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Prevalence, Risk Factors and Correlates of Deliberate Self-Harm Behaviors in Bangladesh: A Narrative Review of Cross-Sectional Studies (1995–2025)

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ABSTRACT

Background and Aims: Deliberate self-harm (DSH) is a significant but underreported public health concern in Bangladesh, driven by mental health stigma, cultural and legal barriers, and absence of national data. Despite clear links to multiple risk factors, the prevalence and determinants of DSH lack systematic exploration. This narrative review synthesizes existing research articles and gray literature to summarize DSH behaviors, prevalence, risk factors, and key correlates within the Bangladeshi population.

Methods: PubMed, EMBASE, Scopus, PsycInfo, Google Scholar, and BanglaJOL were searched from their inception to identify research articles on risk factors and correlates of DSH behaviors. Studies assessing DSH behaviors and reporting associated risk factors in Bangladeshi populations were included for this review.

Results: 12 cross-sectional studies (1995–2025) with sample sizes between 51 and 383 were included. Nine studies were hospital based, while three were conducted in community settings among LGBT, homosexual male, and university students. Seven reported DSH behaviors in participants aged 14–65 years, and five assessed co-occurring mental disorders. Reported lifetime DSH prevalence was 17% (95% CI: 12–22.5) among university students, 40.2% in homosexual men, and 56%–62% among homosexual women. The most common methods were self-cutting (39%), medication overdose (38%), and hanging (31%). Overall, 71% had at least one psychiatric disorder. Half of those with planned DSH intended to die, while 12% sought escape. Depressive and anxiety disorders, familial history, medical comorbidities, personality disorder, relationship problems, and poor family interactions were significant risk factors. DSH was positively associated with suicidal attempts, with 34.2% of individuals with DSH reporting a lifetime suicide attempt.

Conclusion: The review outlined limited studies on DSH among the Bangladeshi population. This gap warrants further large-scale studies to find the temporal relation between DSH and its correlates among the community population in Bangladesh.

1 | Introduction

Deliberate self-harm (DSH) refers to the intentional act of hurting oneself through self-inflicted injury or damage to body tissues that results in non-fatal physical harm or risky behaviors, such as bleeding or bruising, typically occurring without a clear intent to die by suicide [1]. DSH includes behaviors such as self-cutting, burning, punishing, beating, hair pulling, head banging, overdose or using substances or objects to cause self-hurt including self-poisoning [2–4]. It may occur as a single incident or repeatedly. When DSH occurs more than five times, it is referred to as repetitive DSH behaviors [5]. DSH is a major

global public health concern, serving both as a key indicator of psychological distress and a significant risk factor for suicide [6]. According to the Lancet Commission on self-harm [7], self-harming behaviors increases the risk of death by suicide and are a common cause of disability in young people. Currently, people attending health services represent only the tip of the iceberg; the proportion of teenagers self-harming has increased over the past 20 years, particularly among young women and girls. Based on a meta-analysis of 686,672 children and adolescents, the overall lifetime prevalence of DSH is 13.7% and 14.2% respectively [8]. Studies also show that adolescents are eight times more prone to engage in DSH behaviors compared to children [9], and DSH is also more common in urban dwellers compared to the rural community [10].

Recent studies from some Asian countries revealed the prevalence of DSH is significantly higher than in Western countries, with rates in India at 16.4% [11], and China at 12.8% [12], while lifetime prevalence is only 3%–5% in Europe. A recent review among the Bangladeshi population revealed the prevalence of Non-suicidal self-injury (NSSI), that is, intentionally harming one's own body without suicidal intent, among university students to be 17%; however, a population-based study on DSH behaviors has not been systematically explored to date [13, 14]. Another study among 100 deliberate self-poisoning (DSP) patients reported the prevalence of DSH as 7% [15]. Several risk factors have been found to potentially influence DSH behavior including demographics, socio-economic and cultural determinants, environmental factors, psychiatric disorders, and marital status [13, 16]. In the Asian subcontinent, lifetime suicidal ideation, depression, anxiety, use of recreational drugs, bullying, and social isolation have been significantly associated with DSH, which is thought to be similar to the West [17]. In addition, prior history of DSH, suicidal ideation, child abuse and neglect, comorbid conditions including psychiatric disorders, and poor mental health all increase the risk for DSH behaviors [18].

Bangladesh is densely populated, with more than 175 million people and numerous public health concerns [19]. The prevalence of mental health disorders reported among the population is significantly higher than the global picture, which is influenced by numerous social stigmas, inequalities, and sociocultural factors [20]. Indeed, almost seven million Bangladeshi citizens experience depression and anxiety disorders, with reported prevalence rates of 54.3% in the general population, and 17.9% among adolescents [21]. Additionally, 4%–7% of suicide attempts have been reported among youths aged 13-17 years [22]. Moreover, non-suicidal DSH and suicidal behaviors are underreported and under-prioritized public health issues in the country due to social stigma [13]. In Bangladesh, suicide is considered a criminal offense, and its most significant underlying risk factors, depression and DSH, are often neglected and overlooked mental health issues. Thus, there exists strong stigma and significant barriers to the disclosure of DSH and non-fatal suicidal behaviors, which further hinder timely intervention and access to mental health support services.

In addition, Bangladesh still lacks a national patient registry to report and identify cases of DSH in developing countries, which further hampers efforts to evaluate DSH rates throughout the country [23]. Furthermore, evidence on the most effective treatments for people who deliberately harm themselves remains limited, despite the high risk of repetition and subsequent suicidal behaviors. National estimates of such cases and their overall prevalence also remain largely unexplored, highlighting a critical gap in mental health research and care in Bangladesh [13, 24]. Finally, DSH is often considered as cultural and environmental trauma due to criminal legal status, mandatory police involvement, social embarrassment, and refusal of care in private hospitals [25, 26]. Therefore, this narrative review aims to explore the existing evidence, including gray literature using citation chaining, to explore the prevalence, risk factors, and correlates of DSH behaviors among the Bangladeshi population, while also highlighting research gaps and emphasizing the need for early detection and prevention strategies.

2 | Aims and Research Question

The primary objective of this narrative review is to identify and synthesize the key risk factors and correlates associated with DSH behaviors among Bangladeshi population through a comprehensive review of existing literature. In addition, the review will also explore the prevalence and methods of DSH behaviors reported in various Bangladeshi subpopulations. The narrative review was based on the following research question, "What is the prevalence, risk factors and correlates of DSH behaviors among individuals in Bangladesh?"

