

Psychiatric manifestations of patients admitted for intentional self harm

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Abstract

Introduction: Psychiatric illnesses are the most common risk factors for suicide. Most cases attempting suicide (Intentional self harm, ISH) present to the hospital emergency for medical complications arising as a result of self-harm forming an important group to understand the psychosocial profile. This study was undertaken to document the various psychiatric manifestations in the patients admitted for intentional self harm (ISH) in a tertiary care hospital.

Methods: A cross-sectional study was conducted in a tertiary hospital setting. The study population included all those patients who were admitted and being managed for ISH and brought for psychiatric evaluation during the period of six months (16th April- 15th October 2010) at Dhulikhel Hospital. Each patient underwent a detailed psychiatric evaluation by a consultant psychiatrist once they were medically stable. Psychiatric diagnoses were considered as per ICD-10 criteria.

Results: Among the total subjects (N=73) evaluated during the six months period of the study, 43.8% were in the age group of 21-40 years {mean=30.26(±14.7)}, 69.9% were females (Female to Male ratio=2.31), 80.8% were married and 28.8% belonged to the Mongolian race. There were a steadily increasing number of the patients from April to August, peaking in the month of August. Poisoning was the commonest mode of ISH (93.2 %), Organophosphorus was the most common (72%) poison used. Maximum subjects (41.1%) were found to have Depression Spectrum Disorder (Depression, Dysthymia, Adjustment Disorder) followed by Personality Disorder (26%).

Conclusions: Patients attempting ISH are brought to tertiary care hospital for associated medical complications. Organophosphorus poisoning was the commonest mode of suicide while Depression spectrum disorder was the most common psychiatric diagnosis related to suicide. Most suicide cases were seen in the summer months.

Key words: Depression Spectrum Disorder, intentional self harm, organophosphorus

Introduction

Intentional (or Deliberate) self harm (ISH or DSH) has been defined in various ways by different authors ¹⁻⁵. It can be considered as “*self-poisoning or injury, irrespective of the purpose of the act*”. ¹

ISH has been considered to be one of the top five causes of acute medical admissions for both men and women and as the strongest risk factor for future suicide. ^{2, 6}

It has also been said to be an unrecognized, hidden, and a silent epidemic. ⁷

Although the literature is very scant from Indian subcontinent, the available data suggest that the number is raising steadily. ^{3, 7, 8} The risk factors associated and methods employed are strikingly different from those reported in Western data. ⁸

There are a few hospital based studies done in our country

looking at this aspect but most of them have dealt with self-poisoning rather than all the usual methods of ISH.⁹⁻¹² Hence, we have paucity of literature dealing with suicide, in general, and psychosocial aspects, in particular.

Studies in the trends of DSH are important because they have implications for hospital services as they may indicate levels of psychopathology in the community and future trends in suicide, hence can assist in identification of means of suicide prevention.⁶

Suicide prevention is central to mental health policy in many countries.^{13, 14}

These cases frequently present to hospital emergency for medical complications arising as a result of self-harm forming an important group to understand the psychosocial profile.

Keeping these factors in mind, this study was undertaken in a tertiary hospital setting. The main aim was to study various psychiatric manifestations in the patients admitted for intentional self-harm in a tertiary care hospital.

Methods

The study was conducted in the Department of Psychiatry, Dhulikhel Hospital which is the Kathmandu University Teaching Hospital situated at Dhulikhel municipality of Kavre District.

Study population included all those patients who were admitted and being managed for medical complications arising out of intentional self-harm (ISH) and brought for psychiatric evaluation during the period of six months (16th April- 15th October 2010) at the Department of Psychiatry, Dhulikhel Hospital. Each patient underwent a detailed psychiatric evaluation by a consultant psychiatrist once they were medically stable. Psychiatric diagnoses were considered as per ICD-10 criteria.

