



Socio-demographic Correlation among Patients with Deliberate Self-harm

Md. Tozammel Hoque^{1*}, Mst Rokeya Satter², Md Mozammel Hoque³, Md. Saidur Rahman⁴

¹Senior Consultant, Department of Medicine, 250 bed General Hospital, Thakurgaon, Bangladesh.

Email: htozammel75@gmail.com

Orcid ID: 0000-0003-4802-0257

²Senior Consultant, Department of Obstetrics & Gynecology, 250 bed General Hospital, Thakurgaon, Bangladesh.

Email: htozammel@yahoo.com

Orcid ID: 0000-0002-6163-7676

³Assistant Professor, Department of Pediatric Surgery, Sirajganj, Bangladesh.

Email: dr.mozammel.haq@gmail.com

Orcid ID: 0000-0002-1754-6566

⁴Associate Professor, Department of Skin & VD, Shahid Ziaur Rahman Medical College, Bogura, Bangladesh.

Email: saidur_hivaid@s@yahoo.com

Orcid ID: 0000-0003-4653-8159

*Corresponding author

Received: 28 November 2022

Revised: 23 January 2023

Accepted: 07 February 2023

Published: 28 February 2023

Abstract

Background: Deliberate self-harm is a complex behavior of maladaptive response to acute and chronic stress, and likely to be suffering from mental health problems as well as co-morbid general medical conditions, including several non-suicidal intentions to suicide. Deliberate self-harm was previously included in suicide. Sir Thomas Browne first used the word 'Suicide' in 1642 in his religion Medici. The word suicide originated from SUI (of oneself) & CAEDES (murder). According to WHO 'Suicide' refers to the act of killing oneself intentionally, performed by the person with full knowledge or expectation of the fatal outcome. This study aimed to analyze the pattern of psychiatric disorders among patients with deliberate self-harm. This study aimed to analyze the socio-demographic correlation among patients with deliberate self-harm. **Material & Methods:** This descriptive cross-sectional study was conducted at the Department of Medicine; emergency & OPD, Rangpur Medical College, Rangpur, Bangladesh. The study duration was 1 year; July 2012- June 2013. A total of 116 deliberate self-harm cases were included in this study as per the inclusion criteria. A convenience sampling technique was undertaken in this study. **Results:** The correlation of age, sex, economic status, religion, educational status, occupation, marital status, family history of mental illness, previous H/O mental illness, previous H/O physical illness, nature of stress factors, and the total number of DSH was significant between psychiatric disorder and co-morbid general medical condition. **Conclusion:** There was a significant correlation between sociodemographic parameters among the patients with deliberate self-harm. Bangladesh is a country with a cultural heritage of thousands of years. Traditional values, and social and family bonding are the characteristics of the culture. Traditional value systems are being declined gradually due to the influence of western culture. The social structure is in a period of transition that is characterized by the waning of family ties and social support as well as an increase in urbanization and modernization. This factor together with psychiatric and co-morbid general medical conditions plays an important role in deliberate self-harm.

Keywords:- Co-morbid medical condition, Self-harm, Suicide.

INTRODUCTION

Deliberate self-harm is a complex behavior of maladaptive response to acute and chronic stress, and likely to be suffering from mental health problems as well as co-morbid general

medical conditions including several non-suicidal intentions to suicide. Deliberate self-harm is previously included in suicide. Sir Thomas Browne first used the word 'Suicide' in 1642 in his religion Medici. The word suicide originated from SUI (of oneself) & CAEDES



