International Journal of Health Sciences and Research
[Indexed, Peer-Reviewed Journal]
Volume 16; Issue: 9; September 2026
Website: www.ijhsr.org
Original Research Article *ISSN: 2249-9571*

Evaluation of Psychosocial Risk Factors for Non-Suicidal Self-Injury in Adolescents: A Hospital-Based Cross-Sectional Study

Sivaprakash J.[1], Mukkala Prajwala[2], Sandhya Kadimpati[3], N. Prasanna Kumar[4], Mohan V. Sumedha Maturu[5]

[1]Postgraduate, Department of Psychiatry, Andhra Medical College, Visakhapatnam, India.
[2]Assistant Professor, Department of Child and Adolescent Psychiatry, Andhra Medical College, Visakhapatnam, India.
(ORCID ID: https://orcid.org/0009-0001-3729-5397)
[3]Assistant Professor, Department of Psychiatry, Andhra Medical College, Visakhapatnam, India.
[4]Professor and Head, Department of Child and Adolescent Psychiatry, Andhra Medical College, Visakhapatnam, India.
[5]Senior Consultant, Department of Neurology, Pinnacle Hospital, Visakhapatnam, India.
(ORCID ID: https://orcid.org/0000-0003-4404-3603)

Corresponding author: Dr. Mohan V. Sumedha Maturu

DOI: https://doi.org/10.52403/ijhsr.20260913

Received: 30/04/2026; Revised: 01/08/2026; Accepted: 11/09/2026

ABSTRACT

Background: Non-suicidal self-injury (NSSI) is an increasingly recognised public health concern among adolescents, yet data from the Indian subcontinent remain limited. As culture strongly shapes self-harm, locally grounded psychosocial information on adolescents who self-injure is valuable.
Aim: To evaluate psychosocial risk factors for NSSI in adolescents attending a tertiary psychiatric service.
Methods: Sixty adolescents aged 12-18 years with a DSM-5 psychiatric diagnosis and at least one NSSI episode in the preceding year were enrolled by purposive sampling. Sociodemographic and clinical data were collected using a semi-structured proforma and the Functional Assessment of Self-Mutilation (FASM). Analyses used chi-square, Mann-Whitney U and Kruskal-Wallis tests ($p < 0.05$).
Results: Mean age was 14.88 (SD 1.46) years; 53.3% were male, 61.7% rural and 58.3% of low socioeconomic status. Poor emotional regulation affected 81.7% and perceived social media influence 73.3%. Inconsistent discipline (68.3%), a tense emotional atmosphere (56.7%), diffuse boundaries (56.7%) and difficult temperament were each strongly associated with poor emotional regulation ($p < 0.0001$), and financial stressors affected 63.3%. On the FASM, automatic negative reinforcement was higher in girls ($p < 0.001$), whereas social negative reinforcement was higher in boys, linked to strained parental relationships ($p = 0.030$), difficult temperament ($p = 0.001$) and poor emotional regulation ($p = 0.024$).

Conclusion: Emotional dysregulation, adverse family functioning and interpersonal difficulties were central psychosocial correlates of NSSI. Early identification of at-risk youth and interventions targeting emotion regulation, family functioning and social support are important for prevention.

Keywords: Non-suicidal self-injury; adolescents; psychosocial risk factors; emotional regulation; family functioning; Functional Assessment of Self-Mutilation.

1.0 INTRODUCTION

Deliberate self-harm remains an under-recognised and often concealed public health problem in India. Although research from the subcontinent is comparatively sparse, the data that are available suggest that its occurrence is rising steadily. [1] Young people who harm themselves frequently come to medical attention only when they present to emergency services with the physical consequences of their behaviour, and they therefore constitute an important group in whom the psychosocial determinants of self-harm can be studied. Because culture exerts a powerful influence on the form and meaning of self-injury, locally grounded data are especially important. [1]

In the literature, the terms non-suicidal self-injury (NSSI), deliberate self-harm and intentional self-harm are frequently used interchangeably, even though they differ in conceptual scope. [2] NSSI specifically denotes the deliberate destruction of one's own body tissue, carried out without suicidal intent and without the expectation that the act will cause serious physical harm. [3] The methods most commonly reported differ somewhat by sex: girls more often describe cutting, skin tearing and scratching or pinching, whereas boys more often report cutting, interfering with wound healing and striking objects.

