

Deliberate Self-Harm and Psychiatric Morbidities in an Egyptian Sample: Cross-sectional, Case-control Study

Dalia Hegazy Ali*, Mohamoud Farag Soliman, Mahmoud Mamdouh el Habibi, Marwa Abdel Rahman Soltan, Ahmed Rashad Mahfouz, Mohamed Fekry Abdel Aziz

Institute of psychiatry, Faculty of Medicine, Ain Shams University, Egypt

ABSTRACT

Background: Deliberate self-harm (DSH) is one of the common psychiatric emergencies in medical practice. Very few studies have discussed this maladaptive behavior in Egypt. We conducted this study to evaluate possible motives, modes, and psychiatric comorbidities in patients of DSH.

Methods: This institution based cross-sectional study, included 100 cases of deliberate self-harm referred for liaison consultation in the institute of psychiatry, Ain Shams university after attending to the university general hospital emergency room. Patients were assessed by Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), SCID-II for Axis II Personality Disorders, Columbia-Suicide Severity Rating Scale (C-SSRS), and Self-Punishment Questionnaire. Relevant sociodemographic data were collected. Data analyses were done using suitable tests.

Results: The mean age of participants was 22.21 ± 2.02 (years). The most common self-injurious behavior was Cutting (63%) followed by shooting (15%), Hitting (11%), Hanging & Burning (9%), respectively. The most commonly used tool was the sharp objects (64%) followed by gun (15%), wood, stone & others (11%), rope, fire & electricity (10%). The most common injured body sites were extremities (79%) followed by head and neck (14%), abdomen & trunk (7%). 36% of the case group had psychiatric disorders; Adjustment disorder (13%), Mixed anxiety-depressive (17%), Schizophrenia (paranoid)(6%). Nearly 100% of the sample had personality problems; borderline personality disorder (59%), Mixed personality traits (avoidant, dependent, passive aggressive, schizotypal, paranoid, borderline) (41%). Correlation studies were significant for the study different variables with (P value < 0.01).

Conclusions: Deliberate self-harm is strongly linked to many psychiatric disorders and personality problems. Suicidal thoughts and behavior, all with self-punishment, were strongly correlated to this behavior. Consequently, there is a need for a more comprehensive psychiatric evaluation for all self-harm cases.

Key words: Deliberate self-harm; Self-injurious behavior; Psychiatric comorbidities; Suicide; Self-punishment

INTRODUCTION

Self-injurious behavior is one of the most serious psychiatric phenomena. Even though it is defined as intentional, deliberate destruction to body tissues, done without suicidal intentions, and occurs for purposes that are not socially sanctioned [1]. Yet it may be potentially life threatening. In a complex relation, there is a high risk of suicide in individuals who self-injured themselves, and self-injury is found in 40-60% of suicides. However, generalizing self-injury as suicidal is inaccurate [1]. The lifetime prevalence of non-suicidal self-injury (NSSI), ranging from 13.0% to 23.2%. Meta-analysis of 119 community studies assessed more than

230000 individual in Asia, Australia, Europe and North America found prevalence rates of 17% in adolescent ages from (10-17 yrs) and 13% in young adult from (18-25 yrs), 6% in adult's ages more than 25 yrs [2].

The most common form of self-injury is using a sharp object to cut one's skin, but self-injury also covers a wide range of behaviors including burning, scratching, banging or hitting body parts, interfering with wound healing, hair-pulling and the ingestion of toxic substances or objects [3].

With many risk factors involved [4], the risk factors with the most significant effect (odds more than 3), mainly in the adolescent

*Correspondence to: Dalia Hegazy Ali, Institute of psychiatry, Faculty of Medicine, Ain Shams University, Egypt, Tel: +966554447502; E-mail: daliahegazy74@yahoo.com

Received: June 15, 2020; Accepted: June 30, 2020; Published: July 08, 2020

Citation: Ali HD, Soliman FM, Habibi MM, Soltan RAM, Mahfouz RA, Aziz AFM (2020) Deliberate Self - Harm and Psychiatric Morbidities in an Egyptian Sample: Cross-sectional, Case-control Study. J Psychiatry 23:468. doi: 10.35248/2378-5756.20.23.468.

Copyright: © 2020 Ali HD, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

population that predicated this behavior were; the prior history, cluster B personality disorder and hopelessness [5].