(murder).^[1] Before the 1950 s little distinction was made between people who killed themselves & those who survived a suicide act. In 1952 Stengel identified epidemiological differences between the two groups and proposed the term 'suicide' and 'attempted suicide'. In 1977 kritman defined deliberate self-harm as a non-fatal act in which an individual deliberately causes self-injury or ingests a substance over any prescribed or generally recognized dose.^[2] The risk of repetition of self-harm is extremely high up to 40% will go on to repeat, including 13% in the first year.^[3] A study carried out at Sir Salimullah Medical College and Mitford hospital and Dhaka medical college hospital demonstrated depression in 86% of the patient with deliberate self-harm. Among the patient with depression, 38% were suffering from major depressive disorders and 48% of patients were having depressive symptoms.^[4] WHO data highlights the severity of the problem estimating 500000 cases of pesticide poisoning and 5000 death each year in less developed countries. In Srilanka study showed that agrochemicals are the commonest poisoning agent covering 59% of all poisoning cases.^[5] Self-harm is frequently a highly impulsive act. Many individuals report that they had thought about the act for just minutes before doing it. Alcohol and drug addiction probably increase the likelihood of impulsive acts.^[6] A study on Para suicide in the former institute of postgraduate medicine and research in Bangladesh found that more than 80% of Suicide attempters had some psychiatric illness. The study also had shown around one-third (35%) depressive illness, a quarters (26.66%) personality disorder, and around one-tenth (13.33%) schizophrenia.^[7] A study carried out in Dhaka medical college hospital, Sir Salimullah

medical college, Midford hospital, and Shaheed Suhrawardy hospital demonstrated psychiatric disorders at 65.4%, medical disorders at 14.4%, both medical and psychiatric disorders at 3.8%, neither psychiatric nor medical disorders 16.3%.^[8] Deliberate self-harm is the most important risk factor for later completed suicide and future self-harm.^[9,10] For the prevention of suicide and deliberate self-harm, early detection, and management of psychiatric and general medical disorders associated with deliberate self-harm, precise knowledge is essential. This study aimed to analyze the socio-demographic correlation among patients with deliberate self-harm.

Objective

General Objective

- To assess the socio-demographic correlation among patients with deliberate self-harm.

Specific Objectives

- To see the economic condition of the subjects.
- To know the educational qualification of the respondents.
- To analyze the occupational status of the patients.
- To see the marital status of the patients.
- To observe the family H/O mental illness.
- To see the mental and physical condition of the subjects.

MATERIAL AND METHODS

This descriptive cross-sectional study was conducted at the Department of Medicine; emergency & OPD, Rangpur Medical College, Rangpur, Bangladesh. The study duration was 1 year; July 2012- June 2013. A total of 116 deliberate self-harm cases were included in this

study as per the inclusion criteria. A convenience sampling technique was undertaken in this study. A semi-structured questionnaire containing all relevant information about deliberate self-harm, and psychiatric and co-morbid general Medical conditions were used for data collection. Informed consent was taken from the patients. Data analysis was done by using a statistical package for social science (SPSS) 12 version according to the hypothesis and objectives of the study design such as comparing depressive illness and co-morbid general medical conditions among deliberate self-harm cases. A Chi-square test was done to see the relationship between socio-demographic variables with the patients suffering from psychiatric and co-morbid general medical conditions. Ethical clearance was obtained from the institutional ethics committee of Rangpur Medical College.

Inclusion Criteria

- All deliberate self-harm cases were irrespective of age, sex & religion.
- Patients who had given consent to participate in the study.
- Patients without gross cognitive impairment.

Exclusion Criteria

- Accidental poisoning.
- Accidental injury.
- When poisonous substances are introduced by others such as snatchers.
- Patients who are deaf and dumb.
- Patients who did not give consent to participate in the study.

RESULTS

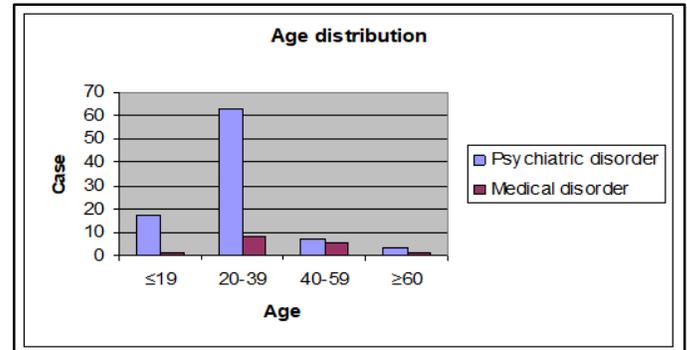


Figure 1: Age distribution of the subjects (N=116)

