIAL AND METHODS

Study design and setting

This study used a web-based cross-sectional design to assess the prevalence of SI and its association with depression and SE among youths, covering all regions of Bangladesh from 5 January, 2025 to 25 March, 2025.

Study population, sampling technique, and sample size estimation

The target population comprised Bangladeshi youth aged 18 to 30 years. A total of 514 participants were recruited using a purposive convenience sampling technique to ensure diverse representation from various regions of the country. Inclusion criteria included: (i) Bangladeshi residency, (ii) regular internet access, (iii) age between 18 and 30 years, and (iv) ability to provide informed consent. Participants were excluded if they had a self-reported diagnosis of severe psychiatric disorders, were unable to complete the online survey, or submitted incomplete responses. Of approximately 1,200 individuals who accessed the survey, 640 began the survey, 560 met eligibility, and 514 completed the questionnaire. This reflects a completion rate of

approximately 42.8%.

The required sample size was estimated using the single population proportion formula, based on a previously reported prevalence of SI of 13.8% among Bangladeshi individuals.[18] Assuming a 95% confidence level, 5% margin of error, and a design effect of 1.0, the minimum sample size was calculated as:

$$n = \frac{(Z^2 .p .(1-p)/d^2}{d^2} = \frac{(1.96)^2 .0.138 .(1-0.138)}{(0,05)^2} \approx 183$$

To accommodate potential incomplete responses and increase statistical power for subgroup analyses, the final sample was expanded to 514 respondents.

Data collection tools

The Personal Information Form was developed to collect key demographic data, including age, gender, educational background (EB), and socioeconomic status. Age was recorded to examine its association with SI, while gender was categorized as male, female, or other, enabling an exploration of gender-based differences in mental health outcomes.

The Bengali Version of the Patient Health Questionnaire-9 (PHQ-9) was implemented to assess levels of depression among participants, ensuring cultural and linguistic relevance.[19,20] The nine-item self-administered tool aligns with the DSM-IV criteria for major depressive disorder and evaluates the frequency of depressive symptoms over the past two weeks.[19] Each item is scored on a scale of 0–3, with total scores ranging from 0 to 27. Depression severity was categorized as none, mild, moderate, moderately severe, or severe based on these scores.[21]

The Bengali Version of the Rosenberg Self Esteem Scale (RSES) was employed to measure SE. This ten-item scale evaluates both positive and negative aspects of SE using a four-point Likert scale, with responses ranging from "strongly agree" to "strongly disagree".[22] Higher scores indicate greater levels of SE. The Bengali version of the RSES has been validated in prior research and demonstrates strong psychometric properties for use in Bangladeshi populations.[23-25]

The Bangla Beck Scale for Suicide Ideation (BSSI) was the primary tool for assessing SI. This 19-item scale evaluates the frequency and intensity of SI, ranging from "no thoughts of suicide" to "strong suicide intent".[26] The Bangla version has been adapted and validated to maintain its psychometric reliability in Bangladeshi contexts.[27,28] No cut- point was used to categorize the scores.[29] So, SI was categorized based on percentiles, with the first 25% (scores ranging from 0 to 18) classified as low, the middle 50% (scores between 19 and 26) as moderate, and the top 25% (scores of 27 or higher) as high.

Data collection procedure

Data were collected through an online survey that included the BSSI, the PHQ-9 to assess depression, and the RSES to measure SE. The survey was distributed via social media platforms, university networks, and online forums to ensure broad participation from the target population. Participants were selected based on inclusion criteria, such as being between 18 and 30 years of age and residing in Bangladesh. The sample size was determined through statistical analysis or reference to similar previous studies to ensure precision. Prior to participation, all respondents were asked to provide informed consent, with assurance of confidentiality and data protection. The survey was created using Google Forms and remained open for a specified period. Any incomplete responses were excluded from the final dataset.