NSSI is a serious and increasingly prevalent phenomenon. Across the lifespan, an estimated 13 to 17% of young people report having engaged in self-harm, and rates derived from inpatient samples have been substantially higher, with almost half of adolescents in some clinical series reporting such behaviour. [4] The onset typically lies in early to mid-adolescence; some studies place it between 11 and 15 years of age, while others describe a peak between 15 and 17 years followed by gradual remission during early adulthood. [5]

Adolescence is a period of rapid physical, emotional and cognitive change, during which identity formation, peer relationships, academic demands and family conflict may all act as stressors. Some young people turn to self-harm as a means of coping with these pressures, and studying the behaviour during this developmental window offers insight into how such factors intersect to shape it. The consequences can be considerable: adolescents who self-injure are at increased risk of later psychiatric disorder, substance misuse and suicidal behaviour, which makes early recognition and intervention particularly important. [6] Against this background, the present study set out to examine the psychosocial risk factors associated with NSSI in adolescents attending a tertiary care psychiatric service in southern India.

2.0 Aim and Objectives

2.1 Aim: To evaluate the psychosocial risk factors associated with non-suicidal self-injury in adolescents.

2.2 Objectives:

- To identify the psychosocial risk factors and sociodemographic characteristics that correlate with NSSI in adolescents.
- To assess the relationship between NSSI and psychiatric morbidity.
- To explore the contribution of family functioning, peer relationships, impulsivity, emotional regulation, coping mechanisms and the influence of social media to self-harming behaviour in this group.

3.0 MATERIALS AND METHODS

3.1 Study design and setting:

This was a hospital-based cross-sectional study conducted in the Department of Child and Adolescent Psychiatry, Government Hospital for Mental Care, Visakhapatnam, which houses the only dedicated child and adolescent psychiatry unit in the region.

3.2 Study population and period:

The study population comprised adolescents attending the department, as either inpatients or outpatients, who had a history of self-harming behaviour. Recruitment took place over a six-month period from January to June 2025.

3.3 Sample size and sampling technique:

A total of 60 participants were enrolled using a purposive sampling technique.

3.4 Inclusion criteria:

- Adolescents aged 12 to 18 years, of either sex, who had engaged in NSSI at least once during the preceding year.
- A psychiatric diagnosis established according to DSM-5 criteria.

3.5 Exclusion criteria:

- Active psychosis, substance intoxication or a withdrawal state, or intellectual disability.
- A coexisting major medical or neurological condition.
-

3.6 Methods:

The case records of adolescents aged 12 to 18 years with a history of NSSI were reviewed, and the relevant information was entered into a semi-structured proforma. Sociodemographic details and clinical history were collected to characterise the study population at a single point in time. These adolescents were subsequently invited to the outpatient department for administration of the Functional Assessment of Self-Mutilation (FASM). The nature and purpose of the study were explained to each participant and caregiver in their own language, and consent and assent were obtained accordingly.

Functional Assessment of Self-Mutilation (FASM):

The FASM, developed by Lloyd, Kelley and Hope in 1997, assesses the frequency, methods and functions of NSSI in adolescents and young adults. [7] The first part identifies specific self-injurious behaviours, such as cutting or burning, and their frequency over the preceding year. The second part comprises 22 items addressing the reasons for self-injury, each rated on a four-point Likert scale (0 = never to 3 = often). The instrument yields four functional dimensions. Automatic positive reinforcement (APR) refers to self-injury used to generate sensation or to overcome emotional numbness; automatic negative reinforcement (ANR) refers to its use to reduce or terminate distressing emotions such as anxiety, anger or sadness; social positive reinforcement (SPR) refers to its use to obtain attention, care or support; and social negative reinforcement (SNR) refers to its use to avoid or escape unwanted social demands or situations.

3.7 Statistical analysis

Data were analysed using IBM SPSS Statistics version 21.0. Categorical variables were compared using Pearson's chi-square test, and continuous variables using the Mann-Whitney U test and the Kruskal-Wallis test, as appropriate. A two-tailed p value of less than 0.05 was considered statistically significant.

4.0 RESULTS

A total of 60 adolescents with a history of NSSI were studied. The mean age of the sample was 14.88 (SD 1.46) years, and slightly over half were male (53.3%). Most participants had received middle-school education (61.7%), lived in rural areas (61.7%) and belonged to families of low socioeconomic status (58.3%). The majority lived in nuclear families (58.3%), with a further third in single-parent households (33.3%), and most identified as Hindu (88.3%). The sociodemographic characteristics of the sample are summarised in Table 1.

