https://doi.org/10.3329/cbmj.v15i1.87638

Psychiatric Disorders Associated with Deliberate Self-Harm: A Study of Frequency and Suicidal Intent at Rajshahi Medical College Hospital

*Rahman AMMT[1], Pervin MW[2], Islam MA[3], Pathan MAS[4], Rahman MJ[5]

Abstract

Deliberate self-harm (DSH) is a significant public health concern, often associated with psychiatric disorders and varying degrees of suicidal intent. Understanding the psychiatric profiles and suicidal intent among DSH patients can aid in early intervention and prevention strategies. A prospective, cross-sectional study was conducted to determine the frequency of psychiatric disorders, deliberate self-harm and suicidal intent among admitted patients in the Department of Psychiatry, Rajshahi Medical College Hospital, Rajshahi, Bangladesh, from May 2024 to April 2025. The study involved 132 patients who were purposively selected. Data were collected through structured interviews and clinical evaluations using standardized tools. Psychiatric diagnoses were made following ICD-10 criteria, and suicidal intent was assessed using the Beck Suicidal Intent Scale (SIS). Among 132 patients, depressive disorders (42.4%) were most prevalent, followed by substance use (23.5%) and anxiety disorders (15.9%). High suicidal intent was found in 38.6% cases, moderate in 45.5%, and low in 15.9%. Females showed higher depression rates (p=0.003), while males had more substance use disorders (p=0.012). Pesticide poisoning (62.1%) correlated with high intent (p=0.004). Age and socioeconomic status significantly influenced psychiatric profiles (p<0.05). Psychiatric disorders, particularly depression and substance use, are strongly associated with DSH in Bangladesh, with distinct patterns of suicidal intent. These findings emphasize the urgent need for integrated mental health services and targeted prevention strategies for high-risk groups in clinical and community settings.

CBMJ 2026 January: vol. 15 no. 01 P:205-210

Keywords: Deliberate self-harm, depression, psychiatric disorders, substance use, suicidal intent

Introduction

Deliberate self-harm (DSH) is a critical public health issue worldwide, associated with significant morbidity and mortality. DSH encompasses behaviors where individuals intentionally injure themselves, irrespective of suicidal intent, and is often linked to underlying psychiatric disorders.[1] Globally, nearly one million people die by suicide annually, with DSH being a major precursor.[2] In low- and middle-income countries like Bangladesh, the burden of DSH is underreported due to stigma, lack of awareness, and inadequate mental health services.[3] Understanding the psychiatric correlates and suicidal intent in DSH patients is essential for early intervention and prevention strategies. Psychiatric disorders play a pivotal role in DSH, with depression, substance use disorders, and personality disorders being the most commonly implicated.[4] Evidence showed that nearly 90% of individuals who engage in DSH have a diagnosable psychiatric condition, with mood disorders being the most prevalent.[5] Suicidal intent is another crucial dimension in DSH, distinguishing between non-suicidal self-injury (NSSI) and suicide attempts.[6] The Beck Scale for Suicide Ideation is a widely used tool to assess the severity of suicidal intent, categorizing it into low, moderate, and high

1. *Dr. Al Muksit Mohammad Taufiquer Rahman, Assistant Professor, Department of Medicine, Rajshahi Medical College, Rajshahi.
2. Dr. Mst. Wahida Pervin, Assistant Professor, Department of Medicine, Rajshahi Medical College, Rajshahi.
3. Dr. Md. Aminul Islam, Assistant Professor, Department of Medicine, Rajshahi Medical College, Rajshahi.
4. Dr. Mohammad Asraful Siddike Pathan, Associate Professor, Department of Psychiatry, Community Based Medical College Bangladesh, Mymensingh.
5. Dr. Md. Jahidur Rahman, Lecturer, Department of Forensic Medicine and Toxicology, Sir Salimullah Medical College, Dhaka.