Data analysis

All statistical analyses were conducted using IBM SPSS Statistics (Version 27.0). The normality of the data was assessed using the Kolmogorov-Smirnov test, which indicated that the data were non-normally distributed ($p < 0.05$). Descriptive statistics, including frequencies and percentages, were used to summarize socio-demographic characteristics and key study variables. To examine the association between socio-demographic factors and SI, chi-square (χ^2) tests of independence were performed. Effect sizes were reported using Cramer's V to determine the strength of associations. A clustered bar chart was used to visually represent the distribution of SI across gender, residential area (RA), depression levels, and SE categories. Initially, logistic regression analysis was considered to assess independent predictors of SI. However, due to non-significant associations in preliminary analyses, regression was not pursued. Instead, chi-square tests were used to explore group differences. Statistical significance was set at $p < 0.05$ for all analyses.

Ethical considerations

This study received ethical approval from the Institutional Review Board (IRB) of the Bangladesh Institute of Innovative Health Research on 20 December 2024 (IRB Protocol No.: BIIHR-2024-018). Participants provided informed consent after being briefed about the study's purpose, confidentiality, and voluntary nature. No personally identifiable information was collected. All data were encrypted, securely stored, and accessed only by authorized personnel. Supportive language was used throughout the survey to ensure participants' emotional safety. All procedures in this study were performed according to the Declaration of Helsinki in treating all participants ethically.[30]

RESULTS

Characteristics of the study participants

Table 1 presents the socio-demographic characteristics of the study participants. A total of 514 individuals participated in the study, with the majority (63.2%) aged between 21 and 25 years. More than half of the participants were female (58.6%). In terms of educational qualification, 62.1% had completed graduation, while only 0.6% were illiterate. The majority of the participants were unmarried (80.4%), and most resided in urban areas (77.2%). Regarding monthly income, 65.0% of participants earned less than 10,000 BDT per month. The predominant occupation was students (76.8%), followed by employees/businessmen (12.3%). Mental health-related variables revealed that 56.0% of participants had low SE, and none reported high SE. Depression levels varied, with 30.2% experiencing mild depression, while 9.9% had severe depression. SI was classified as low in 30.5% of participants, moderate in 50.4%, and high in 19.1%.

Table 1: Characteristics of the study participants (N=514)

Variables	Categories	N (%)
Age (in years)	18 to 20	103 (20.0)
	21 to 25	325 (63.2)
	26 to 30	86 (16.7)
Gender	Male	213 (41.4)
	Female	301 (58.6)
Educational background	Illiterate	3 (0.6)
	Primary	11 (2.1)
	Secondary	33 (6.4)
	Higher secondary	96 (18.7)
	Graduation	319 (62.1)
	Postgraduation	52 (10.1)
Marital status	Unmarried	413 (80.4)
	Married	97 (18.9)
	Divorced	3 (0.6)
	Widower	1 (0.2)
Residential area	Urban	397 (77.2)
	Rural	117 (22.8)
Monthly income (in BDT)	Less than 10000	334 (65.0)
	10000 to 20000	83 (16.1)
	20000 to 50000	60 (11.7)
	More than 50000	37 (7.2)
Occupation	Unemployed	29 (5.6)
	Student	395 (76.8)
	Housewife	27 (5.3)
	Employee/ Businessman	63 (12.3)
Depression	None	74 (14.4)
	Mild	155 (30.2)
	Moderate	154 (30.0)
	Moderately Severe	80 (15.6)
	Severe	51 (9.9)
Self-esteem	Low	288 (56.0)
	Normal	226 (44.0)
	High	0 (0)
Suicidal ideation	Low	157 (30.5)
	Moderate	259 (50.4)
	High	98 (19.1)

BDT: Bangladeshi Taka

Prevalence of SI

Figure 1 illustrates the prevalence of SI among the study participants. The majority of individuals (50.4%) reported moderate SI, whereas 19.1% experienced high SI.