Table 1. Sociodemographic characteristics of the study sample (N = 60)

Variable	Category	n (%)
Gender	Female	28 (46.7)
	Male	32 (53.3)
Education	Primary school	1 (1.7)
	Middle school	37 (61.7)
	High school	19 (31.7)
	Graduate	3 (5.0)
Area of residence	Rural	37 (61.7)
	Urban	23 (38.3)
Living arrangement	Joint family	4 (6.7)
	Nuclear family	35 (58.3)
	Single-parent family	20 (33.3)
	Living alone	1 (1.7)
Religion	Hindu	53 (88.3)
	Muslim	4 (6.7)
	Christian	3 (5.0)
Socioeconomic status	Low	35 (58.3)
	Middle	22 (36.7)
	High	3 (5.0)

Values are n (%).

Parental relationships were described as strained in almost half of the families (48.3%), and the emotional atmosphere at home was judged to be tense in 56.7%. An authoritative parenting style was the most common (40.0%), followed by permissive (31.7%) and uninvolved (18.3%) styles. Family boundaries were diffuse in 56.7% of cases, and disciplinary practices were inconsistent across family members in more than two-thirds (68.3%). Financial difficulty was the most frequently reported family stressor (63.3%), followed by interpersonal conflict (50.0%), medical illness in the family (48.3%) and a change in the living environment (43.3%); only 10.0% reported no family stressor. These findings are presented in Table 2.

Table 2. Family environment and functioning (N = 60)

Variable	Category	n (%)
Parental relationship	Cordial	31 (51.7)
	Strained	29 (48.3)
Sibling relationship	Cordial	40 (66.7)
	Strained	20 (33.3)
Emotional atmosphere	Tense	34 (56.7)
	Warm	26 (43.3)
Parenting style	Authoritarian	6 (10.0)
	Authoritative	24 (40.0)
	Permissive	19 (31.7)
	Uninvolved	11 (18.3)
Boundaries	Clear	18 (30.0)
	Diffuse	34 (56.7)
	Rigid	8 (13.3)
Disciplinary pattern	Consistent	19 (31.7)
	Inconsistent	41 (68.3)
Family stressors†	Financial	38 (63.3)
	Interpersonal conflict	30 (50.0)
	Medical illness	29 (48.3)
	Change in living environment	26 (43.3)
	Recent bereavement	9 (15.0)
	None	6 (10.0)

Values are n (%). †Categories are not mutually exclusive; percentages are of total participants.

Consanguinity was present in 30.0% of the parents, and most participants had been delivered normally (71.7%) with a normal birth weight (83.3%). On temperament assessment, affect regulation was rated poor in 55.0%, and a substantial proportion were sensitive to criticism (56.7%) or described as stubborn, prone to tantrums or destructive (63.3%). Overall temperament was classified as easy in 31.7%, slow to warm in 35.0% and difficult in 33.3%. Perinatal and temperamental characteristics are shown in Table 3.

Table 3. Perinatal history and temperament (N = 60)

Variable	Category	n (%)
Perinatal history		
Consanguinity	Present	18 (30.0)
	Absent	42 (70.0)
Type of delivery	Normal	43 (71.7)
	Caesarean section	17 (28.3)
Cry at birth	Normal	51 (85.0)
	Delayed	9 (15.0)
Birth weight	Normal	50 (83.3)
	Less than 2.5 kg	10 (16.7)
Temperament		
Affect regulation	Good	27 (45.0)
	Poor	33 (55.0)
Activity level	Normal	36 (60.0)
	Increased	23 (38.3)
	Decreased	1 (1.7)
Attention	Drawn and sustained	37 (61.7)
	Drawn but not sustained	8 (13.3)
	Inattentive	15 (25.0)
Sensitive to criticism	Yes	34 (56.7)
	No	26 (43.3)
Easily tearful	Yes	27 (45.0)
	No	33 (55.0)
Shy, fearful or anxious	Yes	24 (40.0)
	No	36 (60.0)
Stubborn, tantrums or destructive	Yes	38 (63.3)
	No	22 (36.7)
Overall temperament	Easy	19 (31.7)
	Slow to warm	21 (35.0)
	Difficult	20 (33.3)

Values are n (%).

Most participants had started school between four and six years of age. Two-thirds did not take part in extracurricular activities (68.3%), and more than half had changed school at least once (55.0%). Academic performance was below average in almost half (48.3%), and academic difficulty was the most commonly reported problem at school (61.7%), followed by parental pressure (40.0%). School refusal was reported by 53.3% and truancy by 28.3%. Peer relationships were minimal in 38.3%, and negative experiences such as bullying, punishment or abuse were reported by 45.0%. Half of the participants lacked motivation for academic activity, and teacher or parental satisfaction with academic performance was absent in 58.3%. These findings are given in Table 4.