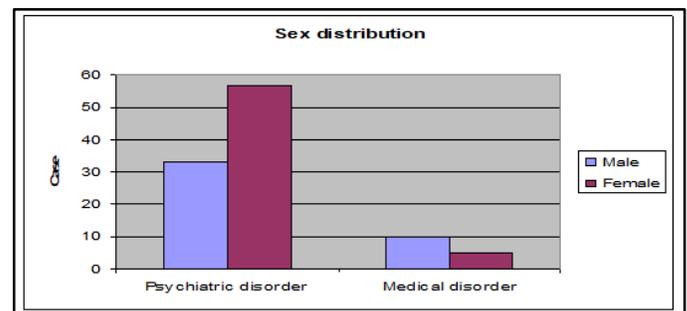


Figure 2: Distribution of sex (N=116)

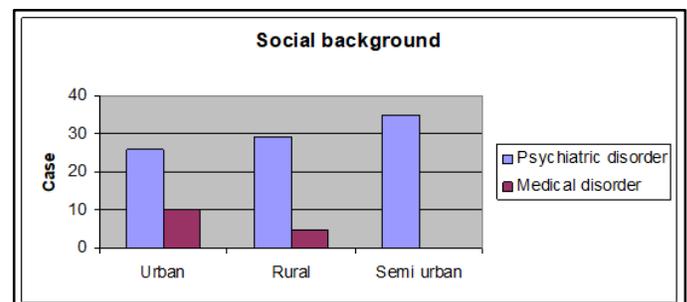


Figure 3: Social background of the study subjects (N=116)

[Figure 1] shows a comparison of basic data between patients suffering from psychiatric and co-morbid general medical conditions. In both groups majority of patients are in the age group of 20-39 years, 70.000 % in psychiatric disorders, and 53.333 % in comorbid general medical

conditions. In the 40-59 years age group 7.778 % have a psychiatric disorder and 33.333 % had comorbid general medical conditions. [Figure 1] Sex distribution shows that 33 (36.667%) vs 10 (66.667%) were male and 57 (63.333%) vs 05 (33.333%) were female in psychiatric disorder and co-morbid general medical conditions respectively. Figure 2]

Distribution of residence shows that 29 (32.222%) vs 05 (33.333%) were residing in a rural area, 35 (38.889%) vs 000 were were residing in a semi-urban area and 26 (28.889%) vs 10 (66.667%) were residing in the urban area in psychiatric disorder and comorbid general medical conditions respectively. [Figure 3]

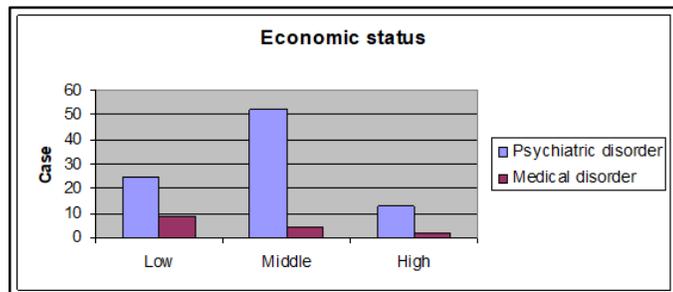


Figure 4: Economic status of the study subjects (N=116)

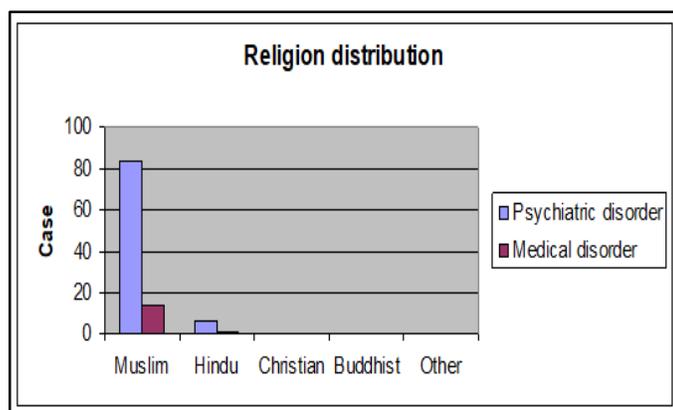


Figure 5: Distribution of the subjects according to religion (N=116)

Economic status was distributed as 25 (27.778%) vs 09 (60.000%) were low-income group, 52 (57.778%) vs 04 (26.667%) were middle-income group, and 13 (14.444%) vs 02 (13.333%) were the high-income group in psychiatric disorder and comorbid general medical conditions respectively. [Figure 4]