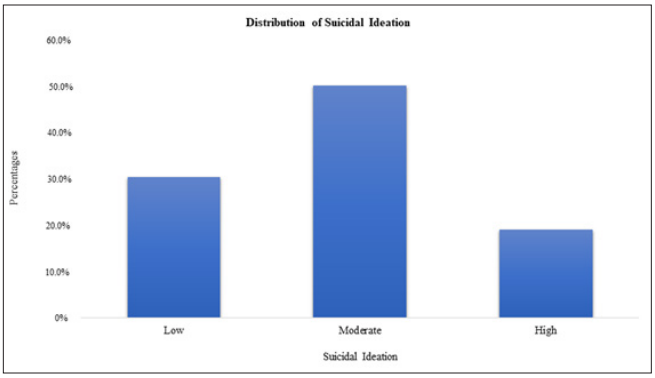

Figure 1: Prevalence of suicidal ideation among study participants

Association between socio-demographic factors and SI

Table 2 presents the associations between socio-demographic variables and SI. The results revealed that age significantly influenced SI (χ^2 = 10.873, p = 0.028), with participants aged 18–20 years showing a higher proportion of low SI. Similarly, RA was significantly associated with SI (χ^2 = 9.086, p = 0.011), with a greater percentage of rural residents reporting low SI compared to urban residents. EB also showed a significant association with SI (χ^2 = 36.433, p < 0.001). Participants with higher education levels exhibited more variation in SI levels, with those having a graduate degree showing the highest percentage of high SI. Monthly income was another significant factor (χ^2 = 12.911, p = 0.044), with participants earning more than 50,000 BDT showing the highest proportion of moderate SI. A strong association was found between depression and SI (χ^2 = 42.349, p < 0.001), where participants experiencing severe depression were more likely to have high SI. However, SE did not show a significant association with SI (χ^2 = 1.386, p = 0.50).

Table 2: Association between socio-demographic factors and suicidal ideation

Variable	Category	Suicidal ideation					
		Low	Moderate	High	χ^2	p-value	Cramer's V
		N (%) [Adj. residual]	N (%) [Adj. residual]	N (%) [Adj. residual]			
Age (in years)							
	18 to 20	45 (43.7) [3.2]	44 (42.7) [-1.7]	14 (13.6) [-1.6]	10.873	0.028	0.103
	21 to 25	88 (27.1) [-2.2]	171 (52.6) [1.3]	66 (20.3) [0.9]			
	26 to 30	21 (27.9) [-0.6]	44 (51.2) [0.2]	18 (20.9) [0.5]			
Gender							
	Male	73 (34.3) [1.5]	97 (45.5) [-1.8]	43 (20.2) [0.5]	3.592	0.166	0.084
	Female	84 (27.9) [-1.5]	162 (53.8) [1.8]	55 (18.3) [-0.5]			
Educational background							
	Illiterate	1 (33.3) [0.1]	2 (66.7) [0.6]	0 (0.0) [0.0]	36.433	<0.001	0.188