Classified lately as "new disorder in need of further study" in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (2013), [3] highlighted the fact of our limited knowledge about those behaviors. Nevertheless, that high-functioning individuals who have no underlying mental health diagnosis and people with different mental disorders (depression, anxiety disorders, substance abuse, eating disorders, post-traumatic stress disorder, schizophrenia, and several personality disorders), can engage in self-injury [6].

In the lights of insufficient published data about deliberate self-harm behavior, worldwide and in Egypt, we designed this study to examine the possible associations between psychiatric disorders and self-injurious behavior, as our primary research outcome. Types of self-injurious behavior, patients' motives, and suicidal profile data will increase the depth of the results and thereby, enrich our recommendations.

METHODS

Study setting and design

It is a hospital based cross-sectional, comparative, case-control study. It took place at the Institute of Psychiatry, Ain-Shams University Hospitals, which is located in Eastern Cairo and serves a catchment area of about the third of Greater Cairo (around 20 million inhabitants) with urban and rural areas. The facility serves patients with different social and economic backgrounds through its inpatients (105 beds) and outpatients (4 days a week) sections.

Study Population

All patients attending to the general university hospital emergency room (ER), for 1 yrs (September 2017 to August 2018), with self-injurious behavior, without a prior psychiatric diagnosis, were eligible for our study. Both genders and ages range from 18 to 60yrs were included. We excluded participants with a previous psychiatric diagnosis from the initial referral sample, ending by a eligible 110 patients with self-injurious behavior for further assessment. 50 subjects with no history of psychiatric disorders or self-injury behavior were matched as the control group.

Data collection

Candidates eligible for the study were assessed by trained clinicians blind to the research hypothesis's primary outcome goal to minimize bias. We gathered data about participants' age, gender, education, marital status, place of living, job and special habits, distribution of self-injury and the tools used. Structured Clinical Interview for DSM-IV axis I disorders (SCID-I) was used for broad coverage of psychiatric diagnosis according to DSM-IV [7] and SCID-II for axis II Personality Disorders diagnosis [8]. Assessment of suicide was carried out by Columbia-Suicide Severity Rating Scale (C-SSRS) which has high validity and reliability. Data Collected on Full C-SSRS presented as Suicidal Ideation (Highest Level Endorsed 1-5), Intensity of Ideation (2-25), Suicidal Behavior (present during time period) Y/N, Medical Damage for Attempt (0-5), Potential Lethality (if medical damage = 0) (0-2) [9]. Self-Punishment Questionnaire assessed self-punishment functions. According to its procedural definition of self-injurious behavior, it expresses

four dimensions (physical punishment, affective punishment, self-neglect & self-deprivation), which includes manifestations and forms of self-injury through which self-injurious behavior can be measured. It scores 0-38 as mild, 39-78 as Moderate, 79-118 as above moderate, and 119-156 as severe [10].

Data analysis

IBM SPSS software package version 20.0 was used. Qualitative data was described using number and percent. Comparison of categorical variables was done using Chi-square test. Quantitative data were described using range (minimum and maximum), mean, and standard deviation for normally distributed data. Comparisons in this category, for two independent populations were done using an independent t-test; for more were analyzed using F-test (ANOVA). Significant results were quoted as two-tailed probabilities and judged at the 5% level. Adjusted odds ratio with 95% CI was calculated to determine association.

Ethical consideration

The study was approved by the Ethics research Committee of the Institute of Psychiatry, Ain Shams University. All participants signed written informed consent, clarifying study rationale and confirming their right to withdraw from the study at any time and assuring data confidently during different research processes.

RESULTS

Out of 110 candidates, only 100 patients completed the assessments for the study. 9 female patients withdrew early in the assessment phase, did not complete the needed assessments. Incomplete data were excluded from the study.

Section (A): Descriptive statistics

Socio-demographic and clinical data

Tables 1 summarize Group (A) or patient group sociodemographic data. Similar data was gathered for their matched controls with no significant statistical differences. Table 2 summarizes Group (A) Types and sites of self-injury.

Case group (A) psychiatric diagnoses on SCID I& II

Subjects were assessed for possible axis 1 and 2 psychiatric diagnosis, as shown in Table 3.

Patient group (A) distribution on Columbia-Suicide Severity Rating Scale C-SSRS

54.0% (n=54) of the cases group had suicidal ideation and 46.0% (n=46) were not suicidal. 87 % (n=47) of them had their scores on intensity of ideation subscale >20, and 13% (n=7) scored ≤ 20.