There were total 73 patients evaluated during the study period of six months. Details of the patients including socio-demographic data, mode of ISH, psychiatric diagnosis considered and outcome was analyzed. Statistical Analysis was done using SPSS software package (Version 16, SPSS Inc., Chicago, USA). Descriptive statistics and Chi-square test was used to obtain the desired results.

Results

A total of 73 patients were evaluated during the study period. Among them, 43.8% were in the age group of 21-40 years, 69.9% were females, 80.8% were married and 28.8% belonged to the Mongolian race. The mean age of the total patient sample was 30.26(±14.7). Female to male ratio was found to be 2.31: 1 (Table 1)

Table 1: Demographic profile of the patients

S.N.	VARIABLES	FREQUENCY (%) N=73 (100%)
1.	AGE GROUP*	0-20
		25 (34.2 %)
		21-40
		32 (43.8%)
		41-60
2.	SEX**	13 (17.8%)
		61-80
		2 (2.7%)
		81+
		1 (1.4%)
3.	MARITAL STATUS	Female
		51 (69.9%)
		Male
		22(30.1%)
		Single
4.	CASTE/RACE	13 (17.8%)
		Married
		59 (80.8%)
		Separated/Divorced
		1 (1.4%)
		Brahmin
		19 (26.0%)
		Chhetri
		11 (15.1%)
		Newar
		8 (11.0%)
		Mongolian
		21 (28.8%)
		Dalit/Disadvantaged
		12 (16.4%)
		Terai/Madhesi subcaste
		2 (2.7%)

There were steadily increasing number of the patients from April to August, peaking in the month of August, while the number started decreasing in September and October (Fig. 1)

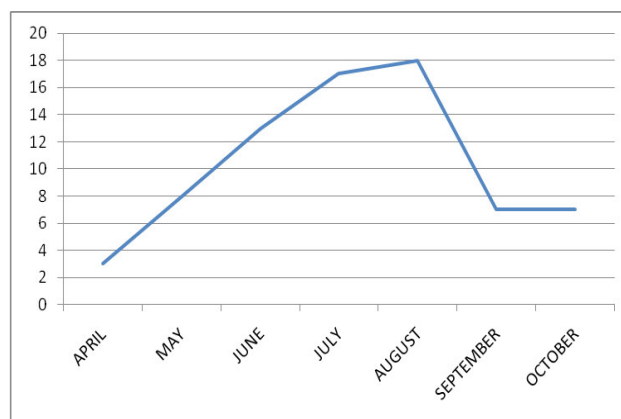


Fig. 1: Month-wise presentation of IDH cases:

Regarding the various ISH related factors, 93.2 % of the total sample population attempted poisoning, 7.8% of which was found to be an accidental poisoning after evaluation. Among the poisons used in the attempt, 72% was Organophosphorus compound. Among all those patients, 91.8% survived and could be evaluated, while three of them expired and the rest three left against medical advice (LAMA). All those three patients who expired were found to have consumed Aluminium Phosphide compound (Table 2).

Psychiatric manifestations

Table 2: Distribution of ISH related factors:

S.N.	VARIABLES		FREQUENCY (%)
1.	MODE OF ISH (N=73)	Poisoning	68 (93.2%)
		Hanging	2 (2.7%)
		Cut injury	1 (1.4%)
		Others	1 (1.4%)
		More than one measures	1 (1.4%)
2.	MODE OF POISONING (N=68)	Suicidal	63 (92.6%)
		Accidental	5 (7.8%)
3.	POISON USED (N=68)	Organophosphorus	49 (72%)
		Non-organophosphorus	19 (28%)
4.	OUTCOME (N=73)	Survived and Evaluated	67 (91.8%)
		Expired	3 (4.1%)
		LAMA	3 (4.1%)

Table 3 shows psychiatric diagnoses of the patients evaluated, maximum patients (41.1%) were found to have Depression Spectrum Disorder (Depression, Dysthymia, Adjustment Disorder) followed by Personality Disorder (26%), mainly Emotionally Unstable Personality Disorder (Impulsive type). Comorbid Substance Use Disorder (mainly Alcohol) was seen in 5.5% of the patients, while 6.8% could not satisfy ICD-10 criteria for any psychiatric illnesses. Total of six patients could not be evaluated as three of them expired and the rest three left against medical advice.