	Primary	9 (81.8) [3.7]	2 (18.2) [-2.2]	0 (0.0) [0.0]			
	Secondary	18 (54.5) [3.1]	11 (33.3) [-2.0]	4 (12.1) [-1.0]			
	Higher secondary	36 (37.5) [1.6]	48 (50.0) [-0.1]	12 (12.5) [-1.8]			
	Graduation	75 (23.5) [-4.4]	170 (53.3) [1.7]	74 (23.2) [3.0]			
	Postgraduation	18 (34.6) [0.7]	26 (50.0) [-0.1]	8 (15.4) [-0.7]			
Marital status							
	Unmarried	117 (28.3) [-2.2]	212 (51.3) [0.9]	84 (20.3) [1.5]	8.484	0.205	0.091
	Married	37 (38.1) [1.8]	46 (47.4) [-0.6]	14 (14.4) [-1.3]			
	Divorced	2 (66.7) [1.4]	1 (33.3) [-0.6]	0 (0.0) [-0.8]			
	Widower	1 (100.0) [1.5]	0 (0.0) [-1.0]	0 (0.0) [-0.5]			
Residential area							
	Urban	109 (27.5) [-2.8]	205 (51.6) [1.0]	83 (20.9) [2.0]	9.086	0.011	0.133
	Rural	48 (41.0) [2.8]	54 (46.2) [-1.0]	15 (12.8) [-2.0]			
Monthly income (in BDT)							
	Less than 10000	103 (30.8) [0.2]	169 (50.6) [0.1]	62 (18.6) [-0.4]	12.911	0.044	0.112
	10000 to 20000	31 (37.3) [1.5]	34 (41.0) [-1.9]	18 (21.7) [0.7]			
	20000 to 50000	14 (23.3) [-1.3]	30 (50.0) [-0.1]	16 (26.7) [1.6]			
	More than 50000	9 (24.3) [-0.9]	26 (70.3) [2.5]	2 (5.4) [-2.2]			
Occupation							
	Unemployed	14 (48.3) [2.1]	15 (51.7) [0.1]	0 (0.0) [-2.7]	19.604	0.003	0.138
	Student	113 (28.6) [-1.7]	202 (51.1) [0.6]	80 (20.3) [1.2]			
	Housewife	14 (51.9) [2.5]	12 (44.4) [-0.6]	80 (20.3) [1.2]			
	Employee/ Businessman	16 (25.4) [-0.9]	30 (47.6) [-0.5]	17 (27.0) [1.7]			
Depression							
	None	37 (50.0) [3.9]	27 (36.5) [-2.6]	10 (13.5) [-1.3]	42.349	<0.001	0.203
	Mild	48 (31.0) [0.1]	84 (54.2) [1.1]	23 (14.8) [-1.6]			
	Moderate	49 (31.8) [0.4]	81 (52.6) [0.7]	24 (15.6) [-1.3]			
	Moderately severe	14 (17.5) [-2.8]	47 (58.8) [1.6]	19 (23.8) [1.2]			
	Severe	9 (17.6) [-2.1]	20 (39.2) [-1.7]	22 (43.1) [4.6]			
Self-esteem							
	Low	90 (31.3) [0.4]	139 (48.3) [-1.1]	59 (20.5) [0.9]	1.386	0.50	0.052
	Normal	67 (29.6) [-0.4]	120 (53.1) [1.1]	39 (17.3) [-0.9]			
	High	0 (0.0) [0.0]	0 (0.0) [0.0]	0 (0.0) [0.0]			