3 | Methods

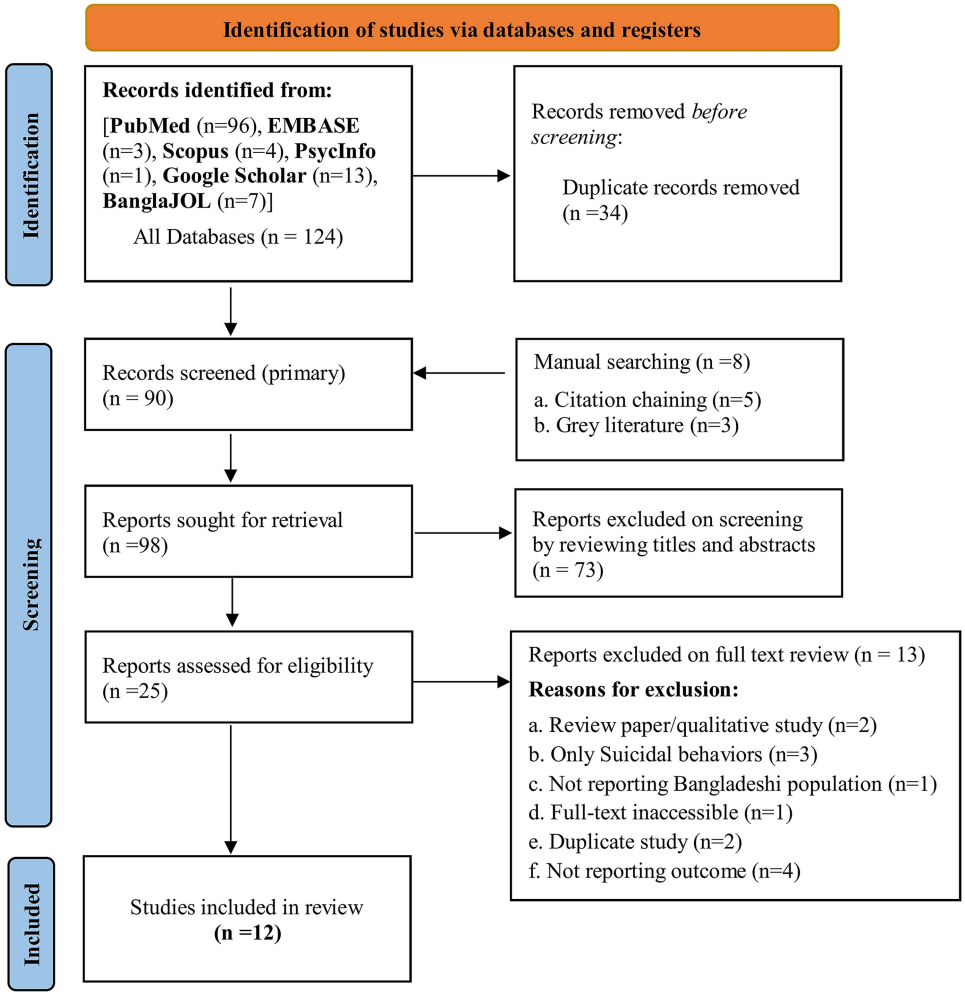
3.1 | Search Strategy

PubMed (via Medline), EMBASE (via EBSCOhost), Scopus (via Elsevier), PsycInfo (via ProQuest), Google Scholar, and Bangladeshi regional database (BanglaJOL) using institutional access, were searched from inception to 1 May 2025 to identify the research articles published on risk factors and correlates of DSH behaviors, published without language restriction. In addition to the searching of electronic databases, manual searching of gray literature and citation chaining techniques were also applied to find relevant literature. During searching of the relevant articles key search terms including "Deliberate Self Harm," "Self-Harm," "Non-suicidal Self Harm," "Self-Injury," "Deliberate Self Harm Behavior," "Self-Harm Behavior," "Non-suicidal Self Harm Behavior", "Self-Injurious Behavior", "Self-Torture", "Self-Mutilation," "DSH," "NSSI," "Risk factors," "Correlates," and "Bangladesh" were used as key search terms. The search was conducted on each database and included in EndNote. After removing duplicates, the final included studies considered for the review are illustrated in Figure 1.

3.2 | Eligibility Criteria

3.2.1 | Inclusion Criteria

1. Studies assessing DSH, including both direct and indirect forms, referring to the intentional act of hurting oneself through self-inflicted injury or damage to body, either with a clear intent to die by suicide (suicidal attempt) or without intent to die (NSSI), including risk factors, correlates or associated factors.



**All studies were cross-sectional; 11 studies were peer-reviewed and 1 study was a preprint.*

FIGURE 1 | Study selection process throughout the narrative review. Figure 1 representing the PRISMA flow diagram showing the inclusion of studies through identification, screening, final inclusion, and reasons for exclusion in the narrative review. A total 07 electronic databases and manual searching technique was adopted to find the included studies for this review.

2. Studies conducted in Bangladesh or reporting Bangladeshi populations either from hospital (enrolled when presenting with DSH Behaviors) or community settings (through structured questionnaire).
3. Full-text articles.
4. Articles published in any language.
5. Studies with quantitative (observational) designs including preprints.
6. From database inception to May 1st 2025.
7. Both clinical and community-based population

3.2.2 | *Exclusion Criteria*

1. Review articles, qualitative studies, case reports, case series, editorials, clinical trials, letters, commentaries, or conference abstracts without primary data.
2. Studies focusing on suicidal behaviors without mentioning non-suicidal self-harm.
3. Studies not reporting DSH or related behaviors.
4. Studies reporting DSH among Bangladeshi citizens living abroad.

3.3 | Data Extraction

Data extraction was conducted in Microsoft Excel 2019 using a structured form including all key outcome including study characteristics (author name, year of publication, sample size, methods, year of data collection, validated psychometric tools, geographical region), sample demographics (age, sex, pre-existing factors, clinical/community-based sample), associated risk factors (psychiatric or psychological variables) and correlated factors of DSH. After the completion of primary data extraction, it was cross-checked for a quality assessment.

3.4 | Data Synthesis, Statistical Analysis and Visualization

A brief meta-narrative synthesis technique was adopted to contextualize trends and heterogeneity across studies beyond quantitative findings as pre-specified analysis of this review

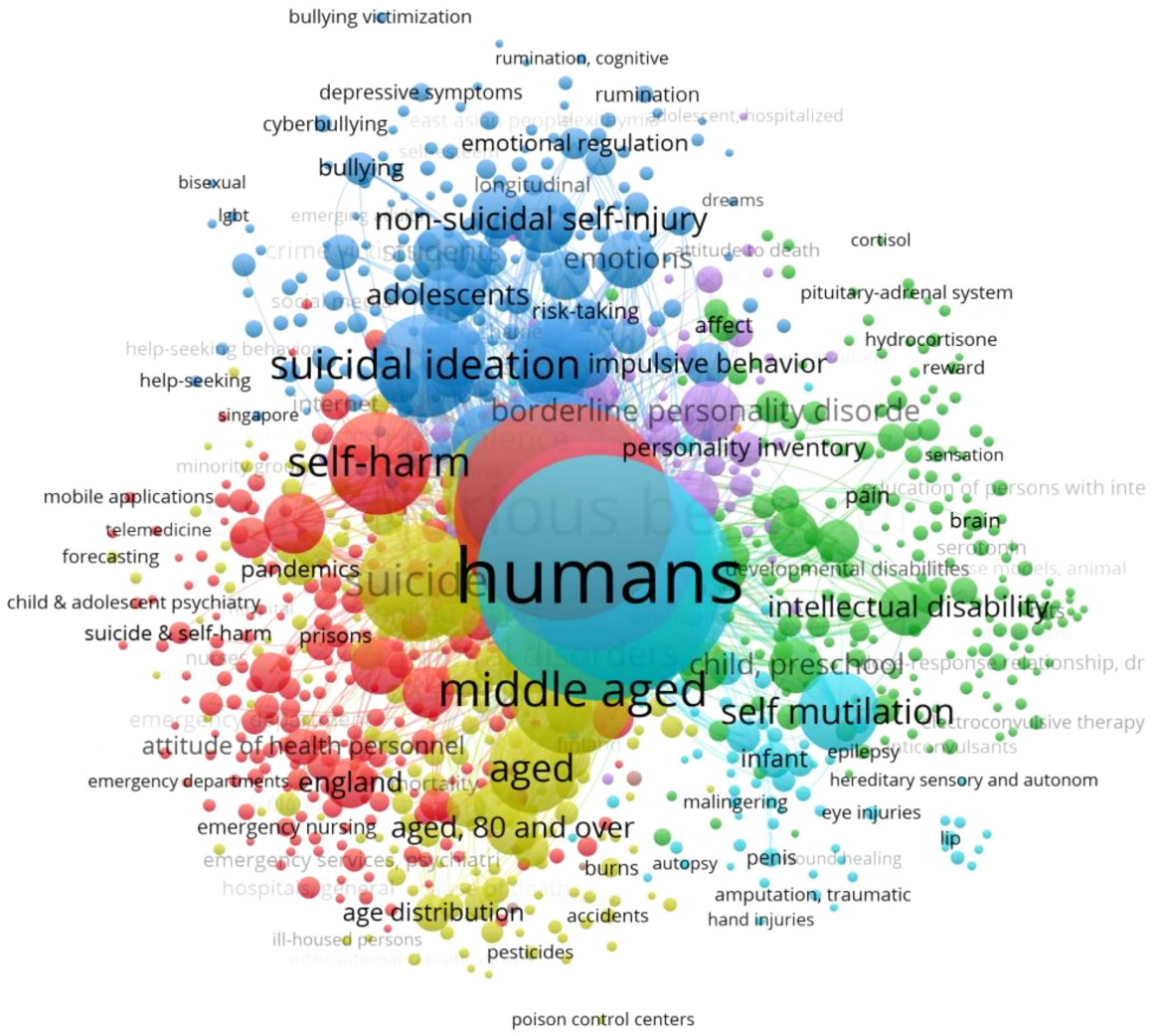


FIGURE 2 | Co-occurrence of key search terms illustrated using VOSViewer. Figure 2 representing the bibliometric cluster network of searched keywords during the searching process of the studies in different databases. Thy cluster network is the output file of the VOSviewer software used for this particular analysis.