On medical damage for attempt subscale 46% (n=46) had no physical damage, 3% (n=3) had minor physical damage, 21% (n=21) had moderate physical damage, 22% (n=22) had moderately severe physical damage, 4% (n=4) had severe physical damage.

On potential lethality subscale; 8.9% (n=4) had behavior not likely to result in injury, 66.7% (n=30) showed behavior likely to result in injury but not likely to cause death, 24.4% (n=11) had behavior likely to result in death despite available medical care.

Table 1: Socio-demographic data of the group (A).

Socio-demographic data	Total (N=100)
Age (years)	
Range [Mean±SD]	20-29 [22.21±2.02]
Gender	
Male	100 (100%)
Educational Level	
High education	45 (45%)
University education	28 (28%)
Elementary	27 (27%)
Place of living	
Cairo	31(31%)
Alexandria	10 (10%)
Delta	31 (31%)
Upper Egypt	28 (28%)
Marital state	
Single	94 (94%)
Married	6 (6%)
Job	
Unemployed	74 (74%)
Employed	26 (26%)
Special habits	
No special habits	64 (64%)
Smoking	24 (36%)
Substance use	12 (12%)

SD =Standard deviation

Table 2: Self-injury data distribution of the group (A).

Self-injury data	Total (N=100)
Procedure	
Cutting	63 (63%)
Shooting	15 (15%)
Hitting	13(13%)
Hanging & Burning	9 (9%)
Tools	
Sharp objects	64 (64%)
Gun	15 (15%)
Wood, stone & others	11 (11%)
Rope, Fire & Electricity	10 (10%)
Body sites	
Head & Neck	14 (14%)
Abdomen & Trunk	7 (7%)
Extremities	79 (79%)

Control group (B) distribution on Columbia-Suicide Severity Rating Scale C-SSRS

In the control group; 4% (n=2) had suicidal ideation and 96% (n=48) were not suicidal. In 4% (n=2), intensity of ideation scored ≤ 20 . Irrelevant data were found for suicidal behavior, medical damage for attempt, and potential lethality subscale scores.

Patient group (A) scores on Self-Punishment Questionnaire

Case group had a mean \pm SD of 12.11 ± 4.6 on physical abuse

subscale (range 5-24), a mean \pm SD of 13.7 ± 2.81 on moral abuse subscale (range 10-21), a mean \pm SD of 14.94 ± 5.97 on self-neglect subscale (range 6-26), a mean \pm SD of 22.7 ± 5.09 on self-deprivation subscale (range 13-32). 91% (n=91) of the sample scored as moderate, 9% (n=9) scored as above moderate with total score range 41-84, (mean \pm SD = 63.43 ± 9.35).

The control group scores on Self-Punishment Questionnaire

Control group had a mean \pm SD of; 9.58 ± 2.59 for physical abuse subscale (range 5-17), 7.84 ± 2.21 for moral abuse subscale (range 3-13), 8.68 ± 2.13 for self-neglect subscale (range 5-16), 15.36 ± 5.45 for self-deprivation subscale (range 7-32). 68% (n=34) of the sample scored as moderate, 32% (n=16) as mild with a total score range 31-59, mean \pm SD = 41.46 ± 5.93 .

Section (B): Comparative statistics

On further analysis, Comparing the two groups for suicide data, there was a statistically significant increase in suicidal ideation, intensity of ideation, suicidal behavior, medical damage for attempt, and potential lethality in case group compared to control group ($P < 0.01$) as shown in (Table 4).

Moreover comparing the two groups for self-punishment questionnaire scores showed that there was statistically significant higher; physical abuse, moral abuse, self-neglect, self-deprivation, and total scores in case group compared to control group ($P < 0.01$) (Table 5).

Correlations of psychiatric diagnoses and suicide data in patients group

There was a statistically significant relation between axis 1 diagnosis, and intensity of suicidal ideation. 90.9% of patients with mixed anxiety & depression and 91.4% of patients with no psychiatric diagnosis had high intensity of ideation (Score >20), as shown in table 6-A. 70.7% of patients with mixed personality traits had high suicidal ideation compared to 42.4% of patients with a borderline personality disorder.

A statistically significant relation was found between axis 2 diagnosis and medical damage for attempt. 36.6% of patients with mixed personality traits had moderately severe physical damage, 14.6% had severe physical damage compared to 11.9%, and 3.4% for patients with borderline personality disorder respectively as shown in Table 6-A.