$p < 0.05$ is statistically significant. BDT: Bangladeshi Taka, N: Frequency.

Comparison of SI by key variables

Figure 2 (a-d) presents a clustered bar chart illustrating SI distribution across gender, RA, depression, and SE. The results indicate that males exhibited slightly higher rates of high SI compared to females. Similarly, urban residents had higher proportions of moderate and high SI compared to rural residents. Depression levels showed a clear gradient, with higher severity associated with an increased prevalence of high SI. In contrast, SE did not display a clear pattern in relation to SI levels.

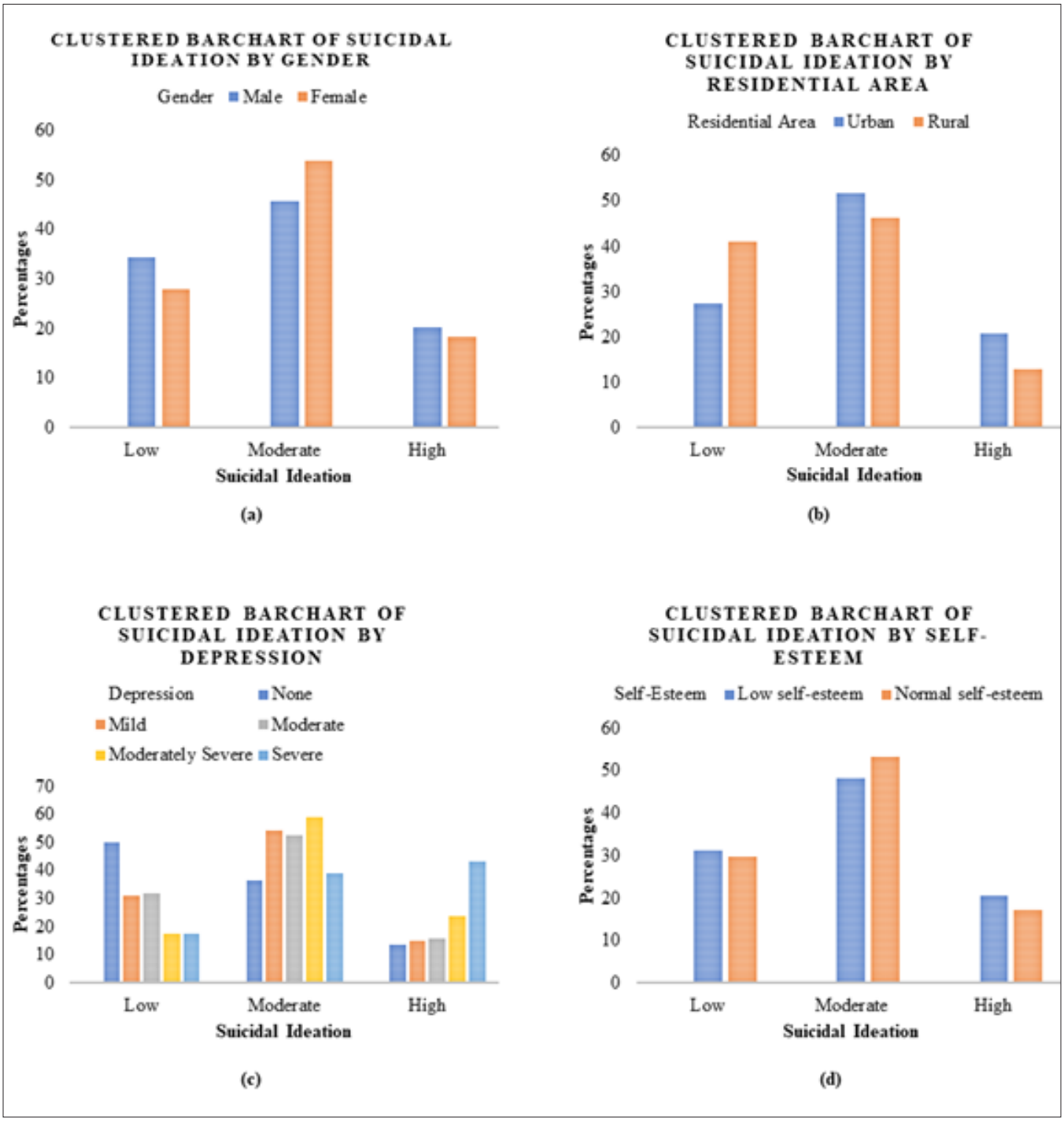

Figure 2: Clustered bar chart of suicidal ideation by (a) gender, (b) residential area, (c) depression, and (d) self-esteem

DISCUSSION

This study revealed a notably high prevalence of SI among Bangladeshi youth, with 19.1% of participants reporting high levels and 50.4% reporting moderate levels. These findings highlight a pressing public health concern, indicating that over two-thirds of the surveyed population experience moderate to severe SI. Among the variables examined, depression emerged as a significant predictor of SI, particularly in severe cases ($\chi^2 = 42.349$, $p < 0.001$), aligning with both regional and global research findings.[6,9,13,31,32]