[27]. This included an analysis of prevalence rates, methods, and associated risk factors including correlates were measured, reported across the included studies with quantitative estimates extracted from the studies. The overall methodological approach provided a holistic understanding of DSH among the Bangladeshi population, to support the development of context-specific prevention strategies, such as early screening and intervention design, in addition to allowing a comparison with global community prevalence rates in order to assess the risk burden. The extracted data were analyzed using descriptive statistics (e.g., n/N as frequency and percentage) using Rayyan QCRI, EndNote v25.0, and Microsoft Excel 2019 [28]. A meta narrative analysis was synthesized to summarize the findings regarding the lifetime prevalence of DSH and also reported across subgroups analysis (direct and indirect DSH of LGBT, cisgenders, methods of DSH, and prevalence of associated risk factors based on domains) as a part of exploratory analysis from the included studies. Only extracted data from the included studies were summarized and visualized using descriptive methods. Where appropriate, findings were visualized using bar charts and spider pots to aid interpretation, and no pooled estimates or meta-analysis were performed. The graphical visualization was performed using R Studio v4.3.2 and a two-tailed $p < 0.05$ was considered significant with 95% confidence interval (CI). Bibliometric cluster analysis was performed using VOSViewer v1.6.20 to summarize the co-occurrence of key search terms (Figure 2) [29]. In addition, prevalence estimates with corresponding 95% CIs were extracted and reported to reflect both effect size and precision rather than relying solely on p-values. Regarding missing data no statistical imputation was applied; rather missing data were described narratively to reflect potential bias in study findings.

3.5 | Quality Assessment

The methodological quality of the included studies was evaluated using the Critical Appraisal Skills Programme (CASP) checklist for cross-sectional studies, covering 10 domains including clarity of aims, appropriateness of study design, recruitment strategy, data collection, bias management, ethical considerations, and rigor of analysis. Each criterion was rated as "Yes" (1 point), "Can't tell" (0.5 points), or "No" (0 points), yielding a total score ranging from 0 to 10.

4 | Results

4.1 | Characteristics of the Studies

Twelve cross-sectional studies (moderate quality score), including one pre-print study, were included [14]; nine of the studies were conducted in hospital settings and three conducted in community settings [14, 30, 31] (Table 1). The earliest study was published in 1995 by Mulick et al., [32] and the most recent studies published in 2024 [31, 36]. The data collection period of most of studies was between 2006 and 2023. Among the included studies, seven focused on participants with DSH behaviors, although only three studies reported on the prevalence of DSH [14, 30, 31]. The remaining five studies focused on psychiatric or personality disorder, substance use, poisoning [15], and suicidal intent [30, 31, 34], although also included information on DSH. The sample size ranged from 51 to 383. Nine studies were conducted in clinical settings (as in hospital settings) with patients having a history of DSH, one study was conducted in a community setting among university students [14], and two studies were conducted among the LGBT community [30, 31]. Six studies were conducted in Dhaka, while one study was conducted in Chittagong [34], one in Rajshahi [33], two in Sylhet [15, 35], one in Rangpur [24], one in Jamalpur [3], and one study was conducted in five districts of Bangladesh [31]. One study was conducted among self-identified homosexual male participants ($n = 102$) [30], and another study was conducted among LGBT participants ($n = 297$). Seven studies reported DSH among the participants [3, 14, 24, 30, 31, 35, 36], while the remaining five studies reported DSH with suicidal intent, which is conceptually equivalent to a suicide attempt [2, 15, 32–34]. Among the included studies, 7 used self-report questionnaires (e.g., DSH Inventory, Beck Depression Inventory), 1 relied on medical record reviews, and 4 employed structured clinical interviews (e.g., SCID-II, DSM-IV criteria).

4.2 | Prevalence of Lifetime DSH in Bangladesh

The lifetime prevalence of DSH was reported in three individual studies (Table 2). A study among 200 university students in Dhaka reported the prevalence of DSH as 17% (34/200; 95% CI; 12 – 22.5), while the female students had fourfold higher rates of DSH compared to male students [14]. Another study among 383 LGBT and cisgender individuals reported the highest lifetime prevalence of 'direct' DSH by intentional physical injury (e.g., cutting, burning) as 56% (19/34), with 'indirect' DSH through engagement in risky behaviors (e.g., unprotected sex, substance use) as 62% (21/34) among homosexual women [31]. Additionally, a cross-sectional study among 102 homosexual male individuals in Dhaka reported the prevalence of DSH as 40.2% (41/102) [30] (Figure 3).

4.3 | Methods of DSH in Bangladesh

Several violent and non-violent methods were used among the participants. Patients with history of substance abuse reported self-cutting (39%, 39/100), burning (26%, 26/100), and stabbing as the primary methods of DSH [2]. Studies that reported participants as having one or more psychiatric disorder had used several non-violent methods including overdose of medication (38%, 38/100) [15] and ingestion of organophosphorus compound (OPC) (33.3%, 23/69) [33–36], sedatives (24.4%, 17/69), and household cleaner (23.2%, 16/69) [35]. In addition, sharp cutting incision (wrist, scrotum) and hanging were some notable violent methods of self-harm among patients reporting DSH and suicidal intent in three studies [32–34] (Figure 5).

4.4 | Risk Factors for DSH and Psychiatric Illness Among Bangladeshi

Depression, substance use, anxiety, economic factors, early marriage, extra-marital affairs, familial conflicts, and peer pressure were the key risk factors for DSH among Bangladeshi people [2, 14, 30, 32, 36] (Table 3). The prevalence of at least one psychiatric disorder among DSH patients was 71% [36], with 86% of patients reported to have depression [32] and 30% with reported Borderline Personality Disorder (BPD) [36]. Evidence suggested patients having two or more personality disorders had significantly higher rates of DSH [32, 35, 37, 38]. More than two-thirds (77.8%) of patients with psychiatric difficulties (including mood disorder, bipolar disorder, BPD, and mental health illness) had previous familial history [35]. However, Biswas et al., and Bhattacharjee et al. reported that 54.9% and 70% of patients, respectively, had no prior history of any psychiatric disorders but still engaged in DSH behaviors [15, 34]. Age has been reported as a significant predictor of DSH among the younger population (20-39 years) [24], while adults, particularly those aged 20–39 years, reported to experience higher rates of psychiatric illness compared to adolescents [3, 36]. The LGBT community also showed higher rates of DSH [31], and females were identified as the most vulnerable group for DSH behaviors compared to males (61% vs 39%) [3] (Figure 4 and Supplementary Figure S1).

4.5 | DSH Attempts and Suicidal Intent

DSH behaviors were significantly correlated with suicide attempts (Table 1) [34]. Mozumder et al. reported that 34.2% (33/102) of homosexual men with DSH experienced suicide attempts and found a positive correlation between self-harm, suicidal ideation and further suicide attempts [30]. Another study among the LGBT and cisgender community highlighted the lifetime prevalence of suicidal behaviors among gay, transgender, and lesbian community were 18% (15/83), 16% (14/86), and 15% (5/34) respectively [31]. One study by Hossain et al. reported DSH was mostly done impulsively and 10.60% engaged in the behavior with an intention to die [33]. Five studies had claimed repeated DSH attempts among participants, with the highest prevalence at 37.5% [2] and the lowest 6% [33]. Among the studies, 93.93% engaged in DSH on their first attempt while the most commonly reported motivation for DSH was immediate frustration (59.09%), irrespective of the number of attempts [33].

4.6 | Correlates of DSH Behaviors

Demographic factors (adults, female gender, poverty) [24, 30, 34], psychiatric factors (depressive symptoms, stress, post-

TABLE 1 | Key characteristics of the included studies and study population.

Author detail and (quality assessment score)[1]	Key domain	Study design[2,*], sample size (*n*), and Year of data collection	Age and M (F)	Study place and study population	Assessment tool	Methods for DSH	DSH Attempts	Suicidal Indent	Summary
Mullick et al., 1995 [6, 32]	Depression in DSH	1992 ($n = 100$)	24.32 years ± 8.49. Range 16–52	Dhaka[3]	DSM-III-R	Violent methods	Single (23.68%), Repeated (11%)	Suicidal Intent (47%)	38% (38/100) DSH patients diagnosed with a MDD. Previous DSH was attempted among the depressive group: Single time (23.68%); Double time (5.26%) and triple or more (5.26%). DSH was significantly higher in depressive self-harm group ($p < 0.001$). Only 5 depressed self-harm patients were getting psychiatric treatment which may indicate a lack of awareness about the existence of depression among deliberate self-harm patients or poor referral service in the hospitals.
Hossain et al., 2008 [7, 33]	Demography, methods for DSH, Risk factors	2006 ($n = 66$)	17–28 years (60.60%) 28 (38)	Rajshahi[3]	Suicide intent scale, DSM-IV	OPC, Carbolic Acid ingestion, Hanging, cutting wrist, Cutting scrotum, Antipsychotic & Hypotonic,	First attempt (93.93%), Repeated (6%)	To die (10.60-%)	59.09% (39/66) of patients attempted DSH due to immediate frustration. Special need for the assessment of DSH and formulation of a comprehensive treatment approach.