Religion distribution shows that 84 (93.333%) vs 14 (93.333%) were Muslim and 06 (6.667%) vs 01 (6.667%) were Hindu in psychiatric disorder and co-morbid general medical conditions respectively. [Figure 5]

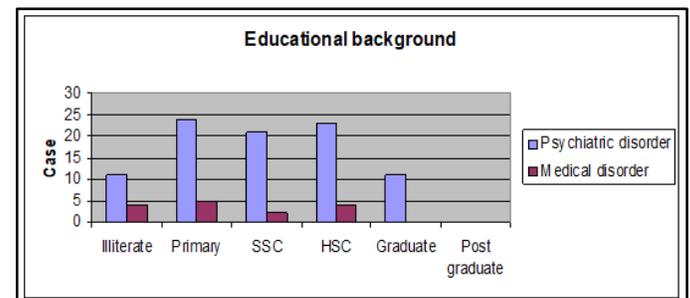


Figure 6: Educational status of the respondents (N=116)

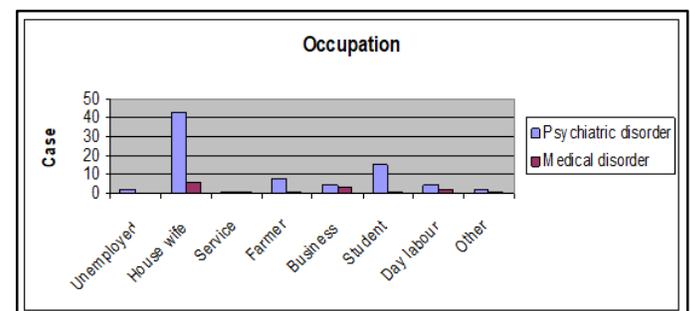


Figure 7: Distribution of respondents according to the occupation (N=116)

Educational status was distributed as 11 (12.222%) vs 04 (26.667%) were illiterate, 24 (26.667%) vs 05 (33.333%) were Primary, 21 (23.333%) vs 02 (13.333%) were SSC pass, 23 (25.556%) vs 05 04 (26.667%) were HSC pass and

11 (12.222%)vs 000 were Graduate in psychiatric disorder and comorbid general medical conditions respectively.[Figure 6]

The occupation was distributed as 02 (2.222%)vs 00 were unemployed, 43 (47.778%)vs 06 (40.000%)were housewives, 01 (1.111%)vs 01 (6.667%)were in service, 08 (8.889%)vs 01 (6.667%)were farmer, 04 (4.444%)vs 03 (20.000%) were involved in business, 15 (16.667%)vs 01 (6.667%)were student, 04 (4.444%)vs 02 (13.332%)were day labor and 02 (2.222%)vs 01 (6.667%) were involved in other professions in psychiatric disorder and comorbid general medical conditions respectively. [Figure 7]

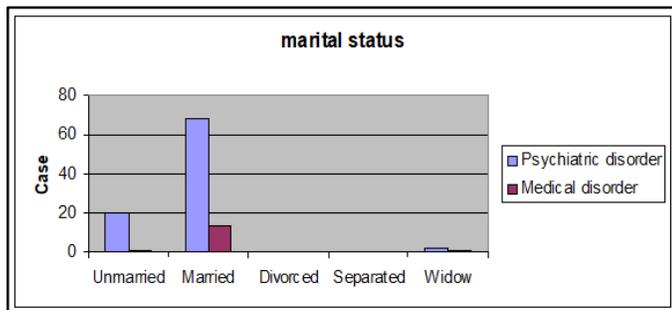


Figure 8: Distribution of respondents according to marital status (N=116)

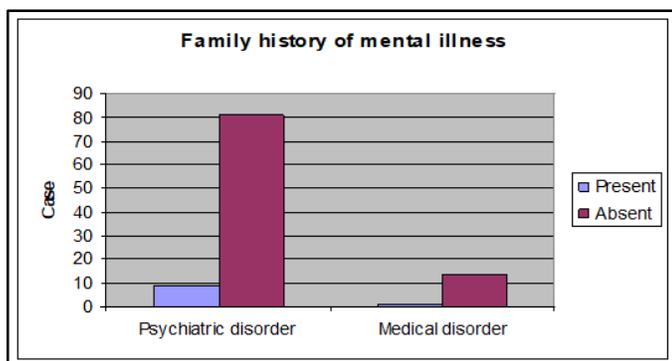


Figure 9: Family H/O mental illness (N=116)