Consistent with prior studies across South Asia, individuals experiencing higher levels of depression were substantially more likely to report suicidal thoughts and behaviors. This underscores depression as a critical mental health issue warranting immediate and sustained intervention. However, in contrast to existing literature, the present study found no significant association between SE and SI ($\chi^2 = 1.386$, $p = 0.50$).[33] This discrepancy may be explained by the socio-cultural context of Bangladesh, where collectivist values and family support systems might buffer the adverse effects of low SE.[34] It is important to note that SI and depression, although closely related, are distinct psychological phenomena. In this study, while 14.4% of the participants did not exhibit depression according to the PHQ-9, a significant portion (50.4%) reported moderate levels of SI, and 19.1% reported high levels of SI. This finding suggests that SI can exist independently of depression, particularly at lower levels of ideation. SI, as assessed using the BSSI, encompasses a range of thoughts, from fleeting thoughts of death to more persistent and intense thoughts of suicide. It is not solely limited to individuals experiencing severe depression. In fact, individuals who score low on depression scales may still experience transient or low-intensity SI, often driven by factors such as stress, relationship issues, or situational difficulties. This is consistent with research suggesting that SI can occur in the absence of clinically diagnosed depression, especially in low-severity cases where depressive symptoms do not reach diagnostic thresholds but still affect mental health. Thus, while depression is a well-established risk factor for SI, the presence of low-level SI in individuals without depression highlights the complex nature of these constructs. This underlines the necessity for a nuanced approach in mental health assessments, where the focus should extend beyond depression to include the broader spectrum of suicidal thoughts, even among those without significant depressive symptoms. These findings contribute to our understanding of the psychological factors influencing SI and emphasize the need for comprehensive mental health interventions that address not only severe depression but also situational or transient forms of SI. The overlap between depression and SI warrants targeted screening efforts, ensuring that individuals at risk of SI, even those with low or moderate depressive symptoms, are identified and supported early.

Interestingly, SI levels were significantly associated with several socio-demographic variables. Participants aged 18–20 exhibited lower rates of SI ($\chi^2 = 10.873$, $p = 0.028$), suggesting that older youth, who may be experiencing greater academic, financial, or familial pressure, are more vulnerable. Furthermore, urban residents were more likely to report moderate or high SI compared to their rural counterparts ($\chi^2 = 9.086$, $p = 0.011$), potentially due to increased academic and social stressors, higher expectations, and reduced community cohesion in urban settings.

EB also played a significant role, with graduates reporting the highest levels of SI ($\chi^2 = 36.433$, $p < 0.001$), potentially reflecting post-graduation uncertainty, employment pressure, or societal expectations. Those with monthly incomes exceeding 50,000 BDT also reported higher rates of moderate SI ($\chi^2 = 12.911$, $p = 0.044$), suggesting that financial status alone may not serve as a protective factor and might even contribute to internalized stress and expectations.

While gender was not statistically significant, descriptive data showed slightly higher rates of SI among males, supporting national data trends indicating higher suicide mortality among young Bangladeshi men.[35] However, females, particularly adolescents, were disproportionately affected by emotional distress and suicide during the COVID-19 pandemic.[15,36] Prior studies have also found alarming suicide rates among medical students in Bangladesh, driven by academic pressure and familial expectations.[37]

Despite the initial plan to use regression analysis to predict SI based on depression and SE, the model failed to yield significant results. However, the use of chi-square tests alongside Cramer's V provided robust insights into the strength and significance of associations. These statistical methods effectively revealed the critical role of depression and the complex interplay between sociodemographic variables and mental health.

Given the findings, several policy and intervention strategies are warranted. First, early screening and detection must be prioritized. Routine depression screening among youth using validated tools such as the PHQ-9 should be integrated across primary healthcare centers, educational institutions, and digital platforms. This would allow for timely identification of at-risk individuals and enable early intervention. Second, expanding mental health support services is essential. Culturally sensitive interventions that strengthen resilience and SE—such as peer support networks and cognitive-behavioral therapy (CBT)—should be developed and delivered through schools, community centers, and mobile health units. These interventions must be tailored to the

Bangladeshi context to ensure accessibility and effectiveness. Third, rural mental health access remains a critical challenge. Many young people in rural areas lack access to mental health resources, which can lead to unreported and untreated emotional distress. Policy measures should focus on decentralizing mental health services through the integration of mental health care into rural healthcare frameworks. This can be achieved by establishing telehealth services, deploying mobile mental health clinics, and training primary healthcare providers in basic mental health support. Fourth, community awareness campaigns can play a pivotal role in reducing stigma and encouraging help-seeking behaviors. These campaigns should be designed specifically for youth and their families and delivered through both digital and community-based channels to ensure maximum reach and cultural relevance. Finally, targeted efforts should be made to improve suicide prevention strategies within educational institutions. Schools, colleges, and universities should implement structured mental health programs that incorporate stress management training, emotional literacy education, and academic counseling. Such measures will not only address psychological distress but also promote overall well-being and resilience among students.