(Continues)

TABLE 1 | (Continued)

Author detail and (quality assessment score)[1]	Key domain	Study design[2,*], sample size (*n*), and Year of data collection	Age and M (F)	Study place and study population	Assessment tool	Methods for DSH	DSH Attempts	Suicidal Indent	Summary
						Ingestion of Antidepressant, BDZ			
Chowdhury et al., 2013 [2, 7]	DSH, Substance use	2009 ($n = 100$)	24–42 years 94 (6)	Dhaka[3]	Clinical diagnosis	Cutting (39%), burning (26%), scratching (7%), stabbing (2%)	Accurate First (26%), Repeated accurate (37.5%)	NR	Age of onset of taking drugs was 24.42 years with the SD ± 6.83, and the range of taking substances were 4 months to 15 years.
Biswas et al., 2019 [6, 34]	Socio-demography, DSH, Intention	2017–18 ($n = 51$)	< 20 (39.2%), 21–20 (37.3%) 3 (51)	Chittagong[3]	Beck's Suicide Intent Scale	OPC, Sedative, Rat Killer, Mosquito coil, Multiple drugs, Sharp cutting incision	Single (76.5%), Repeated (23.5%)	Low intent (72.5%), High intent (21.6%)	DSH attempters are at increased risk of making further attempts and of dying by means of suicide.
Motin et al., 2020 [5, 35]	Personality disorder, DSH	2016–18 ($n = 138$)	18–40, Mean 21.9 (SD 4.6) 25 (44)	Sylhet[3]	DSM-IV Axis II Personality Disorder	OPC (33.3%), Ingestion of sedative (24.4%), Household cleansers (23.2%), Self-cutting (7.2%), Hanging (7.2%)	NR	NR	Patients with two or more personality disorder were significantly higher DSH behaviors ($p < 0.001$).

(Continues)

TABLE 1 | (Continued)

Author detail and (quality assessment score)[1]	Key domain	Study design[2,*], sample size (*n*), and Year of data collection	Age and M (F)	Study place and study population	Assessment tool	Methods for DSH	DSH Attempts	Suicidal Indent	Summary
Bhattacharjee et al., 2023 [6, 15]	Psychological factors, Deliberate self-poisoning	2017 ($n = 100$)	14–65 43 (57)	Sylhet[3]	DSM-IV	Medication (38%), Household cleaner (17%), Pesticide (36%), Rodenticide (8%)	Repeated (7%)	NR	5% (5/100) of the respondents had a history of a previous established psychiatric disorder. Most of the DSP patients were from the lower economic class (59%) and the prevalence for students was 37%. DSP remains a problem mainly for the young with gender ratio favoring females.
Fariduzzaman et al., 2023 [14]* [5]	Self-harm, University Students	2020* ($n = 200$)	21 (SD 1.95) 131 (69)	Dhaka[4]	Sociodemographic questionnaire and the SHI-Bangla version	NR	NR	NR	Self-harm has no significant differences based on institutions, academic disciplines, habitat, or socioeconomic status.
Hoque et al., 2023 [6, 24]	Stress factor, psychiatric disorder and deliberate self-harm	2008–09 ($n = 116$)	20–39 year 33 (57)	Rangpur[3]	Semi-structured questionnaire	OPC (55.17%), Sedative (18.10%), Savlon (6.89%), Hanging (5.17%), Herpic (3.34%), Paracetamol (2.5%), Copper	NR	NR	Age has a significant relationship with DSH ($p < 0.0001$) and 52.56% of DSH cases experiencing a depressive episode.

(Continues)

TABLE 1 | (Continued)

Author detail and (quality assessment score)[1]	Key domain	Study design[2,*], sample size (*n*), and Year of data collection	Age and M (F)	Study place and study population	Assessment tool	Methods for DSH	DSH Attempts	Suicidal Indent	Summary
						sulfate (2.55%)			
Imam et al., 2023 [3, 6]	Deliberate self-harm, Psychiatric disorder	2013–14 ($n = 100$)	39 (61)	Jamalpur[3]	Semi-structured questionnaire	NR	NR	NR	More females (61%) than males (39%) presenting with psychiatric disorders. None of the patients diagnosed with Personality Disorders engaged in deliberate self-harm. Younger adults, particularly within the 20–39 age range, faced an elevated risk for both mental health issues and self-harming behaviors.
Mozumder et al., 2023 [6, 30]	Mental health, Self- harm and homosexual male	2022 (n = 102)	14–48, 24.6 years (SD = 6.31)	Dhaka[4]	General Health Questionnaire (GHQ-28) and Beck Hopelessness Scale	NR	NR	32.4% (33/102) experienced attempted suicide	A positive correlation between self-harm, suicidal ideation and suicide attempt.
Araft et al., 2024 [6, 36]	Psychiatric disorder and life-event in self harm	2022-23 (n = 100)	Mean age 23.1 (± 7.7), range 14–50 years 72 (28)	Dhaka[3]	Structured Clinical Interview for DSM-IV Axis-I Disorders (SCID-I), Structured Clinical Interview for	Hanging (31%), cutting and piercing instrument (22%), and ingestion of Benzodiazepines (20%),	NR	NR	52% had life-events within immediate 48 h, 15% in the last one month and 17% in the last year. 49% said their main motive of self-harm was to die while 12% had a motive to get out of the situation.

(Continues)

TABLE 1 | (Continued)

Author detail and (quality assessment score)[1]	Key domain	Study design[2,*], sample size (*n*), and Year of data collection	Age and M (F)	Study place and study population	Assessment tool	Methods for DSH	DSH Attempts	Suicidal Indent	Summary
					DSM-IV Personality Disorders (SCID-II), Paykel's Life Events Schedule	Jumping from high place, Poisoning by corrosive agents, OPC, Psychotic agents			
Mozumder et al., 2024 [7, 31]	Self-harm and suicidality among LGBT	2016 (n = 383)	lesbian (*n* = 34), gay (*n* = 85), bisexual (*n* = 87), transgender (*n* = 91) and cisgender (*n* = 86)	Five districts of Bangladesh (Dhaka, Khulna, Mymensingh, Rangpur, and Sylhet)[4]	Semi-structured questionnaire was used to assess self-harm (direct and indirect), wish and prayer for death, suicidal ideation, attempted suicide	NR	Gay (18%; 15/83), Transgender (16%; 14/86), Lesbian (15%; 5/34)	Transgender (44%), Gay (38%), Lesbian (32%), Bisexual (21%)	Higher prevalence of self-harm (direct and indirect), death wish, suicidal ideation, and suicide attempt among the LGBT communities compared to the heterosexual/cisgender population.

Abbreviations: DSH, deliberate self-harm; DSM, Diagnostic and Statistical Manual of Mental Disorders; DSP, deliberate self-poisoning; GHQ, Generalized Health Questionnaire; LGBT, lesbian, gay, bisexual and transgender; MDD, major depressive disorder; NR, not reported; OPC, organo-phosphorus compound; SD, standard deviation.

[1]Quality assessment was checked using Critical Appraisal Skills Programme (CASP) checklist where (8–10 = high quality, 5–7 = moderate quality, and < 5= low quality).

[2]Study design = Cross sectional Study.

*Included as a Pre-print article.

[3]Hospital/Clinical based population (healthcare facilities [primary to tertiary] for example, emergency departments, psychiatric units, or general hospitals).

[4]Community based population (public/private university students and homosexual male and LGBT dwelling in local community or residential area).

TABLE 2 | Prevalence of DSH among Bangladeshi Population.

Study Detail	Study population (*n*)	Lifetime Prevalence of DSH
Fariduzzaman et al., 2023 [26]	University students ($n = 34/200$)	Overall self-harm prevalence 17%, and female-to-male prevalence ratio: 4:1
Mozumder et al., 2023 [25]	Homosexual males ($n = 41/102$)	Overall self-harm prevalence 40.2%
Mozumder et al., 2024 [27]	LGBT ($n = 297/383$) and Cisgender ($n = 86/383$)	**Indirect self-harm:** Lesbian (62%; 21/34), Gay (42%; 36/85), Bisexual (40%; 35/87), Transgender (40%; 36/91), and Cisgender (22%; 19/86) **Direct self-harm:** Lesbian (56%; 19/34), Transgender (29%; 26/91), Gay (22%; 19/85), Bisexual (18%; 16/87), and Cisgender (9%; 8/86)

Abbreviation: LGBT, lesbian, gay, bisexual, and transgender.