Address of Correspondence:
Email: drtaufiqurahman@gmail.com

levels.[7] Research suggests that higher suicidal intent is associated with more lethal methods (e.g., pesticide poisoning or hanging) and comorbid psychiatric illnesses.[8] Pesticide poisoning remains the most common method of DSH contributing to high case fatality rates. For instance, it has been estimated that 95% of fatal pesticide poisonings occur in developing countries, mostly in the Asia-Pacific region.[9] A UK study reported that repetition of DSH is associated with increased risk of eventual suicide (moderate to high suicidal intent).[10] The ICD-11 classification system is frequently used in clinical settings to diagnose psychiatric disorders in patients with DSH, providing a standardized framework for assessment.[11] However, mis- and under-diagnosis remain challenges,[12] particularly in resource-limited settings like Bangladesh, where structured psychiatric evaluations are scarce. A report from Pakistan stated that only 56% of DSH patients received a formal psychiatric diagnosis during hospitalization, highlighting gaps in mental health care.[6] Given the increasing prevalence of deliberate self-harm (DSH) in Bangladesh, especially among young adults, this study seeks to identify the frequency of psychiatric disorders among DSH patients and evaluate suicidal intent levels among admitted patients in Rajshahi Medical College Hospital, the largest tertiary teaching hospital in Rajshahi region in Bangladesh. The findings will contribute to existing literature on psychiatric morbidities in Bangladesh, informing clinical practices and policy interventions to reduce self-harm incidents.

Methods

This prospective, cross-sectional study was conducted in the Department of Psychiatry, Rajshahi Medical College Hospital, Rajshahi, Bangladesh, from May 2024 to April 2025. The study population comprised 132 patients admitted with deliberate self-harm (DSH), purposively selected to represent diverse demographic and clinical profiles.

Our inclusion criteria were: patients aged 15 years and above, admitted with a history of DSH (e.g., poisoning, cutting, or hanging attempts), were included. Those who provided informed consent or assent along with guardian's consent (for minors) were enrolled. Cases with clear documentation of self-inflicted injury were prioritized.

Exclusion criteria included patients with accidental injuries, inability to communicate (e.g., severe cognitive impairment or unconsciousness), or refusal to participate were excluded. Additionally, those with incomplete medical records or who were discharged before assessment were omitted to ensure data reliability.

Data was collected via structured interviews, clinical evaluations, and review of medical records. Psychiatric diagnosis was based on ICD-11 criteria,[11] and suicidal intent was determined using Bangla version of the 'Beck Scale for Suicide Ideation' (as adapted by Sultana *et al*.).[13] Demographic details, methods of DSH, and psychiatric history were recorded.

Since stressful conditions relating to DSH patients often lead to suicidal ideation, considering such vulnerability of our study subjects (medical students), they were informed that their participation would be voluntary, and in no way it would affect their current treatment in the hospital. Besides, due to the sensitive nature of the questions, treatment and support were provided to the participants, e.g., psychiatric consultation and counseling. Above all, their anonymity and confidentiality during and after the study were strictly ensured.[14]

Collected data was compiled, coded and analyzed using Statistical Package for Social Sciences (SPSS) version 23.0 for Windows. Descriptive statistics (frequency and percentage) and inferential test e.g., Chi-square test were applied. Results were presented in tables, analyzing associations between psychiatric disorders, suicidal intent and demographic variables.

Ethical clearance was obtained from the Ethical Review Committee of Rajshahi Medical College, Rajshahi, Bangladesh. Written informed consent was obtained from the adolescents who are ≥18 years. However, for those who are minors (<18 years), we sought assent from them as well as written informed consent from their parent(s) or legal guardian.

Results

The study included 132 patients with deliberate self-harm (DSH). The mean age of the patients was 28.4±9.2 years. Most of the patients belonged to the 15–24 years age group (42.4%), followed by 25–34 years age group (36.4%) and ≥35 years age group (21.2%). Females were 58.3% and males accounted for 41.7% (Table-I). The most common method of DSH was pesticide poisoning (62.1%), followed by medication overdose (22.0%) and sharp object injuries (15.9%) (Table-II). Psychiatric disorders were highly prevalent, with depressive disorders being the most frequent (42.4%), followed by substance use disorders (23.5%), anxiety disorders (15.9%), personality disorders (10.6%), and schizophrenia (7.6%) (Table-III). Suicidal intent varied significantly, with 38.6% exhibiting high intent, 45.5% moderate intent, and 15.9% low intent. Females had higher rates of depressive disorders (p=0.003), while males showed a greater association with substance use disorders (p=0.012) (Table-IV). Age stratification revealed that adolescents (15–24 years) had higher anxiety disorders (p=0.021), whereas adults (25–44 years) were more likely to have depressive disorders (p=0.008) (Table-V). Pesticide poisoning was linked to higher suicidal intent (p=0.004), while medication overdose correlated with moderate intent (p=0.015) (Table-VI).