Table 4. Schooling, academic functioning and peer relationships (N = 60)

Variable	Category	n (%)
Age at starting school	3 years	4 (6.7)
	4 years	16 (26.7)
	5 years	23 (38.3)
	6 years	16 (26.7)
	7 years	1 (1.7)
Extracurricular activities	Yes	19 (31.7)
	No	41 (68.3)
Change of school	Yes	33 (55.0)
	No	27 (45.0)
Academic performance	Below average	29 (48.3)
	Average	22 (36.7)
	Above average	9 (15.0)
Difficulties at school†	Academic difficulties	37 (61.7)
	Parental pressure	24 (40.0)
	None	17 (28.3)
School refusal	Yes	32 (53.3)
	No	28 (46.7)
Truancy	Yes	17 (28.3)
	No	43 (71.7)
Peer relationship	Good	21 (35.0)
	Adequate	16 (26.7)
	Minimal	23 (38.3)
Negative experiences (bullying, punishment, abuse)	Yes	27 (45.0)
	No	33 (55.0)
Motivation for academic activity	Yes	30 (50.0)
	No	30 (50.0)
Teacher or parental satisfaction with academics	Yes	25 (41.7)
	No	35 (58.3)

Values are n (%). †Categories are not mutually exclusive; percentages are of total participants.

A secure attachment pattern was identified in half of the participants (50.0%), with avoidant (23.3%), resistant (16.7%) and disorganised (10.0%) patterns making up the remainder. Emotional regulation was poor in the large majority (81.7%). Substance use was reported by 28.3% overall, most commonly nicotine (26.7%), alcohol (16.7%) and cannabis (10.0%). A perceived influence of social media on self-injurious behaviour was reported by 73.3% of participants. These findings are shown in Table 5.

Table 5. Attachment, emotional regulation, substance use and social media (N = 60)

Variable	Category	n (%)
Attachment pattern	Secure	30 (50.0)
	Avoidant	14 (23.3)
	Resistant	10 (16.7)
	Disorganised	6 (10.0)
Emotional regulation	Good	11 (18.3)
	Poor	49 (81.7)
Substance use†	None	43 (71.7)
	Nicotine	16 (26.7)
	Alcohol	10 (16.7)
	Cannabis	6 (10.0)
Perceived social media influence	Yes	44 (73.3)
	No	16 (26.7)

Values are n (%). †Categories are not mutually exclusive; percentages are of total participants.

The mean age at first self-injury was 13.07 (SD 1.44) years. Half of the participants reported a history of self-injury predating the preceding year (50.0%). None reported any suicidal intent during the act (100.0%). The interval between the impulse and the act was short in most cases, being a few minutes in 41.7% and under sixty minutes in a further 46.7%, none thought about the act for more than 24 hours. Almost all had self-injured while not under the influence of any substance (98.3%). Moderate pain during the act was reported by 45.0% and severe pain by 21.7%. These characteristics are summarised in Table 6.

Table 6. Characteristics of self-injury on the FASM (N = 60)

Variable	Category	n (%)
History of self-injury in the preceding year	Yes	30 (50.0)
	No	30 (50.0)
Suicidal intent during act	No	60 (100.0)
Time from impulse to act	A few minutes	25 (41.7)
	Less than 60 minutes	28 (46.7)
	1 to 24 hours	7 (11.7)
Act performed under substance use	Yes	1 (1.7)
	No	59 (98.3)
Pain experienced during act	None	3 (5.0)
	Little	17 (28.3)
	Moderate	27 (45.0)
	Severe	13 (21.7)

Values are n (%). Mean age at first self-injury, 13.07 (SD 1.44) years.

On the FASM functional dimensions, clear differences emerged between groups (Table 7). Automatic negative reinforcement scores were significantly higher in girls than in boys (4.75 [SD 2.34] versus 2.41 [SD 2.53]; p <0.001). Social negative reinforcement scores showed the opposite pattern, being significantly higher in boys (5.53 [SD 2.92] versus 3.64 [SD 2.41]; p = 0.015), and were also higher among adolescents with a strained parental relationship (p = 0.030), a difficult temperament (p = 0.001) and poor emotional regulation (p = 0.024). Social positive reinforcement scores were significantly higher in adolescents with a difficult or slow-to-warm temperament than in those with an easy temperament (p = 0.027). Automatic positive reinforcement scores did not differ significantly across any of the groups examined.