Table 3: Distribution of Psychiatric diagnosis of the patients evaluated:

S.N.	PSYCHIATRIC DIAGNOSIS	FREQUENCY (%) N=73 (100%)
1.	Depression , Dysthymia, Adjustment disorder	30 (41.1%)
2.	Substance Use Disorder	4 (5.5%)
3.	Schizophrenia or other Psychotic illness	3 (4.1%)
4.	Personality Disorder	19 (26.0%)
5.	No Psychiatric Diagnosis	5 (6.8%)
6.	Dual Diagnosis	6 (8.2%)
7.	Could not be evaluated	6 (8.2%)

**p-value<0.01

Table 4: Distribution of Psychiatric diagnosis among different age group of the patients evaluated:

S.N.	PSYCHIATRIC DIAGNOSIS	AGE GROUP (YEARS)					STATISTICS
		0-20 N ₁ =25 (34.2%)	21-40 N ₂ =32 (43.8%)	41-60 N ₃ =13 (17.8%)	61-80 N ₄ =2 (2.7%)	81+ N ₅ =1 (1.4%)	χ^2 df p-value
1.	Depression , Dysthymia, Adjustment disorder	4(16.0%)	19(59.4%)	5(38.5%)	2(100%)	0 (0.0%)	51.467 24 0.001**
2.	Substance Use Disorder	0 (0.0%)	1(3.1%)	3(23.1%)	0 (0.0%)	0 (0.0%)	
3.	Schizophrenia or other Psychotic illness	1 (4.0%)	1(3.1%)	1 (7.7%)	0 (0.0%)	0 (0.0%)	
4.	Personality Disorder	13(52.0%)	6 (18.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
5.	No Psychiatric Diagnosis	4(16.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1(100%)	
6.	Dual Diagnosis	1 (4.0%)	3 (9.4%)	2(15.4%)	0 (0.0%)	0 (0.0%)	
7.	Could not be Evaluated	2 (8.0%)	2 (6.2%)	2(15.4%)	0 (0.0%)	0 (0.0%)	

Table 4 shows the age-wise distribution of psychiatric diagnosis. Among the most common age group (21-40 years), 59.4% were found to have Depression Spectrum Disorder, while among the below 20 age group, 52% had Personality Disorder. This association was found to be statistically significant ($p<0.01$). Table 4: Distribution of Psychiatric diagnosis among different age group of the patients evaluated:

In Table 5, psychiatric diagnoses are shown in relation to the sex group of the subjects; both the male and female group had Depression as the commonest diagnosis. No females were found with Substance Use Disorder, 18.2% of the males were found to have that diagnosis, mainly Alcohol Dependence Syndrome. Personality disorder was seen in 33.3% of females. This was also statistically significant association ($p<0.05$).

Distribution of psychiatric diagnosis among the patients attempting different modes of ISH has been analyzed in Table 6. Depression spectrum disorder is found to be the commonest diagnosis (44.1%) among the patients attempting poisoning. Among the two patients attempting

hanging, one had psychotic illness while the other had personality disorder. It was also found statistically

Table 5: Distribution of Psychiatric diagnosis among the sex group of the patients evaluated:

S.N.	PSYCHIATRIC DIAGNOSIS	SEX GROUP		STATISTICS
		FEMALE N ₁ =51 (69.9%)	MALE N ₂ =22 (30.1%)	χ^2 df p-value
1.	Depression , Dysthymia, Adjustment disorder	22(43.1%)	8 (36.4%)	16.214 6 0.013*
2.	Substance Use Disorder	0 (0.0%)	4(18.2%)	
3.	Schizophrenia or other Psychotic illness	1 (2.0%)	2(9.1%)	
4.	Personality Disorder	17(33.3%)	2(9.1%)	
5.	No Psychiatric Diagnosis	4 (7.8%)	1 (4.5%)	
6.	Dual Diagnosis	3 (5.9%)	3 (13.6%)	
7.	Could not be Evaluated	4 (7.8%)	2 (9.1%)	

*p-value<0.05

significant ($p < 0.05$).