Our results showed no statistically significant relation between axis

Table3: Axis I and II diagnosis distribution of the group (A).

Diagnosis	Total (N=100)
Axis 1 psychiatric disorders	
Schizophrenia (paranoid)	6 (6%)
Adjustment disorder	13 (13%)
Mixed anxiety-depressive disorder	17 (17%)
None	64 (64%)
Axis 2 personality disorders	
Borderline personality disorder (BPD)	59 (59%)
Mixed personality traits (avoidant, dependent, passive aggressive, schizotypal, paranoid, borderline)	41 (41%)

Table 4: Studied group's comparative data on Columbia-Suicide Severity Rating Scale (C-SSRS)

Items	Cases		Control		X2	P value	
	N	%	N	%			
Suicidal Ideation	No	46	46.0%	48	96%	35.38	< 0.0001
	High	54	54.0%	2	4%		
Intensity of Ideation	Score <=20	7	13.0%	2	4%	10.63	= 0.0011
	Score >20	47	87.0%	0	0%		
Suicidal Behavior	No	46	46.0%	50	100%	41.9	< 0.0001
	Yes	54	54.0%	0	0%		
Medical Damage for attempt	no physical damage	46	46.0%	0	0%	55.7	< 0.0001
	minor physical damage	3	3.0%	0	0%		
	moderate physical damage	21	21.0%	0	0%		
	Moderately severe physical damage	22	22.0%	0	0%		
	severe physical damage	8	8.0%	0	0%		
Potential lethality	Behavior not likely to result in injury	4	8.9%	0	0%	24.13	< 0.0001
	Behavior likely to result in injury but not likely to cause death	30	66.7%	0	0%		
	Behavior likely to result in death despite available medical care	11	24.4%	0	0%		

Table 5: Studied group's comparative scores on Self-Punishment Questionnaire.

Items	Case	Control	T	P value		
A-Physical abuse (39)						
Range	5-24	5-17	-3.539	= 0.0005		
Mean ±S.D.	12.11±4.6	9.58±2.95				
B-Moral abuse (39)						
Range	10-21	3-13	-12.854	< 0.0001		
Mean ±S.D.	13.7±2.81	7.84±2.23				
C-Self neglect (39)						
Range	6-26	5-16	-7.179	< 0.0001		
Mean ±S.D.	14.94±5.97	8.68±2.13				
D-Self deprivation (39)						
Range	13-32	7-32	-8.131	< 0.0001		
Mean ±S.D.	22.7±5.09	15.36±5.45				
Total Range	41-84	31-59	-15.143	< 0.0001		
Mean ±S.D.	63.43±9.35	41.46±5.94				
Scoring	N	%	N	%	X2	P value
0-38 Mild	0	0%	16	32%	38.61	< 0.0001
39-78 Moderate	91	91%	34	68%		
79-118 Above moderate	9	9%	0	0%		
119-156 Severe	0	0%	0	0%		

1 and 2 psychiatric disorders diagnosis and total self-punishment score. As shown in Table 6-B.

DISCUSSION

Exploring the relationship between self-injury and different psychiatric phenomena, all with the motives behind this behavior, is a vibrant area for research. Several researchers have reported self-injurious behavior in a wide range of psychiatric disorders. Although suicide is not the intention of self-injury, but the relationship between the two is complicated, thereby, it should be routinely assessed [11].

In this research, we studied 100 patients with self-injurious who were referred from the general hospital ER for consultation and management, and there 50 matches. Our goal was to test the association between psychiatric disorders and self-injurious behavior as the primary research outcome. Types of self-injurious

behavior, patients motives, and suicidal profile were elaborated during the research.

In this study, the mean age of the study population was 20-29 yrs [22.21±2.02], similar to Chamberlain and colleagues, community-based study, in which Total 333 adults (mean [SD] age 22.6 (3.6) years, 61% male [12]. Younger age groups were reported in other studies [13].

100% of our participants were male. The number of females in our referred hospital-based sample was deficient, and all refused to participate in the study. Unlike studies showing higher rates of female gender, like that of Morey and colleagues [14], Claes study reported higher rate of male participants who engaged in at least one self-injurious behavior compared to women [15]. Moreover it appeared to be more prevalent in boys than previously estimated in [16]. Other studies did not found any gender differences in adolescents and young adults [17, 18].