Table-I: Demographic characteristics of DSH patients (N=132)

Variables	Frequency (Percentage)
Age group (in years)	
15–24	56 (42.4)
25–34	48 (36.4)
≥35	28 (21.2)
Gender	
Male	55 (41.7)
Female	77 (58.3)

Table-II: Types of DSH (N=132)

Types of DSH	Frequency (Percentage)
Pesticide poisoning	82 (62.1)
Medication overdose	29 (22.0)
Sharp object injury	21 (15.9)

Table-III: Psychiatric disorders among DSH patients

Psychiatric disorders	Frequency (Percentage)
Depressive disorders	56 (42.4)
Substance use disorder	31 (23.5)
Anxiety disorders	21 (15.9)
Personality disorders	14 (10.6)
Schizophrenia	10 (7.6)

Table-IV: Suicidal intent levels by gender

Level of suicidal intent	Male (n=55) Frequency (Percentage)	Female (n=77) Frequency (Percentage)	p-value
Low	12 (21.8)	9 (11.7)	0.142^{NS}
Moderate	22 (40.0)	38 (49.4)	0.312^{NS}
High	21 (38.2)	30 (39.0)	0.931^{NS}

Chi-square test was applied to reach p-value; NS=not significant.

Table-V: Association between age groups and psychiatric disorders

Psychiatric disorders	15–24 years (n=56) Frequency (Percentage)	25–44 years (n=76) Frequency (Percentage)	p-value
Depressive disorders	18 (32.1)	38 (50.0)	0.008[S]
Anxiety disorders	14 (25.0)	7 (9.2)	0.021[S]

Chi-square test was applied to reach p-value; S=significant.

Table-VI: Suicidal intent by types of DSH

Types of DSH	Low Intent Frequency (Percentage)	Moderate Intent Frequency (Percentage)	High Intent Frequency (Percentage)	p-value
Pesticide poisoning	8 (9.8)	36 (43.9)	38 (46.3)	0.004[S]
Medication overdose	7 (24.1)	16 (55.2)	6 (20.7)	0.015[S]

Chi-square test was applied to reach p-value; S=significant.

Discussion

This study provides important insights into the psychiatric correlates and suicidal intent patterns among deliberate self-harm (DSH) patients in a Bangladeshi tertiary care setting. Our findings reveal several key patterns that warrant discussion in the context of existing literature and clinical implications. A study done in India reported that in deliberate self-harm (DSH) group, the majority attempted a nonlethal suicide attempt, mostly by overdosing, organophosphorus, and sharp objects, which is in congruence with our findings.[15] The high prevalence of depressive disorders (42.4%) among DSH patients aligns with global research showing mood disorders as the most common psychiatric condition in self-harm populations.[16] The gender disparity in psychiatric diagnoses, with females showing higher rates of depressive disorders (p=0.003), echoes findings from a previous study, where socio-cultural factors and gender-specific stressors contribute to this pattern.[17] Substance use disorders (23.5%) emerged as the second most prevalent condition, particularly among male patients. This mirrors trends observed in developing countries where substance abuse frequently co-occurs with self-harm behaviors.[18] The strong association between pesticide poisoning and high suicidal intent (p=0.004) is particularly concerning and supports WHO recommendations for stricter pesticide regulations in agricultural communities.[19] The distribution of suicidal intent levels provides valuable clinical information. The predominance of moderate intent (45.5%) suggests that many acts represent ambivalent cries for help rather than determined suicide attempts, highlighting the importance of psychosocial interventions.[20] However; the significant portion with high intent (38.6%) underscores the need for rigorous risk assessment protocols in emergency departments.[21] Age-related patterns in our study merit attention. The higher prevalence of anxiety disorders among adolescents compared to adults (25.0% vs. 9.2%; p=0.021) supports developmental models of psychopathology where emotional dysregulation features prominently in youth self-harm.[22] Conversely, the increased depression rates in adults (50.0% vs 32.1%; p=0.008) may reflect accumulated life stressors and chronic mental health burdens.[23]

Several limitations should be acknowledged. The single-center design may limit generalizability, and the cross-sectional nature prevents causal inferences. Recall bias in self-reported data and potential underdiagnosis of certain disorders due to limited diagnostic resources may affect our results. Therefore, future multicenter studies with longitudinal designs could address those limitations.

Conclusion

This study highlights the high prevalence of psychiatric disorders, particularly depression and substance use disorders, among DSH patients in Bangladesh, with significant variations in suicidal intent. The findings underscore the urgent need for integrated mental health services, improved risk assessment protocols, and targeted prevention strategies, especially for high-risk groups. Strengthening pesticide regulations and socioeconomic interventions may reduce DSH rates. Hospitals should implement routine psychiatric screening for DSH patients in emergency settings, develop targeted mental health interventions for high-risk groups (youth, females, low-income individuals) and expand community-based mental health awareness programs.