Marital status shows that 20 (22.222%)vs 01 (6.667%)were Unmarried and 68 (75.556%)vs 13

(86.667%)were Married in psychiatric disorder and co-morbid general medical conditions respectively. [Figure 8]

Family H/O mental illness 9 (10.000%)vs 01 (6.667%)were present and 81 (90.000%)vs 14 (93.333%)were Absent in psychiatric disorder and comorbid general medical conditions respectively. [Figure 9]

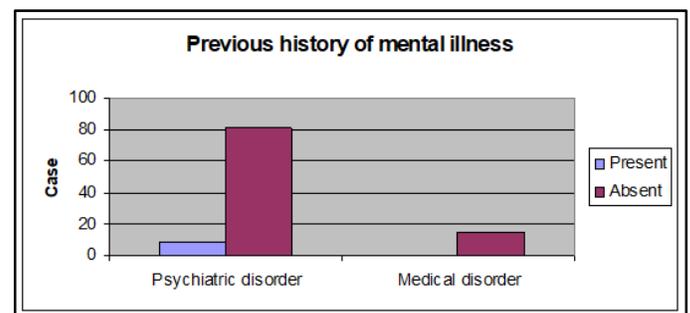


Figure 10: Previous H/O mental illness (N=116)

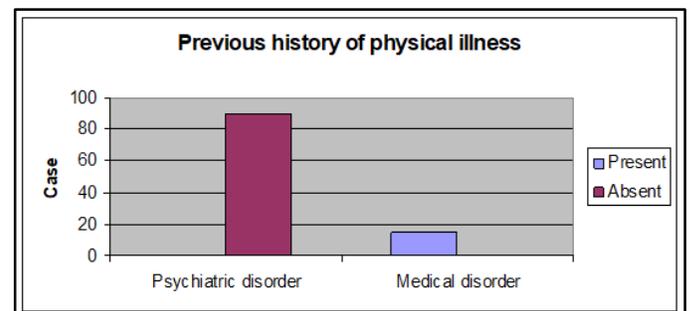


Figure 11: Previous H/O physical illness (N=116)

Previous H/O mental illness 9 (10.000%) vs 000were Present and 81 (90.000%)vs 15 (100.000%)were Absent in psychiatric disorder and co-morbid general medical conditions respectively. [Figure 10]

Previous H/O physical illness 000vs 15(100.000%) were present and 90 (100.000%)vs 000 were Absent in psychiatric disorder and comorbid general medical conditions respectively. [Figure 11]

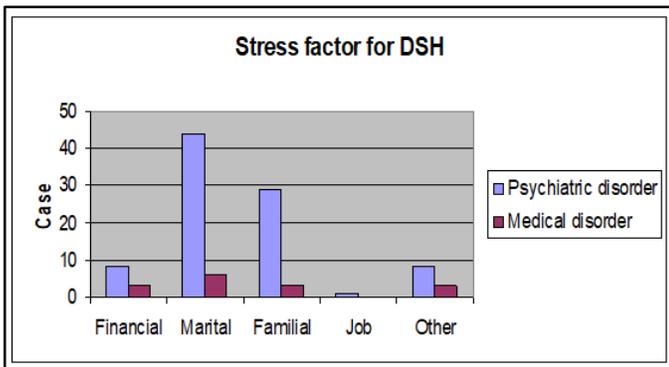


Figure 12: Nature of stress factor (N=116)

Nature of stress factor was distributed as 8 (8.889%) vs 03 (20.000%) were Financial, 44 (48.889%) vs 06 (40.000%) were Marital, 29 (32.222%) vs 03 (20.000%) were Familial, 01 (1.111%) vs 01 (6.667%) were Job-related and 08 (8.889%) vs 03 (20.000%) were due to other stress factors in psychiatric disorder and comorbid general medical conditions respectively. [Figure 12]