Table 6A: Relation between (axis 1&2) diagnosis and Columbia-Suicide Severity Rating Scale (C-SSRS) of Group A.

(C-SSRS)		Axis 1 psychiatric disorders								X ²	P value
		None		adjustment disorder		mixed anxiety & depression		schizophrenia			
		N	%	N	%	N	%	N	%		
Suicidal Ideation	No	29	45.3%	8	61.5%	6	35.3%	3	50.0%	2.10	0.55
	High	35	54.7%	5	38.5%	11	64.7%	3	50.0%		
Intensity of Ideation	Score <=20	3	8.6%	3	60.0%	1	9.1%	0	0.0%	7.37	0.03
	Score >20	32	91.4%	2	40.0%	10	90.9%	3	100%		
Suicidal Behavior	No	29	45.3%	8	61.5%	6	35.3%	3	50.0%	2.10	0.55
	Yes	35	54.7%	5	38.5%	11	64.7%	3	50.0%		
Medical Damage for attempt	no physical damage	30	46.9%	8	61.5%	5	29.4%	3	50.0%	17.04	0.08
	minor physical damage	3	4.7%	0	0.0%	0	0.0%	0	0.0%		
	moderate physical damage	14	21.9%	5	38.5%	2	11.8%	0	0.0%		
	Moderately severe physical damage	11	17.2%	0	0.0%	8	47.1%	3	50.0%		
	severe physical damage	6	9.4%	0	0.0%	2	11.8%	0	0.0%		
Potential lethality	Behavior not likely to result in injury	3	10.3%	0	0.0%	0	0.0%	1	33.3%	4.96	0.55
	Behavior likely to result in injury but not likely to cause death	18	62.1%	7	87.5%	3	60.0%	2	66.7%		
	Behavior likely to result in death despite available medical care	8	27.6%	1	12.5%	2	40.0%	0	0.0%		

C-SSRS		Axis 2 psychiatric disorders				X ²	P value
		border personality disorder (BPD)		mixed personality traits			
		N	%	N	%		
Suicidal Ideation	No	34	57.6%	12	29.3%	7.83	0.01
	High	25	42.4%	29	70.7%		
Intensity of Ideation	Score <=20	5	20.0%	2	6.9%	2.04	0.23
	Score >20	20	80.0%	27	93.1%		
Suicidal Behavior	No	34	57.6%	12	29.3%	7.83	0.01
	Yes	25	42.4%	29	70.7%		
Medical Damage for attempt	no physical damage	34	57.6%	12	29.3%	15.08	0.002
	minor physical damage	2	3.4%	1	2.4%		
	moderate physical damage	14	23.7%	7	17.1%		
	Moderately severe physical damage	7	11.9%	15	36.6%		
	severe physical damage	2	3.4%	6	14.6%		
Potential lethality	Behavior not likely to result in injury	3	9.1%	1	8.3%	2.74	0.23
	Behavior likely to result in injury but not likely to cause death	24	72.7%	6	50.0%		
	Behavior likely to result in death despite available medical care	6	18.2%	5	41.7%		

*Chi Square test (FE: Fisher Exact)

Table 6B: Relation between (axis 1&2) diagnosis and Total Self-Punishment of Group A.

Items		Total Self-Punishment score				X ²	P value
		moderate		above moderate			
		N	%	N	%		
Axis 1 psychiatric disorders	None	56	87.5%	8	12.5%	3.79	0.22
	maladjustment disorder	13	100%	0	0.0%		
	mixed anxiety & depression	17	100%	0	0.0%		
	Schizophrenia	5	83.3%	1	16.7%		
Axis 2 psychiatric disorders	border personality disorder (BPD)	52	88.1%	7	11.9%	1.44	0.23
	mixed personality traits	39	95.1%	2	4.9%		

More than 70% of our participants were single and unemployed also did not have any university grades, which is similar to [19].

Case group self-injury procedure and self-punishment functions showed that the cutting was the most prevailing in 63 (63%) of the sample followed by Shooting 15 (15%), consequently the most common tools were Sharp object in 64 (64%) of the sample followed by Gun 15 (15%). Body most injured parts were the extremities in 79 (79%) of the cases followed by head and neck injuries in 14 (14%) and abdomen & trunk injuries 7 (7%) as in Table 2. This came in agreement with Levine results [20], who reported that skin cutting was one of the most common forms of NSSI (70%–97% of cases), followed by banging or hitting (21%–44%) and burning (15%–35). Cutting, scratching, and self-hitting were the most common forms of non-suicidal self-harm (83.2%) [20]. More extreme forms of NSSI as for genital mutilation, eye enucleation, castration, or even limb amputation are rare and mostly seen in psychotic disorders [21]. Moreover, many reported utilizing multiple methods (50-70%) [22].