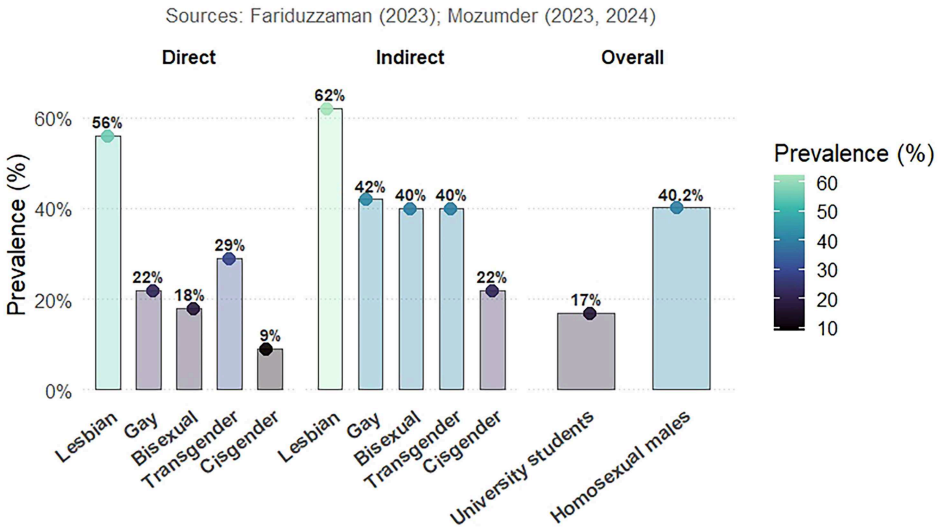


FIGURE 3 | Self-harm prevalence by population and type. Figure 3 showing bar plot of self-harm prevalence (%) among different population groups and self-harm types based on Bangladeshi studies. The bars represent prevalence levels, and color gradients indicate the relative magnitude of self-harm across groups, using data directly extracted from included studies.

traumatic stress disorder (PTSD), mental disorder, mood disorder, schizophrenia, bipolar disorder) [3, 24, 35, 36], psychological factors (impulsiveness, low self-esteem, frustration, low experience) [33, 34], social factors (poor interaction, adjustment disorder, affair, coping issue, unemployment, familial conflict, academic failure, discrimination) [15, 33–35], environmental factors (peer pressure, comorbidity) [2, 24], substance use or substance related disorder [2, 15, 36], cultural factors (amusement, aggressiveness, avoidance, stigma) [2, 35], and societal influences were identified as correlates of DSH behaviors among the participants in the included studies (Table 1).

4.7 | Methodological Quality and Heterogeneity of Included Studies

The methodological quality of the included studies was assessed using the CASP checklist, and the scores are presented in Table 1 (individual study score) and Table S1 (Detailed). The mean CASP quality assessment score of the included studies was 6.1, indicating moderate methodological quality. The majority of the studies clearly stated their objectives and used appropriate study designs (cross-sectional); however, several limitations were observed, including small sample sizes (≤ 100, $n = 8$), hospital-based recruitment ($n = 9$), and limited adjustment for potential confounders. Variations in study populations, sampling methods, and measurement of DSH behaviors using validated assessment tools also contributed to methodological heterogeneity across the included studies.

5 | Discussion

5.1 | Key Findings of the Review

This review indicates a substantial burden of DSH behaviors, with notably high prevalence among sexual minority groups and university students. Self-cutting, medication overdose, and hanging were the most commonly reported methods, and a large proportion of individuals had co-occurring psychiatric disorders. Depression, anxiety, family-related factors, and medical comorbidities emerged as key risk factors. However, studies on DSH behaviors among Bangladeshi populations remain scarce; a PubMed search conducted on 1 May 2025

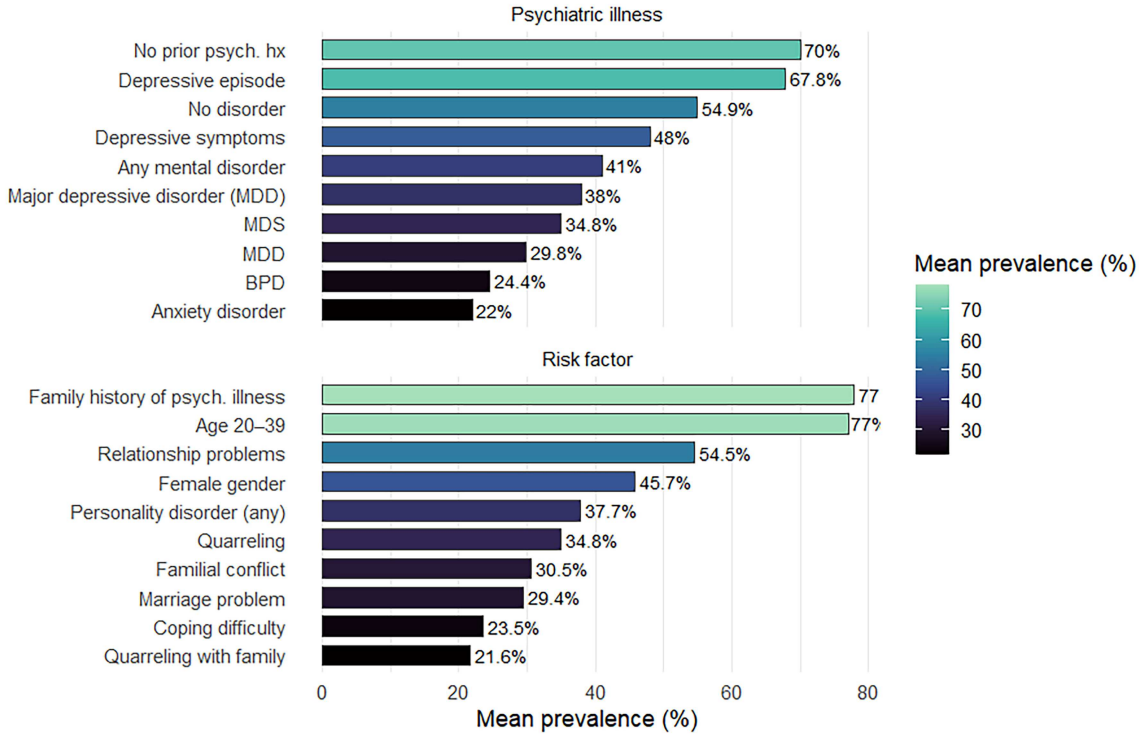


FIGURE 4 | Mean prevalence of self-harm-related risk factors and psychiatric disorders across Bangladeshi studies. Bars represent the mean reported prevalence (%) of key risk factors and psychiatric illnesses associated with self-harm extracted from the included studies. Color intensity (viridis–mako scale) denotes relative magnitude. Data were synthesized from multiple Bangladeshi observational studies used in the review.

identified only 19 studies. The lowest sample size was 51 by Biswas et al., conducted in Chittagong [34], and the largest was conducted on five different districts of Bangladesh among 383 LGBT and cisgender individuals [31]. We also found most studies were hospital-based, with limited research conducted in community settings, which is crucial if we are to assess the true prevalence of DSH.

The lifetime prevalence of DSH was 17% among university students, 56% for direct DSH and 62% for indirect DSH among lesbian individuals, and 40.2% among homosexual males. These differences in reporting may be influenced by multiple social and cultural factors. Young individuals (i.e. students) are more likely to attempt self-harm [8, 39], while experiences of exclusion, isolation, and stigma may contribute to the higher rates observed among LGBT individuals [31, 40]. While the global lifetime prevalence of DSH was reported at 13.7%, it is thought that low-and-middle income countries (LMICs) contribute to a disproportionate higher prevalence [4, 8]. According to another systematic review, South Asian women were more vulnerable to DSH behaviors compared to their White counterparts and males, which aligns with our findings from Bangladesh [41]. In addition, another review on LGBTQI+ individuals revealed lifetime prevalence of NSSI was higher in sexual (29.68%) and gender minority (46.65%) communities [40]. Another meta-analysis indicated that the gay population had higher risk of lifetime DSH compared to bisexual men (RR: Gay = 3.61, Bisexual men = 1.95) [42], which is consistent with our findings also.

LGBT population was supported by numerous factors globally including increased rates of mental health challenges, substance abuse, and suicidal intent in many studies [8, 42]. For instance, the LGBT population have at least 1.5 times higher rates of depressive disorder and anxiety globally [42], Mozumder et al., also reported similar findings that death wishes and suicidal attempts were higher among the LGBT community [31]. A comparative study between LGBT and heterosexual individuals also showed increased lifetime prevalence in the LGBT group (47% vs 23%) [43]. This may be explained by a homophobic society, social norms, and cultural factors making barriers for the minority [31, 42, 43]. Studies reported that comorbidity of these conditions were present in 44.1% of individuals who engaged in DSH [44]. A significant proportion of patients with DSH had familial or self-history of such disorder, potentially triggering repeated DSH behaviors. Factors such as drug overdoses, mental illness, female gender, and unemployment were also evident in the occurrence DSH in many studies [1, 23, 45]. Most of the DSH practices result from immediate frustration, impulsiveness, and as way of relief from emotional pain or discomfort, or self -punishment [33, 45].