Table 6: Distribution of Psychiatric diagnosis among the patients attempting different modes of ISH:

S. N.	PSYCHIATRIC DIAGNOSIS	MODES OF ISH					STATISTICS χ^2 df p-value
		Poisoning $N_1=68$	Hanging $N_2=2$	Cut Injury $N_3=1$	Others $N_4=1$	More than one measure $N_5=1$	
1.	Depression, Dysthymia, Adjustment Disorder	30 (44.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	42.678 24 0.011*
2.	Substance Use Disorder	4 (5.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
3.	Schizophrenia or other Psychotic illness	1 (1.5%)	1 (50%)	1 (100%)	0 (0.0%)	0 (0.0%)	
4.	Personality Disorder	16 (23.5%)	1 (50%)	0 (0.0%)	1 (100%)	1 (100%)	
5.	No Psychiatric Diagnosis	5 (7.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
6.	Dual Diagnosis	6 (8.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
7.	Could not be Evaluated	6 (8.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	

* p -value <0.05

In relation to the marital status, Personality Disorder was commonest among single (46.2%), while Depression Spectrum Disorder was maximum among the married (45.8%). This is also statistically significant association ($p < 0.05$) as shown in Table 7.

Table 7: Analysis of Psychiatric diagnosis in relation to marital status:

S.N.	PSYCHIATRIC DIAGNOSIS	MARITAL STATUS			STATISTICS χ^2 df p-value
		Single $N_1=13$ (17.8%)	Married $N_2=59$ (80.8%)	Separated / Divorced $N_3=1$ (1.4%)	
1.	Depression, Dysthymia, Adjustment disorder	2 (15.4%)	27 (45.8%)	1 (100.0%)	23.428 12 0.024*
2.	Substance Use Disorder	0 (0.0%)	4 (6.8%)	0 (0.0%)	
3.	Schizophrenia or other Psychotic illness	1 (7.7%)	2 (3.4%)	0 (0.0%)	
4.	Personality Disorder	6 (46.2%)	13 (22.0%)	0 (0.0%)	
5.	No Psychiatric Diagnosis	4 (30.8%)	1 (1.7%)	0 (0.0%)	
6.	Dual Diagnosis	0 (0.0%)	6 (10.2%)	0 (0.0%)	
7.	Could not be Evaluated	0 (0.0%)	6 (10.2%)	0 (0.0%)	

Table 8: Analysis mode of ISH in relation to demographic factors:

S.N.	DEMOGRAPHIC FACTORS	STATISTICS χ^2 df p-value
1.	AGE GROUP	12.697 16 0.695
2.	SEX	5.947 4 0.203
3.	MARITAL STATUS	10.069 8 0.260
4.	CASTE/RACE	19.341 20 0.500

No significant association was seen between the various demographic factors and different modes of ISH (Table 8).

Discussion

Variety of psychiatric illnesses is seen in the patients presenting to hospital with ISH. ^{1, 2, 3, 6, 7} Psychiatric diagnosis is an important and independent risk factor for suicide. ^{7, 8} There are limited studies dealing with suicide, particularly in our set-up. Few studies dealing with psychiatric aspects of suicide in India show scarcity of mental health services despite increasing trends of suicide in the background of diverse psychiatric manifestations. ^{3, 7, 8} Comparison with the Western literature show that the risk factors associated and methods employed for ISH are strikingly different from our population. ^{2, 3, 6, 7, 8}

Most of the studies done in our country has looked into various aspects (socioeconomic, cultural and medical) of the patients brought to the hospital due to complications arising out of self-poisoning rather than other different modes of suicide, hence research literature directly focused on mental health aspects of suicide are scarce. ⁹⁻¹²

Hence we tried to look into the psychiatric manifestations of the patients admitted in a tertiary care center for the complications arising out of their self-injurious behavior keeping in mind the limited databases in our country in this regard. We could get the total sample size of 73 during the six months period of our study. Socio-demographic and the illness related factors were studied among that population.