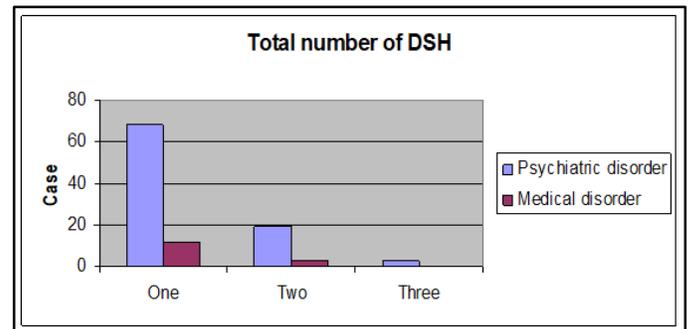


Figure 13: Total number of DSH (N=116)

The total number of DSH is distributed as 68 (75.556%) vs 12 (80.000%) the first time, 19 (21.111%) vs 03 (20.000%) the second time, and 03 (3.333%) vs 00 were third time psychiatric disorder and comorbid general medical conditions respectively. [Figure 13]
[Figure 13] is not interpreted perfectly because $p < 0.001$ is not mentioned in the figure.

Table 1: Sociodemographic correlation of patients suffering from psychiatric and co-morbid general medical conditions (N=105).

Parameters		Psychiatric disorder (n=90) No.(%)	Co-morbid general medical conditions (n=15) No.(%)	P value X ² test
Age	≤19	17 (18.889%)	01 (6.667%)	<.001
	20-39	63 (70.000%)	08 (53.333%)	
	40-59	07 (7.778%)	05 (33.333%)	
	≥60	03 (3.333%)	01 (6.667%)	
Sex	Male	33 (36.667%)	10 (66.667%)	<.026
	Female	57 (63.333%)	05 (33.333%)	
Social background	Urban	26 (28.889%)	10 (66.667%)	<.154NS
	Rural	29 (32.222%)	05 (33.333%)	
	Semi-urban	35 (38.889%)	00	
Economic status	Low	25 (27.778%)	09 (60.000%)	<.001
	Middle	52 (57.778%)	04 (26.667%)	
	High	13 (14.444%)	02 (13.333%)	
Religion	Muslim	84 (93.333%)	14 (93.333%)	<.001
	Hindu	06 (6.667%)	01 (6.667%)	



	Christian	00	00	
	Buddhist	00	00	
	Other	00	00	
Educational status	Illiterate	11 (12.222%)	04 (26.667%)	<.005
	Primary	24 (26.667%)	05 (33.333%)	
	SSC	21 (23.333%)	02 (13.333%)	
	HSC	23 (25.556%)	04 (26.667%)	
	Graduate	11 (12.222%)	00	
	Postgraduate	00	00	
Occupation	Unemployed	02 (2.222%)	00	<.001
	Housewife	43 (47.778%)	06 (40.000%)	
	Service	01 (1.111%)	01 (6.667%)	
	Farmer	08 (8.889%)	01 (6.667%)	
	Business	04 (4.444%)	03 (20.000%)	
	Student	15 (16.667%)	01 (6.667%)	
	Day labor	04 (4.444%)	02 (13.332%)	
	Other	02 (2.222%)	01 (6.667%)	
Marital status	Unmarried	20 (22.222%)	01 (6.667%)	<.001
	Married	68 (75.556%)	13 (86.667%)	
	Divorced	00	00	
	Separated	00	00	
	Widow	02 (2.222%)	01 (6.667%)	
Parameters		Psychiatric disorder (n=90) No.(%)	Co-morbid general medical conditions (n=15) No.(%)	P value X2 test
Family H/O mental illness	Present	9 (10.000%)	01 (6.667%)	<.001
	Absent	81 (90.000%)	14 (93.333%)	
Previous H/O mental illness	Present	9 (10.000%)	00	<.001
	Absent	81 (90.000%)	15 (100.000%)	
Previous H/O physical illness	Present	00	15(100.000%)	<.001
	Absent	90 (100.000%)	00	
Nature of stress factor	Financial	8 (8.889%)	03 (20.000%)	<.001
	Marital	44 (48.889%)	06 (40.000%)	
	Familial	29 (32.222%)	03 (20.000%)	
	Job	01 (1.111%)	00	
	Other	08 (8.889%)	03 (20.000%)	
Total number of DSH	One	68 (75.556%)	12 (80.000%)	<.001
	Two	19 (21.111%)	03 (20.000%)	
	Three	03 (3.333%)	00	