Strengths and limitations

One of the key strengths of this study is its large sample size (N = 514), which enhances the statistical reliability of the findings. The web-based survey method enabled wide geographical coverage and may have reduced stigma-related underreporting by providing anonymity. Additionally, the use of validated psychometric instruments such as the PHQ-9, RSES, and BSSI contributed to the accuracy and consistency of measurement. Nonetheless, the study has several limitations. The reliance on self-reported data introduces the potential for social desirability bias or under-/over-reporting of mental health symptoms, especially across urban and rural participants with differing levels of mental health awareness.[38,39] To mitigate this, future studies should consider using clinical diagnostic interviews, which provide more objective and comprehensive assessments.[40] Moreover, the cross-sectional design limits causal inferences and does not allow the tracking of changes in SI or mental health over time. Future studies should adopt longitudinal designs to monitor the evolution of depression, SE, and SI, offering richer insights into causality and temporal patterns.[41]

Future directions

The findings of this study underscore the critical need for mental health interventions tailored to the socio-cultural context of Bangladesh. While depression emerged as a significant predictor of SI, it is important to recognize that mental health issues in Bangladesh are often influenced by unique cultural, familial, and societal factors. In the Bangladeshi context, where collectivist values and strong family structures play a prominent role, interventions must consider these social dynamics in order to be effective. Culturally responsive interventions should focus on reducing the stigma associated with mental health, which remains a significant barrier to seeking care in Bangladesh. Public health campaigns and educational programs aimed at increasing awareness about mental health and suicide prevention should be designed to resonate with local cultural values. These initiatives can emphasize the importance of family involvement in mental health care and promote open discussions about emotional well-being within the family and community settings. Moreover, mental health programs should consider the digital engagement of youth, given the increasing use of online platforms among this demographic. Leveraging technology, such as online counseling and mental health support apps, can help reach youth in both urban and rural areas, offering a more accessible means of seeking help. Integrating culturally relevant content, such as peer support groups and community-based counseling services, into these digital platforms can further enhance their effectiveness. Additionally, intervention programs should incorporate coping strategies and resilience-building techniques that align with the cultural and religious beliefs of the youth. CBT and mindfulness-based approaches, adapted to the local context, could be valuable in strengthening emotional regulation and SE. Schools and universities should be at the forefront of these efforts, integrating mental health programs into their curricula to foster early identification of at-risk youth and provide ongoing support. Further research is necessary to deepen our understanding of the complex relationship between mental health and SI in Bangladeshi youth. Longitudinal studies could elucidate causal pathways and early risk indicators, while qualitative research involving interviews and focus groups would offer contextualized insights into the cultural, familial, and societal factors shaping mental health. Additionally, the effectiveness of specific interventions such as digital CBT, mental health education, and peer-led initiatives should be rigorously tested. By focusing on these areas, future research can contribute to the development of evidence-based policies and contextualized intervention strategies to reduce the burden of SI among youth in Bangladesh.

CONCLUSION

This study underscores a critical mental health challenge among Bangladeshi youth, with over two-thirds of participants experiencing moderate to high levels of SI. Depression emerged as a significant predictor, highlighting the urgent need for early detection and targeted interventions. Notably, socio-demographic variables such as age, education, income, and urban residence were significantly associated with SI, while SE showed no such link—pointing to the

complex interplay of cultural and contextual factors. These findings call for the integration of routine mental health screenings in educational and primary care settings, expansion of culturally sensitive support services, and the development of digital and community-based suicide prevention programs tailored to the needs of youth. Future longitudinal and mixed-methods research is essential to unravel causal relationships and guide evidence-based policymaking to reduce the burden of suicide in Bangladesh.

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