Table 7. FASM functional reinforcement scores by sociodemographic and clinical factors (N = 60)

Factor	Group	ANR	APR	SNR	SPR
Gender	Male	**2.41 (2.53)**	1.53 (1.95)	**5.53 (2.92)**	11.06 (3.76)
	Female	**4.75 (2.34)**	2.11 (1.79)	**3.64 (2.41)**	9.14 (4.96)
Education	Primary school	0.00 (—)	0.00 (—)	9.00 (—)	9.00 (—)
	Middle school	3.43 (2.36)	1.62 (1.82)	4.59 (3.20)	10.57 (4.48)
	High school	3.79 (3.41)	2.21 (1.81)	4.58 (2.04)	9.53 (4.62)
	Graduate	3.67 (1.15)	2.00 (3.46)	4.33 (2.31)	9.67 (4.16)
Area of residence	Rural	3.81 (2.87)	1.84 (1.91)	4.30 (2.96)	9.70 (4.18)
	Urban	3.00 (2.35)	1.74 (1.89)	5.22 (2.58)	10.91 (4.81)
Socioeconomic status	Low	3.46 (2.73)	1.91 (2.08)	4.74 (3.05)	9.63 (4.34)
	Middle	3.73 (2.76)	1.64 (1.65)	4.18 (2.48)	10.55 (4.51)
	High	2.33 (2.08)	1.67 (1.53)	7.00 (1.73)	13.67 (4.51)
Parental relationship	Cordial	3.19 (2.44)	1.68 (2.04)	**3.94 (2.79)**	9.26 (4.09)
	Strained	3.83 (2.94)	1.93 (1.73)	**5.41 (2.72)**	11.14 (4.64)
Parenting style	Authoritarian	3.50 (4.14)	1.67 (1.37)	6.50 (2.51)	12.00 (3.69)
	Authoritative	3.25 (2.52)	1.63 (2.04)	3.88 (2.82)	9.25 (5.04)
	Permissive	3.26 (2.47)	2.11 (1.82)	4.74 (2.64)	10.68 (4.24)
	Uninvolved	4.45 (2.70)	1.73 (2.05)	5.18 (3.09)	10.27 (3.69)

Overall temperament	Easy	3.58 (2.69)	2.11 (2.26)	**2.89 (1.97)**	**7.68 (3.97)**
	Slow to warm	4.19 (2.79)	2.00 (1.73)	**4.57 (2.96)**	**11.24 (4.82)**
	Difficult	2.70 (2.49)	1.30 (1.63)	**6.40 (2.39)**	**11.40 (3.55)**
Peer relationship	Good	3.71 (2.90)	2.05 (2.29)	3.86 (2.35)	8.38 (4.64)
	Adequate	3.31 (2.36)	1.75 (1.61)	4.31 (2.91)	10.81 (3.58)
	Minimal	3.43 (2.81)	1.61 (1.70)	5.61 (3.01)	11.35 (4.42)
Emotional regulation	Good	2.91 (2.63)	0.91 (1.30)	**2.91 (1.81)**	7.73 (4.24)
	Poor	3.63 (2.71)	2.00 (1.95)	**5.04 (2.89)**	10.71 (4.33)

Values are mean (SD). ***Bold values*** *denote a* ***statistically significant*** *difference between the groups of that factor for the function concerned (Mann-Whitney U or Kruskal-Wallis test). Significant findings:* ***ANR higher in girls (p < 0.001); SNR higher in boys (p = 0.015) and with strained parental relationship (p = 0.030), difficult temperament (p = 0.001) and poor emotional regulation (p = 0.024); SPR higher with difficult or slow-to-warm temperament (p = 0.027).*** *ANR, automatic negative reinforcement; APR, automatic positive reinforcement; SNR, social negative reinforcement; SPR, social positive reinforcement.*

Several family and temperamental factors were strongly associated with emotional regulation (Table 8). A tense emotional atmosphere, inconsistent discipline, diffuse boundaries and a difficult or slow-to-warm temperament were each significantly associated with poor emotional regulation (all p <0.0001). Impulsivity was significantly more frequent among adolescents with a difficult temperament (p = 0.001) and those with poor emotional regulation, of whom 89.4% were impulsive (p = 0.003), whereas family boundaries (p = 0.665) and disciplinary consistency (p = 0.205) were not significantly associated with impulsivity. A tense home atmosphere was additionally associated with school refusal, which was reported by 71.9% of adolescents from tense households compared with 39.3% of those from warmer homes (p = 0.011).