The correlation of age, sex, economic status, religion, educational status, occupation, marital status, family history of mental illness, previous H/O mental illness, previous H/O physical illness, nature of stress factor, and the total number of DSH was significant between psychiatric disorder and co-morbid general medical condition. [Table 1]

DISCUSSION

Deliberate self-harm cases admitted to this institute were interviewed for this study. In this study total of 116 deliberate self-harm cases, irrespective of age and sex were interviewed. The patients who are fit for assessment were included as study subjects. The patients who are found to be suffering from psychiatric disorders were evaluated using SCID and ICD -10 diagnostic criteria in presence of a consultant psychiatrist. The person-based suicide attempt rates for subjects suffering from psychiatric and co-morbid general medical conditions revealed in both groups, the majority of patients belong to the age group 20-39 years. The mean age was 27.75 years. The lowest rates were most often observed for subjects ≥ 60 years. In contrast, in another study,^[1] the majority of deliberate self-harm patients were found among the young 20-24 years age group. This study showed females (60.3445%) predominantly deliberate self-harm more than males (39.655%). In contrast, in India majority of deliberate self-harm patients were found among males (53%) than females.^[1] The possible explanation might be due to the exposure of females to more social and psychological stress than their male counterparts because of the traditional lifestyle. This study showed that living in urban areas (67.778%) increased rates of deliberate self-harm among the psychiatric group more than

the rural group (32.222%). This difference might be explained by the aspects of living in an urban area in a competitive and stressful environment. It was observed that patients in the psychiatric group showed the highest rates in the middle classes (57.778%), in contrast, patients with co-morbid general medical conditions showed a maximum number in lower classes (60.000%). This study revealed that patients in the psychiatric group showed the lowest rates of illiterate (12.222%) than Primary (26.667%), SSC (23.333%), and HSC (25.556%). These findings are inconsistent with a previous study conducted in the former institute of postgraduate medicine and research in Bangladesh,^[2] but consistent with another study carried out at Dhaka medical college hospital, Sir Salimullah medical college and Midford hospital, and Shaheed suhrawardy hospital.^[8] In this study, patients in the psychiatric group showed higher rates in married subjects (75.556%) than unmarried subjects (22.222%). This result was higher than a previous study conducted in the former institute of postgraduate medicine and research in Bangladesh where it showed married (50%) and unmarried (41%) among the patients with deliberate self-harm.^[2] In an Indian study married and unmarried individuals constitute 50% and 36% respectively.^[1] This result is consistent with another study,^[12] a previous study conducted in the former institute of postgraduate medicine and research in Bangladesh,^[2] and another study carried out in Dhaka medical college hospital, Sir Salimullah medical college and Midford hospital, and Shaheed Suhrawardy hospital.^[8] Again, gunshot injuries are a common method for deliberate self-harm followed by sedatives, analgesics, antidepressants, and self-injury by

cutting, jumping, and hanging.^[13] Another study showed, the mean age of the DSH group was 26.72 years, mostly females (50.5%), semiskilled workers (43.43%) and housewives (32.32%), from nuclear family (60.6%) with no psychiatric disorder (35.35%). Most of them attempted a nonlethal suicide attempt (87.87%) by organophosphorus poisoning (87.87%).^[14] Violent and deliberate Self-Harm behaviour of people with severe mental disorders (SMDs) represents a public health concern and a challenge for both clinicians and family members.^[15]

Limitations of the Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSIONS

There was a significant correlation between sociodemographic parameters among the patients with deliberate self-harm. Bangladesh

is a country with a cultural heritage of thousands of years. Traditional values, and social and family bonding are the characteristics of the culture. Traditional value systems are being declined gradually due to the influence of western culture. The social structure is in a period of transition that is characterized by the waning of family ties and social support as well as an increase in urbanization and modernization. This factor together with psychiatric and co-morbid general medical conditions plays an important role in deliberate self-harm.

Recommendation

At present, evidence is lacking to indicate the most effective forms of treatment for patients who deliberately harm themselves. This is a serious situation given the size of the population at risk and the risks of subsequent self-harm, including suicide. Identification of risk factors and improvement of the aftercare delivery system is the call of time.