In our study, maximum patients (43.8%) were in the age group 21-40 years, mean age being 26 (± 14.7). They were predominantly females (69.9%), married (80.8%), and belonging to the Mongolian race (28.8%). Female to male ratio was 2.31:1. Similar findings were seen in a study done about a year back in our center. ⁹ Studies done in the adult population at different teaching hospital settings in Kathmandu have replicated our findings. ^{10, 11} However, among the children, high male: female ratio was seen. ¹² Indian researches also show high male to female ratio, though other demographic findings were almost similar. ^{8, 15} Female preponderance in this study could be accounted to the fact that females are often exposed to the stress and strain of day to day life in our patriarchal kind of society. Similarly, predominance of 21-40 years age group in our study can be attributed to the substantial amount of mental stress in this age group in relation to the career, employment, marriage and life-settlement factors. Similar results were found in other Indian Studies. ^{3, 7, 15}

The incidence of ISH cases increased steadily from the month of April, peaking in August, and gradually falling in the preceding months. Similar seasonal variation with

Psychiatric manifestations

summer predominance was also found in the study done at Orissa.¹⁵ Increased incidence of poisoning during summer months has been attributed to its days being longer and hotter leading to easy fatigability and exhaustion contributing towards mental imbalance in the above mentioned study.¹⁵

The most common method of ISH was poisoning (93.2%), Organophosphorus (72%) was the most common poison, in keeping with the findings from other hospital based studies in our part of the developing world.^{7, 9, 10, 11, 15} However, in developed country setting, Drug related poisoning was found more common.^{16, 17} The nearby area of Dhulikhel Hospital, being an agricultural area, insecticides are available abundantly and easily accessible in local shops. The easy availability and cheaper prices have made them popular killer agent especially among the farmers in the present study. Likewise, predominance of the ISH cases in the summer months (April to August) in our study may be due to the fact that in these months, preservation of grain starts for the purpose of harvest, which is related directly to the overall use of pesticides and variety of chemicals, mainly the Organophosphorus compounds. Similar conclusion was drawn in the earlier study done at our hospital setting.⁹

Among the patients evaluated by the psychiatrist (67), commonest psychiatric diagnosis was Depression Spectrum Disorder (41.1%), followed by Personality Disorder (26%) (Impulsive or Mixed type). Around 8% were having dual diagnosis, usually comorbid with alcohol use disorder. A recent Indian study also found Depression as a predominant diagnosis.⁷

A study done at emergency unit setting at Japan also found 95% of suicide attempters having Psychiatric diagnosis, 81% with Axis I disorder.¹⁸ However, a prospective cohort hospital based study at Norway found Substance Use Disorders, Personality Disorders and past psychiatric hospitalizations to be the most important reason for re-hospitalization related to suicide risk.¹⁹

Conclusions

Patients attempting suicide are brought to tertiary care hospital for management of associated medical complications. Most suicide cases were seen in the summer months. The most common mode of suicide was Organophosphorus poisoning. Depression Spectrum Disorder was the commonest psychiatric diagnosis related to suicide. Future studies need to be done using Community based surveys in a larger scale with appropriate sample size to find out the depth of the psychiatric problems associated

with suicide. We need to implement a Nation specific policy as the findings of developed countries may not hold true for our country.

Limitations

Our study cohort was limited only to the hospitalized patients hence the selection bias may be a limiting factor and the results cannot be generalized. Different outcomes may be expected in a community setting. A multicentre study focusing on multiple sites is required to demonstrate current trends in attempted suicide.

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