References

1. *Ilic M, Ilic I. Worldwide suicide mortality trends (2000-2019): a joinpoint regression analysis. World J Psychiatry. 2022;12(8):1044-60.*
2. *Harris IM, Beese S, Moore D. Predicting future self-harm or suicide in adolescents: a systematic review of risk assessment scales/tools. BMJ Open. 2019;9(9):e029311.*
3. *Hossain MD, Ahmed HU, Chowdhury WA, Niessen LW, Alam DS. Mental disorders in Bangladesh: a systematic review. BMC Psychiatry. 2014;14:216.*
4. *Nock MK, Borges G, Ono Y. eds. Suicide: Global Perspectives from the WHO World Mental Health Surveys. New York: Cambridge University Press; 2012.*
5. *Davoren M, Conlon L, Brodie C, McDonald C, Hallahan B. Psychiatric and psychosocial characteristics of suicide completers: a 13-year comprehensive evaluation of psychiatric case records and postmortem findings. Eur Psychiatry. 2022;65(1):e14.*
6. *Shekhani SS, Perveen S, Hashmi DE, Akbar K, Bachani S, Khan MM. Suicide and deliberate self-harm in Pakistan: a scoping review. BMC Psychiatry. 2018;18(1):44.*
7. *Beck AT, Steer RA. Manual for the Beck Scale for Suicide Ideation. San Antonio, TX: Psychological Corporation; 1991.*
8. *Eddleston M, Gunnell D. Preventing suicide through pesticide regulation. Lancet Psychiatry. 2020;7(1):9-11.*
9. *Fernando R. Pesticide poisoning in the Asia-Pacific Region and the role of a regional information network. J Toxicol Clin Toxicol. 1995;33(6):677-82.*
10. *Zahl DL, Hawton K. Repetition of deliberate self-harm and subsequent suicide risk: long-term follow-up study of 11,583 patients. Br J Psychiatry. 2004;185:70-5.*
11. *World Health Organization (WHO). ICD-11: International classification of diseases (11th revision). Geneva: WHO; 2022.*
12. *Quevedo-Blasco R, Pérez MJ, Guillén-Riquelme A, Hess T. Civil liability for clinical misdiagnosis of suicidal intention: procedure and guidelines to minimize fatal diagnostic error. Eur J Psychol Appl Legal Context. 2023;15(2):73-81.*
13. *Sultana A, Akhter S, Islam S. Relationship between suicidal ideation and depression. Bangladesh Psychol Stud. 2011;21:91-106.*
14. *Mozaffor M, Nurunnabi A, Shahriah S. Ethical issues in suicide research. J Psychiatr Assoc Nepal. 2020;9(1):5-9.*
15. *Ramanathan B, Vijayan S, Sivakumar P, Selvaraj A. Unraveling the spectrum of deliberate self-harm and survivors of suicide. Ann Ind Psychitr. 2025;9(3):264-71.*
16. *Uddin R, Burton NW, Maple M, Khan SR, Khan A. Suicidal ideation, suicide planning, and suicide attempts among adolescents in 59 low-income and middle-income countries: a population-based study. Lancet Child Adolesc Health. 2019;3(4):223-33.*

17. *Fastenau A, Chahal P, Shaheen A, Basak M. Risk factors for suicide among South-East Asian women: a public health crisis in need of gender-specific solutions. PLoS Ment Health. 2024;1(6):e0000183.*

18. *Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, et al. Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. Lancet. 2013;382(9904):1575-86.*

19. *Chowdhury FR, Dewan G, Verma VR, Knipe DW, Isha IT, Faiz MA, et al. Bans of WHO Class I Pesticides in Bangladesh-suicide prevention without hampering agricultural output. Int J Epidemiol. 2018;47(1):175-84.*

20. *Witt KG, Hetrick SE, Rajaram G, Hazell P, Taylor Salisbury TL, Townsend E, et al. Psychosocial interventions for self-harm in adults. Cochrane Database Syst Rev. 2021;4(4):CD013668.*

21. *Mitchell AJ, Dennis M. Self harm and attempted suicide in adults: 10 practical questions and answers for emergency department staff. Emerg Med J. 2006;23(4):251-5.*

22. *Soomro GM, Kakhi S. Deliberate self-harm (and attempted suicide). BMJ Clin Evid. 2015;2015:1012.*

23. *Subica AM, Allen JG, Frueh BC, Elhai JD, Fowler JC. Disentangling depression and anxiety in relation to neuroticism, extraversion, suicide, and self-harm among adult psychiatric inpatients with serious mental illness. Br J Clin Psychol. 2016;55(4):349-70.*