Data resulted from Columbia-Suicide Severity Rating Scale of the case group showed that the majority of self-injurer had intense suicidal thoughts during the time of self-injury. However, they had no intention of suicide during the act. Again, self-injurers were prone to have more suicidal ideation, suicidal behaviors, medical damage from self-injury, and high lethality risk, which came in agreement with Bentley and colleagues results [23].

Data obtained from Self-Punishment Questionnaire revealed that self-injurers had statistically significant high scores in; Physical abuse, Moral abuse, Self-neglect, Self-deprivation, and total score compared to control ($P < 0.01$). This might indicate that self-injury was adopted as a punishment method. Self-punishment reasons were particularly apparent in a community sample based study of adolescent self-injurers that found support for internally-directed rather than interpersonally-directed explicit motives for self-injury [24, 25]. However, support for self-punishment reasons was only modest in other studies [26].

This study revealed that persons with self-injury do not always fall into a diagnostic category. This might reflect that self-injury is one of the coping skills a person learn either for self-punishment or less commonly to regulate negative emotions.[27,28]. 36% of the case group had axis 1 psychiatric disorders; adjustment disorder 13 (13%), mixed anxiety-depressive disorder 17 (17%), schizophrenia 6 (6%).100%of them had axis 2 personality disorders or traits; BPD 59 (59%), Mixed personality traits 41 (41%). In concordance to our results came Ayodeji and Ghimire results who reported respectively [29,30] ; the association of personality disorder and higher self-harm severity, inadequate functional adjustment and more significant suicidal ideation ; the high association of psychiatric disorder (37%) namely adjustment disorder (13.5%) followed by mood disorder (11%) with this behavior .Also confirmed by Skegg study who reported high comorbidity of psychiatric disorders in patients with self-harm. In his study (72.0%) of cases had affective disorder and 45.9% had personality disorder in initial assessment and follow-up [31].

The result showed a statistically significant relation between intensity of suicidal ideation and axis 1 psychiatric disorders, where 90% of patients with mixed anxiety & depression had high intensity of suicidal ideation (Score >20). Nevertheless, 91% of patients with no psychiatric diagnosis also showed high intensity of suicidal ideation, which might be a predictor for further/future

pathology, and these findings were in consistency with Fergusson results, who reported that suicide ideation in adolescence increases the like hood of pathology in adulthood [32].

In the study, we found a statistically significant relation between suicidal ideation, behavior and personality problems .70.7% of the patients with mixed personality traits had high suicidal ideation and behavior compared to 42.4% of patients with borderline personality disorder. Borderline personality disorder was the only obviously linked disorder with self-harm, suicidal ideation intensity, suicidal behavior, and medical damage which came in agreement with many studies [33-35].

LIMITATIONS

The study design hindered that all potential subjects were included in the study. A larger sample with suitable gender representation would help the generalization of the results. We tried to reduce all sources of bias, yet using double-blind design could have alleviated clinician bias. Follow up study for the candidates who received intervention versus who do not, would have added more depth to the results.

CONCLUSIONS

This study revealed that psychiatric diagnoses were prevalent in patients with self-injurious than controls. Mood and stress related disorders, all with personality problems, were strongly correlated to suicidal ideation and behavior. Self-punishment motives were significantly evident.

RECOMMENDATIONS

People who have self-injurious behavior should receive a comprehensive psychosocial and dynamic assessment for the act. In light of the high association of suicidal risks and mental disorders, clinicians in contact with this population should receive appropriate training to provide suitable services. Referral pathways should follow best practice to assure; the immediate and long term cares for those patients, the decrease of unneeded measurable and unmeasurable expenses. More research is needed in this area to cover current knowledge gap.