Consistent with our findings similar methods were applied in England [46], India [39], and African countries [47]. These reflected the severity, intent, and potential lethality of the act. Assessing the methods are crucial for designing targeted intervention, documentation, counseling sessions, clinician's assessments, and prescribing medication [13]. Biswas et al. reported that individuals with DSH had higher chances of making repeated attempts and dying by suicide in the future [34]. Evidence also reported that for patients with DSH, the risk of death by suicide was 1.7% in the first 5 years, an additional 0.7% during years 5–10, and an additional 0.6% during years

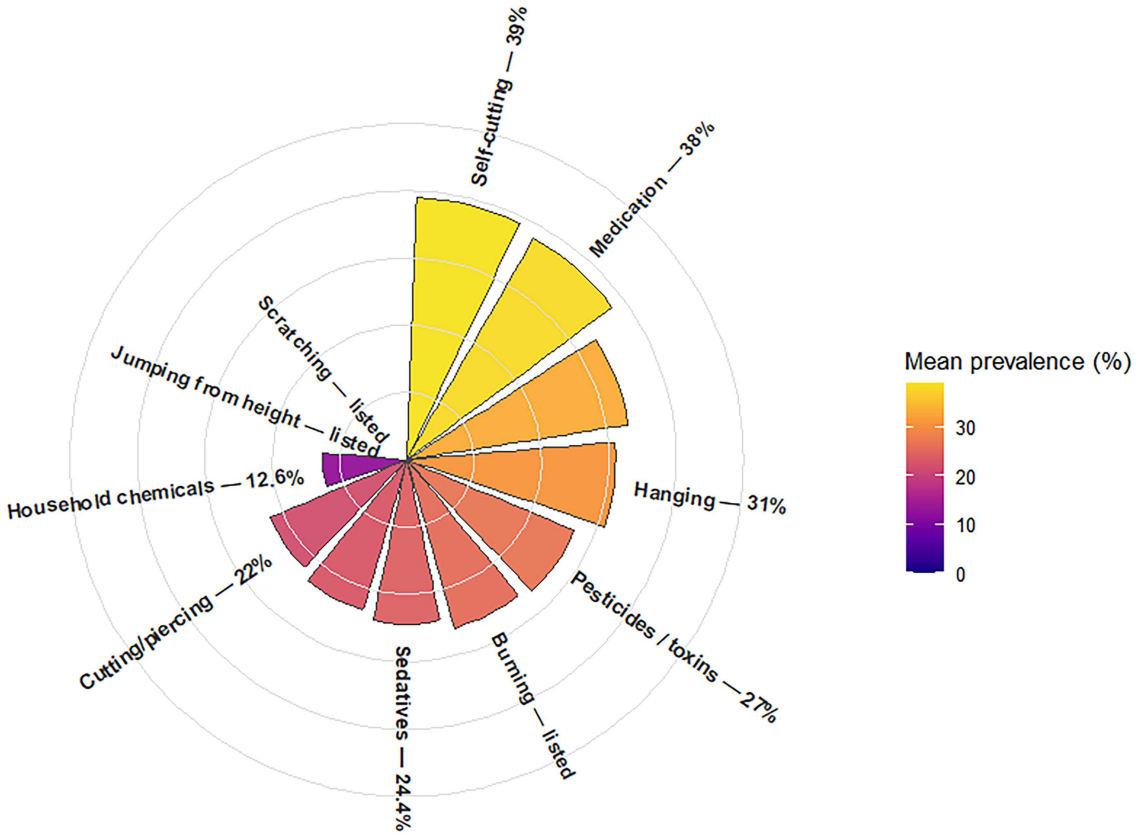


FIGURE 5 | Distribution of DSH methods (violent and non-violent) across Bangladeshi studies. Figure 5 represents circular bar ("method rose") displaying the most frequently reported methods of DSH compiled from included studies. Each bar represents the mean reported prevalence (%) of a given method, and the method names with corresponding percentages are shown outside the circle for clarity. Color intensity follows the viridis gradient, with warmer shades indicating higher prevalence.

10–15 after the first self-harm episode [4]. Another study in Bangladesh reported that among the DSH patients, 72.5% had mild suicidal intent, while 21.6% had severe intention to die by suicide [34]. Similar to our findings, one study by Skegg et al. in New Zealand reported that 5% of individuals engaging in DSH were found to have died by suicide 9 years from the incident of initial DSH [48]. Early screening of vulnerable groups, adolescents or adults engaged in DSH behaviors must therefore be implemented at an early stage, to provide mental health support and prevent future suicide attempts [4]. Our findings indicated that higher risk of DSH is significantly linked with younger age, female gender, prior exposure to substance use, comorbid conditions, and social or familial disharmony [49]. These findings highlight the risk of DSH among youth, including correlates [50]. Notably, adolescents with high rates of DSH had 42% lifetime prevalence of such behaviors [51]. However, multiple factors are directly or indirectly triggering DSH behaviors. Depressive episodes [24], psychiatric illness [36], and personality disorders [36] appear to be the key determinants of DSH behaviors among Bangladeshi.

5.2 | Implication of Study Results

DSH and its related domains have been poorly researched in Bangladesh. The included studies, spanning the last three decades, highlight the need for longitudinal research across diverse communities and cultural contexts to enable early detection, triage, and intervention [4]. The methodological quality of the included studies varied considerably, influencing the robustness and interpretability of the prevalence estimates. In addition, smaller sample sizes or non-standardized validated tools may also have created potential bias. The findings need to be interpreted carefully, considering that the limited methodological rigor reduces confidence in the overall evidence base. Despite this, the findings presented here offer the clearest picture to date on DSH in Bangladesh, highlighting high prevalence rates and a need for further work in the area, both academically and clinically.

Notably, the absence of nation-wide, community-based surveillance system is concerning, as the system could help to prevent future death by suicide [52, 53]. In addition, conceptual inconsistencies, such as conflating DSH with suicide ideation, reflects ongoing challenges in defining and classifying self-harm [54]. Despite these limitations, this review highlights important areas for public health intervention and future research underscoring an urgent need for targeted mental health intervention and policies. Prioritizing DSH awareness, early intervention, and community based preventive efforts especially for adolescents, university graduates, LGBTQI+ individuals, and rural communities are crucial for reducing stigma, address social determinants, and improve timely care and prevention. Finally, we acknowledge that our cultures, norms, and societies

TABLE 3 | Risk factors, psychiatric illness and other causes for DSH among Bangladeshi population.

Study detail	Risk factors	Psychiatric illness/disorder
Mullick et al., [30]	Depression	Major depressive disorder (38%; 38/100), Depressive symptoms (48%; 48/100)
Hossain et al., [33]	Quarreling (34.84%; 23/66), Poor interaction with parents (19.69%; 13/66), and Relationship problems (54.54%; 36/66), End of a relationship (18.18%; 12/66)	MDS (34.84%; 23/66), Schizophrenia (4.54%; 3/66), and Adjustment disorder (3.03%; 2/66)
Chowdhury et al., [2]	Substance use	
Biswas et al., [34]	Coping difficulty (23.5%; 12/51), Broken-up relationships (9.8%; 5/51), marriage problem (29.4%; 15/51), Quarreling with family (21.6%; 11/51), Poverty (3.9%; 2/51), Experience problem with school and peer group (2%; 1/51), Lose someone close (2%; 1/51)	MDD (23.5%; 12/51), BPD (11.8%; 6/51), Schizophrenia (5.9%; 3/51), No disorder (54.9%; 28/51)
Motin et al., [35]	One or more personality disorder (37.7%; 26/69) such as BPD (18.8%;13/69), OCD (7.2%;5/69), Paranoid (4.3%);3/69, Narcissistic (2.9%;2/69)	Family history of psychiatric illness (77.8%; 7/9)
Bhattacharjee et al., [15]	Familial conflict (31%), Quarreling with boy/girlfriend (20%), quarreling with a spouse (13%), Quarrel with parents or other family member (7%), Failure in examination (6%), Poverty (3%), and Unemployment (3%).	MDD (18%), Schizophrenia (7%), Bipolar affective disorder (2%), Substance use (2%), Post-traumatic stress disorder (1%), No prior history of psychiatric disorder (70%)
Fariduzzaman et al., [14]	Female gender (30.4%; 21/200), Economic factor (Middle and High income)	NR
Hoque et al., [24]	Financial, Marital, Familial, Job related stressors, General medical co-morbidity (12.93%), General medical and psychiatric comorbidity (9.4%)	Depressive episode (67.77%), Personality disorder (13.33%), Mental and behavioral disorder (8.88%), Schizophrenia (7.77%), Bipolar disorder (1.1%)
Imam et al., [3]	Female gender (61%; 61/100), Age: 20-39 (77%), family history of mental illness (10%)	MDD (48%), Anxiety disorder (22%), Schizophrenia (10%), Adjustment disorder (5%), Bipolar disorder (5%), PTSD (5%)
Mozumder et al., [30]	Anxiety and insomnia (8.81%), Somatic symptoms (8.13%), Social dysfunction (8.01%), Severe depression (7.37%), and Hopelessness	NR
Araft et al., [36]	Familial conflict (30%), Marital problem (12%), Unmet expectations (12%), Psychiatric illness (11%), Problems with boy/girl-friend (9%), Examination or job-related issue (8%), Extramarital affairs (6%), and Social bullying (1%)	Mental disorder (41%), BPD (30%), Personality disorder (30%), Substance related disorder (17%), Anti-social personality disorder (2%), Anxious dependent personality disorder (1%), Narcissistic personality disorder (1%), and Schizoid personality disorder 1%.
Mozumder et al., [31]	Higher exposure to suicidal ideation/Wishing death	NR

Abbreviations: BPD, borderline personality disorder; OCD, obsessive-compulsive disorder; MDS, major depressive symptoms.

play a major role in shaping self-harming behaviors. Transformative shifts in societal attitudes, culture, and attitude, along with a fundamental re-design of mental health care structure, are essential to improving the lives of people who engage in self-harm.