Table 8. Family and temperamental factors associated with emotional regulation (N = 60)

Factor	Category	Poor emotional regulation, n (%)	Good emotional regulation, n (%)	p value
Emotional atmosphere	Tense	33 (67.3)	1 (9.1)	**< 0.0001**
	Warm	16 (32.7)	10 (90.9)	
Disciplinary pattern	Consistent	9 (18.4)	10 (90.9)	**< 0.0001**
	Inconsistent	40 (81.6)	1 (9.1)	
Boundaries	Clear	8 (16.3)	10 (90.9)	**< 0.0001**
	Diffuse	33 (67.3)	1 (9.1)	
	Rigid	8 (16.3)	0 (0.0)	
Overall temperament	Easy	9 (18.4)	10 (90.9)	**< 0.0001**
	Slow to warm	20 (40.8)	1 (9.1)	
	Difficult	20 (40.8)	0 (0.0)	

Column percentages are within each emotional-regulation category (poor, n = 49; good, n = 11). Pearson's chi-square test.

5.0 DISCUSSION

In this hospital-based cross-sectional study of 60 adolescents with NSSI, the mean age was 14.88 years and the mean age at the first self-injury was 13.07 years, indicating that self-injury commonly emerges in early to mid-adolescence. This is consistent with earlier work reporting a similar age of onset. [5] The sample was almost evenly divided between the sexes, with boys slightly outnumbering girls. Although several studies have reported higher rates of NSSI among girls, the near-equal distribution observed here may reflect increasing recognition of the behaviour in boys, together with differences in help-seeking and referral patterns in this clinical setting.

Large epidemiological studies provide a broader context for these observations. Hawton and colleagues reported substantial rates of self-harm among adolescents, with repetition affecting roughly half of those who

self-harm and somewhat higher repetition in boys than in girls. [8,9] Community data from the United Kingdom similarly found self-harm to be more frequent in girls than boys among 11- to 15-year-olds, and noted a higher risk in older children within this age band. [10] Although the absolute figures differ across settings, the consistent message is that self-harm in adolescence is common and frequently recurrent.

Most participants in the present study came from rural areas and families of low socioeconomic status. This may reflect both limited access to mental health services and greater stigma surrounding psychological difficulties in such settings, and is in keeping with evidence that economic adversity and family difficulty are important contributors to NSSI. [11] Family-related stressors were highly prevalent, including financial strain, interpersonal conflict and medical illness within the family, alongside changes in the living environment and bereavement. Such findings echo earlier work linking family dysfunction and economic hardship to adolescent self-harm, [11,12] and suggest that instability and loss may heighten emotional vulnerability.

Poor emotional regulation was the most frequent psychological characteristic, present in more than four-fifths of the sample, consistent with the well-established view that emotion dysregulation is central to NSSI. [13] The functional analysis revealed an instructive difference between the sexes: girls more often used self-injury to relieve unwanted internal states (automatic negative reinforcement), whereas boys more often used it in relation to interpersonal demands, with social negative reinforcement linked to strained parental relationships, difficult temperament and poor emotional regulation. This pattern suggests that the behaviour can serve both to regulate internal emotional states and to manage or communicate interpersonal distress, with the relative emphasis varying by sex and by individual characteristics.

Negative interpersonal experiences such as bullying, punishment or abuse affected nearly half of the participants, and school refusal was reported by more than half, underlining the contribution of peer and academic stressors to NSSI and to later psychiatric difficulty. [6] A perceived influence of social media was reported by almost three-quarters of the sample, in line with recent evidence that online environments may normalise or precipitate self-injurious behaviour. [14] These observations are consistent with broader analyses identifying psychiatric illness, low health literacy, adverse childhood experiences, bullying and behavioural problems as risk factors for NSSI. [15]

Childhood abuse and peer victimisation have likewise been shown to correlate positively with NSSI in adolescents with depression, [16] mirroring the high burden of adverse interpersonal experience seen in the present sample. Temperamental characteristics also appeared to play a part: about a third of participants had a difficult temperament and a similar proportion were slow to warm, and these traits were associated with poorer emotional regulation, greater impulsivity and higher self-injury scores. This accords with evidence that heightened emotional reactivity and poor adaptability increase susceptibility to NSSI, [15] and supports the view that the behaviour arises from an interplay of family stress, emotional dysregulation, peer adversity and temperamental vulnerability.

Taken together, these findings indicate that NSSI in this population is best understood not as a single behaviour with a single cause but as a final common pathway shaped by converging developmental, familial, emotional and social influences. The prominence of emotional dysregulation, adverse family functioning and interpersonal difficulty points to clear and potentially modifiable targets for intervention.