REFERENCES

1. Brown RC, Plener PL. Non suicidal self-injury in adolescence. *Curr Psychiatry*. Rep19-20. 2017. <https://doi.org/10.1007/s11920-017-0767-9>.
2. Swannell SV, Martin GE, Page A. Prevalence of non-suicidal self-injury in nonclinical samples: Systemic review, meta-analysis and regression analysis. *Suicide life threat behaviour*. 2014; 44:273.0 <https://doi.org/10.1111/sltb.12070>.
3. American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. 2013.
4. Gordon M, Melvin G. Risk assessment and initial management of suicidal adolescents [online]. *Australian Family Physician*. 2014; 43:67-372. Availability: <<https://search.informit.com.au/documentSummary;dn=331005918036530;res=IELIAC>>ISSN: 0300-8495. [cited 26 May 20].
5. Franklin, Joseph C, Ribeiro, Jessica D, Fox. Risk factors for suicidal thoughts and behaviors: A meta-analysis of 50 years of research. *Psychological Bulletin*. 2017; 143:187–232. <https://doi.org/10.1037/bul0000084>.

6. Colleen M, Madelyn G. The Epidemiology and Phenomenology of Non-Suicidal Self-Injurious Behavior among Adolescents: A Critical Review of the Literature, *Archives of Suicide Research*.2007; 11:129-147.DOI: 10.1080/13811110701247602.
7. Michael B First, Miriam Gibbon, Robert L Spitzer, JBW Williams. User's guide for the structured clinical interview for DSM-IV axis I Disorder. Research version. New York Psychiatry Institute. 1997.
8. Michael B First, Miriam Gibbon, Robert L Spitzer, Janet BW. Users guide for the structured clinical interview for DSM-IV axis I, personality disorder SCIDII.Pp.91.Washington, DC; American psychiatric press. 1997.
9. Posner K, Brent D, Lucas C, Gould M, Stanley B. User guide for Columbia-Suicide Severity Rating Scale (C-SSRS). New York State Psychiatric Institute. The Research Foundation for Mental Hygiene, Inc. 2008.
10. Zainab M Shoukair. User guide for Self-Punishment Scale for adolescent and adults. Dar El Nahdah El Arabia press. Anglo library Cairo Egypt, distribution. 2006.
11. Wilkinson P. Non-suicidal self-injury. *European child & adolescent psychiatry*. 2013; 22:75-79. <https://doi.org/10.1007/s00787-012-0365-7>.
12. Chamberlain S.R, S.A. Redden and J.E. Grant. Associations between self-harm and distinct types of impulsivity. *Psychiatry research*. 2017; 250:10-16. <https://doi.org/10.1016/j.psychres.2017.01.050>.
13. Jacobson C.M, Marrocco F, Kleinman M. Restrictive Emotionality, Depressive Symptoms, and Suicidal Thoughts and Behaviors Among High School Students. *J Youth Adolescence*. 2011;40:656-665. <https://doi.org/10.1007/s10964-010-9573-y>.
14. Yvette M, Dominic M, Narges D, Julia V, Alan T. Adolescent self-harm in the community: an update on prevalence using a self-report survey of adolescents aged 13–18 in England. *Journal of Public Health*. 2017; 39:58–64. <https://doi.org/10.1093/pubmed/fdw010>.
15. Müller A, Claes L, Smits D, Brähler E, de Zwaan M. Prevalence and Correlates of Self-Harm in the German General Population. *PLoS ONE*. 2016; 11: e0157928. doi:10.1371/journal.pone.0157928.
16. Rodham K., K. Hawton, E. Evans. Reasons for deliberate self-harm comparison of self-poisoners and self-cutters in a community sample of adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2004; 43:80-87. <https://doi.org/10.1097/00004583-200401000-00017>.
17. Gratz K.L, S.D Conrad, L. Roemer. Risk factors for deliberate self-harm among college students. *American journal of Orthopsychiatry*.2002; 72:128-140. <https://doi.org/10.1037/0002-9432.72.1.128>.
18. Lori M. Hilt, Matthew K. Nock, Elizabeth E. Lloyd-Richardson, Mitchell J. Prinstein. Longitudinal Study of Non suicidal Self-Injury among Young Adolescents: Rates, Correlates, and Preliminary Test of an Interpersonal Model. *Journal of early adolescents*. 2008;28:455-469.<https://doi.org/10.1177/0272431608316604>.