5.3 | Strength and Limitation

This review was designed to comprehensively explore all relevant databases and published articles on risk factors and correlates of DSH among the Bangladeshi population. To our knowledge, this is the very first narrative review to explore DSH behaviors among Bangladeshi populations, as well as their associated determinants and correlates. The review was conducted using a comprehensive search of updated databases to capture the overall insight, with no language restrictions, including both published and preprints articles.

However, several potential limitations were also noted in this study. Firstly, we found a small number of studies and there was a heterogenicity among studies. Secondly, several studies included participants engaging in suicidal and non-suicidal self-harm (DSH), which makes it more challenging to draw

conclusions from the findings. Thirdly, the majority of the studies were conducted among hospital settings, where the results might differ from community, meaning the true prevalence may vary. Fourth, correlates and intent of DSH were not properly mentioned in some studies, meaning predictors may have been missed. Finally, methods of narrative review do not allow for a meta-analysis of the pooled prevalence of DSH among the Bangladeshi population.

6 | Conclusions

DSH remains a pressing yet underreported and underexplored public health issue in Bangladesh, significantly affecting quality of life among the general population. This study highlighted limited research on DSH and summarized the overall insights from Bangladesh. Emphasis on early screening, counseling, targeted intervention, and special attention to at-risk populations are crucial to reduce the growing burden of this issue. However, heterogeneity in methodologies, missing data, and lack of robust studies make it challenging to conduct a comprehensive meta-narrative analysis. To effectively address DSH behaviors, nationwide population-based studies are warranted to investigate its epidemiology, quantify the disease burden, and identify the key risk factors, thereby informing prevention strategies and promoting mental well-being. Additionally, improving healthcare accessibility, providing compassionate support services, and promoting responsible and sensitive communication about self-harm in mainstream and social media are essential.

Author Contributions

Mantaka Rahman: conceptualization, methodology, software, data curation, investigation, formal analysis, supervision, resources, writing – original draft, writing – review and editing, visualization, project administration. **Sharmin Sultana Tuli:** data curation, writing – review and editing. **Imtiaz Abdullah:** writing – review and editing, data curation. **Tamal Saha:** data curation, writing – review and editing. **Mahmud Al Faissal:** data curation. **Emma Ashworth:** writing–review and editing.

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Ethics Statement

The narrative review was conducted based on publicly available data thus, no formal ethical approval was required.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

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

Transparency Statement

The corresponding author (acts as guarantor), Dr. Mantaka Rahman, affirms that this manuscript has been drafted objectively, with all relevant information from the included studies accurately reported. No important findings have been overlooked; and any discrepancies or missing data identified during the review process had been addressed accordingly, and explained appropriately within the manuscript.

References

1. A. Singtakaew and N. Chaimongkol, "Deliberate Self-Harm Among Adolescents: A Structural Equation Modelling Analysis," *International Journal of Mental Health Nursing* 30, no. 6 (2021): 1649–1663.

2. S. Chowdhury, M. Rahman, M. Islam, et al., "Deliberate Self-Harm in Substance Use Disorder Patients-A Study at Tertiary Level Hospitals in Bangladesh," *Journal of Armed Forces Medical College, Bangladesh* 9, no. 1 (2014): 63–74.

3. S. M. A. Imam and A. Biswas. "Prevalence of Deliberate Self-Harm in Different Psychiatric Disorders: Insights From A Study Of 100 Patients," 2023.

4. D. Greydanus and R. W. Apple, "The Relationship Between Deliberate Self-Harm Behavior, Body Dissatisfaction, and Suicide in Adolescents: Current Concepts," *Journal of Multidisciplinary Healthcare* 4 (2011): 183–189.

5. L. G. Lundh, M. Wångby-lundh, and J. Bjärehed, "Deliberate Self-Harm and Psychological Problems in Young Adolescents: Evidence of a Bidirectional Relationship in Girls," *Scandinavian Journal of Psychology* 52, no. 5 (2011): 476–483.

6. A. Paiman, M. Khan, T. Ali, N. Asad, and I. Azam, "Psychosocial Factors of Deliberate Self-Harm in Afghanistan: A Hospital Based, Matched Case-Control Study," *Eastern Mediterranean Health Journal* 25, no. 11 (2019): 798–805.

7. P. Moran, A. Chandler, P. Dudgeon, et al., "The Lancet Commission on Self-Harm," *Lancet* 404, no. 10461 (2024): 1445–1492.

8. K. S. Lim, C. H. Wong, R. S. McIntyre, et al., "Global Lifetime and 12-month Prevalence of Suicidal Behavior, Deliberate Self-Harm and Non-Suicidal Self-Injury in Children and Adolescents Between 1989 and 2018: A Meta-Analysis," *International Journal of Environmental Research and Public Health* 16, no. 22 (2019): 4581.

9. M. Goulbourne, F. W. Brink, X. Xia, et al., "Deliberate Self-Harm Among Youth in the Child Welfare System," *JAACAP Open* 3 (2025): 506–515.

10. L. Harriss and K. Hawton, "Deliberate Self-Harm in Rural and Urban Regions: A Comparative Study of Prevalence and Patient Characteristics," *Social Science & Medicine* 73, no. 2 (2011): 274–281.

11. S. Singh, S. Kumar, and R. Deep, "Patients With Deliberate Self-Harm Attended in Emergency Setting at a Tertiary Care Hospital: A 13-month Analysis of Clinical-Psychiatric Profile," *International Journal of Psychiatry in Medicine* 54, no. 6 (2019): 363–376.

12. Y. H. Wan, C. L. Hu, J. H. Hao, Y. Sun, and F. B. Tao, "Deliberate Self-Harm Behaviors in Chinese Adolescents and Young Adults," *European Child & Adolescent Psychiatry* 20, no. 10 (2011): 517–525.

13. S. M. Y. Arafat, B. Mali, and A. H. Mazumder, "Nonsuicidal Self-Injury in Bangladesh: A Narrative Review," *Health Science Reports* 8, no. 5 (2025): e70790.

14. A. M. Fariduzzaman, Z. A. Azdi, S. A. Kushal, et al. Prevalence and Pattern of Self-Harm Among University Students in Dhaka, Bangladesh. 2023.

15. B. Bhattacharjee, S. Roy, M. M. J. Alam, et al., "Psychosocial Factors Behind Deliberate Self-Poisoning in a Tertiary Care Hospital of Bangladesh: A Cross-Sectional Study," *Cureus* 15, no. 6 (2023): e39893.

16. K. B. Lunde, L. Mehlum, I. Melle, and P. Qin, "Deliberate Self-Harm and Associated Risk Factors in Young Adults: The Importance of Education Attainment and Sick Leave," *Social Psychiatry and Psychiatric Epidemiology* 56, no. 1 (2021): 153–164.

17. N. Watanabe, A. Nishida, S. Shimodera, et al., "Deliberate Self-Harm in Adolescents Aged 12-18: a Cross-Sectional Survey of 18,104 Students," *Suicide and Life-Threatening Behavior* 42, no. 5 (2012): 550–560.

18. A. M. Moe, E. Llamocca, H. M. Wastler, et al., "Risk Factors for Deliberate Self-Harm and Suicide Among Adolescents and Young Adults With First-Episode Psychosis," *Schizophrenia Bulletin* 48, no. 2 (2022): 414–424.

19. S. Islam, R. Uddin, S. Das, et al. Collaborators GBDBBoD, "The Burden of Diseases and Risk Factors in Bangladesh, 1990-2019: a Systematic Analysis for the Global Burden of Disease Study 2019," *The Lancet Global Health* 11, no. 12 (2023): e1931–e1942.