6.0 Limitations

There are few limitations to this study. The cross-sectional design precludes any inference of causal relationships between the psychosocial factors examined and NSSI.

The relatively small sample of 60 participants limits statistical power and the generalisability of the findings to the wider adolescent population. As a single-centre study, the sample may not reflect the diversity of adolescents from different geographical or sociocultural backgrounds. The exclusion of certain high-risk groups, such as adolescents with active psychosis, substance intoxication or intellectual disability, may further limit generalisability.

Several features of the study help to offset these limitations. Although the sample was modest in size, each participant underwent a detailed, clinician-led assessment across multiple domains, so that depth of characterisation compensated in part for the limited number of participants; moreover, several of the key associations were highly statistically significant ($p < 0.0001$), indicating that the underlying effects were sufficiently robust to emerge despite the conservative sample size. The exclusion of adolescents with active psychosis, intoxication or intellectual disability, while restricting generalisability, improved internal validity by removing conditions that independently affect both self-injury and the reliability of assessment, yielding a clearer view of psychosocial correlates in adolescents without these complicating factors. The cross-sectional design cannot establish causality, but the convergence of the present findings with prospective cohort and meta-analytic evidence lends support to their plausibility and likely direction. As a tertiary-centre study drawing on a large catchment population in a region where comparable data are otherwise unavailable, the sample is reasonably representative of help-seeking adolescents in this setting, and the within-sample contrasts by sex, temperament and emotional-regulation status provide internal points of comparison that partly substitute for the absence of a separate control group. The study is therefore best regarded as a robust, hypothesis-generating foundation for larger, multicentre and longitudinal investigations.

7.0 Strengths of the Study

This study has a number of strengths. First, it provides systematically collected data on the psychosocial correlates of NSSI in adolescents from the Indian subcontinent, a region from which such information remains scarce despite the strong influence of culture on self-harming behaviour. Second, rather than confining itself to a single domain, it employed a structured proforma to assess a broad range of factors spanning sociodemographic background, family environment and functioning, perinatal history, temperament, schooling, peer relationships, attachment, emotional regulation, substance use and the perceived influence of social media, allowing a multidimensional risk profile to be mapped within a single sample. Third, the diagnosis of NSSI was established by clinician assessment against DSM-5 criteria, lending a diagnostic precision that community self-report surveys often lack and reducing the likelihood of misclassification. Fourth, the use of the Functional Assessment of Self-Mutilation enabled an analysis not only of the presence of self-injury but of its underlying functions, revealing a clinically meaningful difference between the sexes in the reinforcement processes involved.

In doing so, the study adds to the existing literature in several respects. It contributes rare regional data that complement the predominantly Western and East Asian evidence base, addressing the need for culturally grounded information noted earlier. The functional analysis, showing that girls more often self-injured to relieve internal distress while boys more often did so in response to interpersonal demands, offers a sex-differentiated perspective that is seldom reported in samples of this kind. By integrating family-systems variables such as emotional atmosphere, disciplinary consistency, boundaries and parenting style with temperament and emotional regulation, the study presents an integrative psychosocial framework rather than a set of isolated associations. Finally, the identification of strong and consistent links

between adverse family functioning, difficult temperament and poor emotional regulation points to concrete and potentially modifiable targets for school-based and clinical intervention, which is of particular relevance in resource-limited settings.

8.0 CONCLUSION

Emotional dysregulation and interpersonal difficulties were the principal psychosocial factors associated with NSSI in this adolescent sample. No participant reported suicidal intent, and self-injury was used predominantly to manage distressing emotions through automatic and social negative-reinforcement mechanisms. Adverse family functioning, characterised by a tense atmosphere, inconsistent discipline and diffuse boundaries, together with a difficult temperament, was strongly associated with poor emotional regulation and impulsivity. These findings underline the importance of early identification of at-risk young people and of interventions directed at emotion regulation, family functioning and social support. School-based programmes, counselling and accessible mental health services are likely to be particularly valuable in reducing the occurrence and recurrence of NSSI in adolescents.

Declaration

Ethical Approval: The study was conducted after obtaining clearance and approval from the institutional ethics committee and the scientific committee.

Acknowledgement: None

Informed consent: Written informed consent was obtained from participants together with parental assent prior to participation.