REFERENCES

1. Zalsman G, Hawton K, Wasserman D, van Heeringen K, Arensman E, Sarchiapone M, et al. Suicide prevention strategies revisited: 10-year systematic review. *Lancet Psychiatry*. 2016;3(7):646-59. doi: 10.1016/S2215-0366(16)30030-X.
2. Turecki G. Preventing suicide: where are we? *Lancet Psychiatry*. 2016;3(7):597-8. doi: 10.1016/S2215-0366(16)30068-2.
3. Zahl DL, Hawton K. Repetition of deliberate self-harm and subsequent suicide risk: long-term follow-up study of 11,583 patients. *Br J Psychiatry*. 2004;185:70-5. doi: 10.1192/bjp.185.1.70.
4. Suominen K, Isometsä E, Suokas J, Haukka J, Achte K, Lönnqvist J. Completed suicide after a suicide attempt: a 37-year follow-up study. *Am J Psychiatry*. 2004;161(3):562-3. doi: 10.1176/appi.ajp.161.3.562.
5. Abhilash KPP, Murugan S, Rabbi NAS, Pradeeptha S, Kumar S, Selvaraj B, Gunasekaran K. Deliberate self-poisoning and harm: A meticulous quest of methods in vogue. *J Family Med Prim Care*. 2022;11(1):233-239. doi: 10.4103/jfmpc.jfmpc_1184_21.
6. Hawton K, James A. Suicide and deliberate self harm in young people. *BMJ*. 2005;330(7496):891-4. doi: 10.1136/bmj.330.7496.891.
7. Sahu S, Sahu RN, Agarwal J, Soni R. Sociodemographic, clinical profile, and psychiatric morbidities among patients with attempted suicide in a tertiary care center: A study from Central India. *Ind Psychiatry J*. 2021;30(Suppl 1):S115-S119. doi: 10.4103/0972-6748.328801.



8. Rao KN, Kulkarni RR, Begum S. Comorbidity of psychiatric and personality disorders in first suicide attempters. *Indian J Psychol Med.* 2013;35(1):75-9. doi: 10.4103/0253-7176.112210.
9. Cooper J, Kapur N, Webb R, Lawlor M, Guthrie E, Mackway-Jones K, et al. Suicide after deliberate self-harm: a 4-year cohort study. *Am J Psychiatry.* 2005;162(2):297-303. doi: 10.1176/appi.ajp.162.2.297.
10. Kapur N, Cooper J, Rodway C, Kelly J, Guthrie E, Mackway-Jones K. Predicting the risk of repetition after self harm: cohort study. *BMJ.* 2005;330(7488):394-5. doi: 10.1136/bmj.38337.584225.82.
11. Beck AT, Steer RA. Clinical predictors of eventual suicide: a 5- to 10-year prospective study of suicide attempters. *J Affect Disord.* 1989;17(3):203-9. doi: 10.1016/0165-0327(89)90001-3.
12. Gunnell D, Middleton N, Whitley E, Dorling D, Frankel S. Why are suicide rates rising in young men but falling in the elderly?-- a time-series analysis of trends in England and Wales 1950-1998. *Soc Sci Med.* 2003;57(4):595-611. doi: 10.1016/s0277-9536(02)00408-2.
13. Grootenhuis M, Hawton K, van Rooijen L, Fagg J. Attempted suicide in Oxford and Utrecht. *Br J Psychiatry.* 1994;165(1):73-8. doi: 10.1192/bjp.165.1.73.
14. Bhattacharya AK, Bhattacharjee S, Chattopadhyay S, Roy P, Kanji D, Singh OP. Deliberate Self-harm: A Search for Distinct Group of Suicide. *Indian J Psychol Med.* 2011;33(2):182-7. doi: 10.4103/0253-7176.92057.
15. Scocco P, Macis A, Ferrari C, Bava M, Bianconi G, Bulgari V, et al. Self-harm behaviour and externally-directed aggression In psychiatric outpatients: a multicentre, prospective study (viormed-2 study). *Sci Rep.* 2019;9(1):17857. doi: 10.1038/s41598-019-53993-7.

Source of Support: Nil, Conflict of Interest: None declare