20. M. T. Hasan, T. Anwar, E. Christopher, et al., "The Current State of Mental Healthcare in Bangladesh: Part 1 - an Updated Country Profile," *BJPsych International* 18, no. 4 (2021): 78–82.

21. M. K. Mridha, M. M. Hossain, M. S. A. Khan, et al., "Prevalence and Associated Factors of Depression Among Adolescent Boys and Girls in Bangladesh: Findings From a Nationwide Survey," *BMJ Open* 11, no. 1 (2021): e038954.

22. A. R. Arusha and R. K. Biswas, "Prevalence of Stress, Anxiety and Depression Due to Examination in Bangladeshi Youths: A Pilot Study," *Children and Youth Services Review* 116 (2020): 105254.

23. P. Qin and L. Mehlum, "Deliberate Self-Harm: Case Identification and Incidence Estimate Upon Data From National Patient Registry," *PLoS One* 15, no. 4 (2020): e0231885.

24. H. M. Tozammel Hoque, S. M. Rokeya Satter, H. M. Mozammel Hoque, and R. M. Saidur Rahman, "The Stress Factors and Pattern of Psychiatric Disorders Among Patients With Deliberate Self-Harm: A Study in a Tertiary Care Hospital, Rangpur, Bangladesh," *International Journal of Research in Medical Sciences* 11, no. 5 (2023): 1412–1416.

25. S. M. Y. Arafat, "Suicide Prevention in Bangladesh: The Role of Police," *The Lancet Psychiatry* 12 (2025): 173.

26. S. M. Y. Arafat, M. A. Mohit, M. S. I. Mullick, R. Kabir, and M. M. Khan, "Risk Factors for Suicide in Bangladesh: Case–Control Psychological Autopsy Study," *BJPsych Open* 7, no. 1 (2021): e18.

27. T. Greenhalgh, G. Wong, G. Westhorp, and R. Pawson, "Protocol-Realist and Meta-Narrative Evidence Synthesis: Evolving Standards (Rameses)," *BMC Medical Research Methodology* 11, no. 1 (2011): 115.

28. J. Sukhera, "Narrative Reviews in Medical Education: Key Steps for Researchers," *Journal of Graduate Medical Education* 14, no. 4 (2022): 418–419.

29. H. Arruda, E. R. Silva, M. Lessa, D. Proença, and R. Bartholo, "VOSviewer and Bibliometrix," *Journal of the Medical Library Association* 110, no. 3 (2022): 392–395.

30. M. K. Mozumder, U. H. Jasmine, M. A. Haque, and S. Haque, "Mental Health and Suicide Risk Among Homosexual Males in Bangladesh," *PLoS One* 18, no. 8 (2023): e0289597.

31. M. K. Mozumder, "Life Under the Rainbow: Self-Harm and Suicidality Among LGBT Community in Bangladesh," (2024).

32. M. S. Mullick, M. E. Karim, and M. Khanam "Depression in Deliberate Self Harm Patients," *Bangladesh Medical Research Council Bulletin* 20, no. 3 (1994): 123–128.

33. A. M. Hussain, A. S. Ekram, M. Alim, M. Ahad, S. Qais, and M. Alam, "Study on Deliberate Self Harm in a Tertiary Hospital," *TAJ: Journal of Teachers Association* 21, no. 2 (2009): 160–165.

34. M. Uddin, R. R. Biswas, and S. H. Mamun, "Sociodemographic Profile and Intention of Deliberate Self-Harm Among Patients Admitted in a Tertiary Care Hospital, Chittagong, Bangladesh," *Journal of the Scientific Society* 46, no. 2 (2019): 53.

35. Motin, M. Abdul, A. R. Chowdhury, et al., "Personality Disorders in Adult Population With Deliberate Self-Harm," *Achieves of NIMH* 3 (2020): 18–23.

36. S. M. Y. Arafat, F. R. Shormi, and M. G. Kibria, "Psychiatric Disorder and Life-Event in Self Harm: A Cross-Sectional Study Among Clinical Population in Bangladesh," *Heliyon* 10, no. 19 (2024): e38627.

37. M. S. Mullick, M. E. Karim, and M. Khanam, "Depression in Deliberate Self Harm Patients," *Bangladesh Medical Research Council Bulletin* 20, no. 3 (1994): 123–128.

38. M. A. Motin, A. R. Chowdhury, R. K. S. Royle, A. Azam, and M. M. Khan, "Personality Disorders in Adult Population With Deliberate Self-Harm," *Achieves of NIMH* 3 (2020): 18–23.

39. N. Kharsati and P. Bhola, "Patterns of Non-Suicidal Self-Injurious Behaviours Among College Students in India," *International Journal of Social Psychiatry* 61, no. 1 (2015): 39–49.

40. R. T. Liu, A. E. Sheehan, R. F. L. Walsh, C. M. Sanzari, S. M. Cheek, and E. M. Hernandez, "Prevalence and Correlates of Non-Suicidal Self-Injury Among Lesbian, Gay, Bisexual, and Transgender Individuals: A Systematic Review and Meta-Analysis," *Clinical Psychology Review* 74 (2019): 101783.

41. K. Bhui, K. McKenzie, and F. Rasul, "Rates, Risk Factors & Methods of Self Harm Among Minority Ethnic Groups in the Uk: A Systematic Review," *BMC Public Health* 7 (2007): 336.

42. M. King, J. Semlyen, S. S. Tai, et al., "A Systematic Review of Mental Disorder, Suicide, and Deliberate Self Harm in Lesbian, Gay and Bisexual People," *BMC Psychiatry* 8 (2008): 70.

43. E. N. B. Quarshie, M. G. Waterman, and A. O. House, "Prevalence of Self-Harm Among Lesbian, Gay, Bisexual, and Transgender Adolescents: A Comparison of Personal and Social Adversity With a Heterosexual Sample in Ghana," *BMC Research Notes* 13, no. 1 (2020): 271.

44. C. Haw, K. Hawton, K. Houston, and E. Townsend, "Psychiatric and Personality Disorders in Deliberate Self-Harm Patients," *British Journal of Psychiatry* 178, no. 1 (2001): 48–54.

45. A. Sadath, M. I. Troya, S. Nicholson, et al., "Physical and Mental Illness Comorbidity Among Individuals With Frequent Self-Harm Episodes: A Mixed-Methods Study," *Frontiers in Psychiatry* 14 (2023): 1121313.

46. K. Hawton, K. Rodham, E. Evans, and R. Weatherall, "Deliberate Self Harm in Adolescents: Self Report Survey in Schools in England," *BMJ* 325, no. 7374 (2002): 1207–1211.

47. E. N. B. Quarshie, F. Shuweihdi, M. Waterman, and A. House, "Self-Harm Among In-School and Street-Connected Adolescents in Ghana: A Cross-Sectional Survey in the Greater Accra Region," *BMJ Open* 11, no. 1 (2021): e041609.

48. K. Skegg, "Self-Harm," *Lancet* 366, no. 9495 (2005): 1471–1483.

49. C. Lopez-Arvizu, D. L. Steelesmith, B. N. Hand, et al., "Correlates of Deliberate Self-Harm in Youth With Autism And/Or Intellectual Disability," *JAACAP Open* 3 (2025): 477–484.

50. E. N. Llamocca, M. A. Fristad, J. A. Bridge, et al., "Correlates of Deliberate Self-Harm Among Youth With Bipolar Disorder," *Journal of Affective Disorders* 302 (2022): 376–384.

51. R. Cerutti, M. Manca, F. Presaghi, and K. L. Gratz, "Prevalence and Clinical Correlates of Deliberate Self-Harm Among a Community Sample of Italian Adolescents," *Journal of Adolescence* 34, no. 2 (2011): 337–347.

52. N. J. Lowry, P. C. Ryan, A. M. Mournet, et al., "Non-Suicidal Self-Injury and Suicide Risk Among Adult Medical Inpatients," *Journal of Affective Disorders Reports* 11 (2023): 100474.

53. E. Predescu and R. Sipos, "Self-Harm Behaviors, Suicide Attempts, and Suicidal Ideation in a Clinical Sample of Children and Adolescents With Psychiatric Disorders," *Children* 10, no. 4 (2023): 725.

54. G. S. Nagra, A. Lin, and R. Upthegrove, "What Bridges the Gap Between Self-Harm and Suicidality? The Role of Forgiveness, Resilience and Attachment," *Psychiatry Research* 241 (2016): 78–82.

Supporting Information

Additional supporting information can be found online in the Supporting Information section.

Figure S1: Theme-level weighted prevalence of DSH risk factors in Bangladesh. The risk factors were classified into different themes based on their similarities. Dots showed theme-level weighted prevalence where n/N available and label showed (%), (k=number of studies).

Table S1: Critical Appraisal Skills Programme (CASP) quality assessment of included studies.