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Latha KS, Bhat SM, D'Souza P. Suicide attempters in a general hospital unit in India: their socio-demographic and clinical profile—emphasis on cross-cultural aspects. Acta Psychiatr Scand. 1996;94(1):26-30. doi: 10.1111/j.1600-0447. 1996.tb09820. x.
2. Whitlock J, Exner-Cortens D, Purington A. Assessment of nonsuicidal self-injury: development and initial validation of the Non-Suicidal Self-Injury–Assessment Tool (NSSI-AT). Psychol Assess. 2014;26(3):935-46. doi: 10.1037/a0036611.
3. Lloyd-Richardson EE. Adolescent nonsuicidal self-injury: who is doing it and why? J Dev Behav Pediatr. 2008;29(3):216-8. doi: 10.1097/DBP.0b013e318173a5c1.
4. Swannell SV, Martin GE, Page A, Hasking P, St John NJ. Prevalence of nonsuicidal self-injury in nonclinical samples: systematic review, meta-analysis and meta-regression. Suicide Life Threat Behav. 2014;44(3):273-303. doi: 10.1111/sltb.12070.
5. Muehlenkamp JJ, Xhunga N, Brausch AM. Self-injury age of onset: a risk factor for NSSI severity and suicidal behavior. Arch Suicide Res. 2019;23(4):551-63. doi: 10.1080/13811118.2018.1486252.
6. Wilkinson PO, Qiu T, Neufeld S, Jones PB, Goodyer IM. Sporadic and recurrent non-suicidal self-injury before age 14 and incident onset of psychiatric disorders by 17 years: prospective cohort study. Br J Psychiatry. 2018;212(4):222-226. doi: 10.1192/bjp.2017.45.
7. Lloyd, Elizabeth Eden. Self-Mutilation in a Community Sample of Adolescents. 1997. LSU Historical Dissertations and Theses. 6546. https://repository.lsu.edu/gradschool_disstheses/6546. doi: 10.31390/gradschool_disstheses.6546
8. Hawton K, Saunders KEA, O'Connor RC. Self-harm and suicide in adolescents. Lancet. 2012;379(9834):2373-82. doi: 10.1016/S0140-6736(12)60322-5.
9. Hawton K, Harriss L. Deliberate self-harm by under-15-year-olds: characteristics, trends and outcome. J Child Psychol Psychiatry. 2008;49(4):441-8. doi: 10.1111/j.1469-7610.2007.01852. x.
10. Meltzer H, Harrington R, Goodman R, Jenkins R. Children and adolescents who try to harm, hurt or kill themselves. London: Office for National Statistics; 2001.

11. Glenn CR, Franklin JC, Nock MK. Evidence-based psychosocial treatments for self-injurious thoughts and behaviors in youth. J Clin Child Adolesc Psychol. 2015;44(1):1-29. doi: 10.1080/15374416.2014.945211.
12. Baetens I, Claes L, Hasking P, Smits D, Grietens H, Onghena P, et al. The relationship between parental expressiveness and non-suicidal self-injury: the mediating roles of self-criticism and depression. J Child Fam Stud. 2015;24(2):491-8. doi: 10.1007/s10826-013-9861-8
13. Gratz KL, Roemer L. The relationship between emotion dysregulation and deliberate self-harm among female undergraduate students at an urban commuter university. Cogn Behav Ther. 2008;37(1):14-25. doi: 10.1080/16506070701819524.
14. Nesi J, Burke TA, Bettis AH, Kudinova AY, Thompson EC, MacPherson HA, et al. Social media use and self-injurious thoughts and behaviors: a systematic review and meta-analysis. Clin Psychol Rev. 2021; 87:102038. doi: 10.1016/j.cpr.2021.102038
15. Wang YJ, Li X, Ng CH, Xu DW, Hu S, Yuan TF. Risk factors for non-suicidal self-injury (NSSI) in adolescents: a meta-analysis. E Clinical Medicine. 2022; 46:101350. doi: 10.1016/j.eclinm.2022.101350.
16. Yu C, Cai Y, Pan M. Correlation analysis of non-suicidal self-injury behavior with childhood abuse, peer victimization, and psychological resilience in adolescents with depression. Actas Esp Psiquiatr. 2024; 52(3):289-300. doi: 10.62641/aep.v52i3.1650

How to cite this article: Sivaprakash J., Mukkala P, Kadimpati S, Kumar NP, Maturu MVS. Evaluation of psychosocial risk factors for non-suicidal self-injury in adolescents: a hospital-based cross-sectional study. *Int J Health Sci Res.* 2026; 16(9):108-119. DOI: *https://doi.org/10.52403/ijhsr.20260913*

******