19. Ramdurg S, Goyal S, Goyal P, Sagar R, Sharan P. Sociodemographic profile, clinical factors and mode of attempt in suicide attempters in consultation liaison psychiatry in a tertiary care center. *Industrial psychiatry journal*. 2011; 20:11-16. Doi: 10.4103/0972-6748.98408.
20. Lina Z. Levine, Aljabari R, Dalrymple K, Zimmerman M. Non-suicidal Self-Injury and Suicide: Differences between Those with and Without Borderline Personality Disorder. *Journal of Personality Disorders*. 2020;34:131-144.https://doi.org/10.1521/pedi_2018_32_385.
21. Cloutier P, Martin J, Kennedy A. Characteristics and Co-occurrence of Adolescent Non-Suicidal Self-Injury and Suicidal Behaviours in Pediatric Emergency Crisis Services. *J Youth Adolescence*.2010; 39:259–269. <https://doi.org/10.1007/s10964-009-9465-1>.
22. Calvete E. Prevalence and functions of non-suicidal self-injury in Spanish adolescents. *Psicothema*.2015; 27:223-228.
23. Kate H, Bentleya, Joseph C.Franklin, Jessica D.Ribeirob, Evan M.Kleiman, Kathryn R.Fox, Matthew K.Nock. Anxiety and its disorders as risk factors for suicidal thoughts and behaviors: A meta-analytic review. *Clinical psychology review*. 2016; 43:30-46. <https://doi.org/10.1016/j.cpr.2015.11.008>.
24. Nixon M.K., Cloutier P.F, Aggarwal S. Affect regulation and addictive aspects of repetitive self-injury in hospitalized adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2002; 41:1333-1341. <https://doi.org/10.1097/00004583-200211000-00015>.
25. Laye-Gindhu A, Schonert-Reichl K.A.. Nonsuicidal self-harm among community adolescents. Understanding the "whats" and "whys" of self-harm. *Journal of youth and Adolescence*. 2005; 34:447-457. <https://doi.org/10.1007/s10964-005-7262-z>.
26. Snir A, R.E, Gadassi R, Berenson K, Downey G. "Explicit and Inferred Motives for Non-suicidal Self-Injurious Acts and Urges in Borderline and Avoidant Personality Disorders." Published in final edited form as: *Personal Disord*. 2015; 6:267–277. <https://psycnet.apa.org/doi/10.1037/per0000104>.
27. Klonsky E.D, J.J. Muehlenkamp. Self-injury: A research review for the practitioner. *Journal of clinical psychology*. 2007; 63:1045-1056. <https://doi.org/10.1002/jclp.20412>.
28. Klonsky E. Non-suicidal self-injury in United States adults: prevalence, sociodemographic, topography and functions. *Psychological medicine*. 2011; 41:1981-1986. <https://doi.org/10.1017/S0033291710002497>.
29. Ayodeji E, Grenn J, Roberts C, Trainor G, Rothwell J, Woodham A. The influence of personality disorder on outcome in adolescent self-harm. *The British Journal of Psychiatry*.2015; 207:313-319. <https://doi.org/10.1192/bjp.bp.113.138941>.
30. Ghimire S, Devkota S, Budhathoki R, Thakur A, Sapkota N. Psychiatric Comorbidities in Patients with Deliberate Self-Harm in a Tertiary Care Center. *Journal of the Nepal Medical Association*.2014; 52:193.
31. Skegg K., S. Nada-Raja, T.E. Moffit. Minor self-harm and psychiatric disorder: A population-based study. *Suicide and life-threatening behavior*.2004; 34:187-196.
32. Fergusson DM, Horwood LJ, Ridder EM, Beautrais AL. Sub threshold Depression in Adolescence and Mental Health Outcomes in Adulthood. *Arch Gen Psychiatry*. 2005; 62:66–72. doi:10.1001/archpsyc.62.1.66.
33. Duberstein P.R, Y Conwell, L Seidlitz. Personality traits and suicidal behavior and ideation in depressed inpatients 50 years of age and older. *Journals of Gerontology Series B*. 2005; 55:18-26. <https://doi.org/10.1093/geronb/55.1.P18>.
34. Andover M. S, B.E. Gibb. Non-suicidal self-injury, attempted suicide and suicidal intent among psychiatric inpatients. *Psychiatry research*. 2010; 178:101-105. <https://doi.org/10.1016/j.psychres.2010.03.019>.
35. Yacobi A, Fruchter E, Mann J.J, Shelef L. Differentiating army suicide attempters from psychologically treated and untreated soldiers: A demographic, psychological and stress-reaction characterization. *Journal of affective disorder*.2013; 150:300-305. <https://doi.org/10.1016/j.jad.2013.04.009>.