

Proportion and associated risk factors of psychiatric disorders among patients with suicidal attempts in outpatient department of National Institute of Mental Health, Dhaka

Shahana Parveen,¹ Mohammad Akteruzzaman,² Md Mahbubur Rahman,³ Farzana Rahman,⁴ Zinat De Laila,⁵ Mohammad Muntasir Maruf,⁶ Md Arifuzzaman⁷

¹Associate Professor of Psychiatry, National Institute of Mental Health (NIMH), Dhaka, Bangladesh; ²Professor, Department of Paediatrics, Mugda Medical College Hospital, Dhaka, Bangladesh; ³Associate Professor and Head, Department of Psychiatry, Colonel Maleque Medical College, Manikganj, ⁴Associate Professor of Psychiatry, NIMH, Dhaka, Bangladesh; ⁵Associate Professor of Psychiatry, NIMH, Dhaka, Bangladesh; ⁶Associate Professor of Psychiatry, NIMH, Dhaka, Bangladesh; ⁷MD Resident of Psychiatry, NIMH, Dhaka, Bangladesh.

Article info

Received : 02 Feb 2024
Accepted : 05 Apr 2024
Number of tabs : 05
Number of figs : 00
Number of refs : 35

Correspondence

Shahana Parveen
Mobile: +8801819117321
E-mail: shahanabmc1@gmail.com

Summary

Suicide is the third most common cause of death worldwide and psychiatric disorder is an important cause of suicidal attempt or death by suicide. The study was aimed to find out the proportion of the different types of psychiatric disorders those who took suicidal attempt and to see the associated risk factors. This cross-sectional study was conducted among 98 patients attending the outpatient department of National Institute of Mental Health, Dhaka, Bangladesh between August and December of 2018 with a history of one or more suicidal attempts. The age range was 18 year and above. A Bangla questionnaire was used to obtain socio-demographic information and Diagnostic and Statistical Manual for Mental Disorder-5 (DSM-5) was used to confirm the psychiatric disorder. Mean age $\pm$ SD was 27.02 $\pm$ 8.42 years, more suicidal attempts were found in females (62.2%), urban populations (57.1%) and nuclear families (73.5%). Among the participants, 35.7% studied up to SSC and 20.4% completed higher secondary. Housewives (35.7%) were more vulnerable to suicide. Mood disorders (depressive, bipolar and related disorders) (41.8%) and schizophrenia spectrum and other psychotic disorders (21.4%) were more common and the mean duration of the untreated period was 2.36 $\pm$ 2.68 years. The past history of suicidal attempts was 43.9%, and the family history of suicide was 17.3%. Both mood disorders and psychotic disorders were more common in rural area but personality disorders were mostly (16.1%, $p=0.009$) found in urban regions. Mood disorders were more common in joint families (57.7%, $p=0.056$) whereas psychotic disorders in nuclear family. This study finds out the proportion of psychiatric disorders that attempt to commit suicide, indicate the need for early and proper intervention and future large-scale research in this field.

Bang J Psychiatry 2024;38(1): 1-6

Introduction

DSM-5 defined suicide attempt as self-initiated sequence of behaviors by an individual who at the time of initiation, expected the set of actions would lead to his or her own death.¹ Suicide is a major health problem, and the global suicide mortality rate amounts to 1.4% of all premature deaths worldwide.² Most suicides are related to psychiatric disorders, especially with depression, substance use disorders, and psychosis is the most relevant risk factors but also anxiety, personality-, eating- and trauma-related disorders significantly add the risk for unnatural causes of death compared to the general population.²

Over 90% of individuals who die by suicide have at least one psychiatric disorder. Mood disorders are particularly associated with an increased risk of suicide during a depressive episode and approximately 15% of patients require hospitalization for a major depressive episode, who are at lifetime risk for committing

suicide.³ Patients with schizophrenia are also have a lifetime risk of about 4%, besides these, alcohol and other substance use disorders are associated with an increased risk for suicide-approximately six times and for personality disorder it is seven times greater that of the general population. In case of personality disorder more suicide risk have been associated with borderline and antisocial personality disorder. Personality disorder has been identified in approximately 30% of those who commit suicide, same study observed that 4-10-fold increase in suicidal attempt has been occurred in first-degree relatives of suicidal individuals.³ Family and genetic studies similarly have suggested that the co-occurrence of suicide ideation within family members is explained by the presence of mental disorders, but the tendency to act on suicidal thoughts is not, and instead may result of a distinct genetic component perhaps related to the presence of impulsive-aggressive traits.⁴ Few studies conclude

that common risk factors for suicide in schizophrenia are being young age, male gender, and in the early stage of the illness and having a history of multiple past episodes or suicide attempts.⁵⁻⁸ A cross sectional study in comorbidity of psychiatric and personality disorders in first suicide attempters revealed that over 93% of suicide attempters had at least one axis-I and/or axis-II psychiatric disorder, among those 31% of patients had a family history of psychiatric disorders, of which 63% had a history of substance abuse or dependence and 37% had other psychiatric disorders and 11% of them had a history of suicidal attempts.⁹ Over 90% of those who committed suicide had a psychiatric diagnosis at the time of death.¹⁰ Comorbid substance abuse and comorbid unipolar affective disorder significantly increased the risk of suicidal attempt and also co-occurrence of deliberate self-harm increased the risk around 2-fold, while Men with bipolar disorder and deliberate self-harm put the person at highest risk (17.08%; 95% CI, 11.19%-26.07%).¹¹ Bachmann S in 2018 cited in his research that every single comorbidity raises the risk of suicide, which holds for all mental disorders. Combinations with psychotic disorders depict the highest risk and mood disorders are second, especially when co-occurring substance abuse or personality disorders are present.²

Materials and methods

The current study is a cross-sectional, hospital-based, descriptive study conducted among the patients attending the psychiatry Out-Patient Departments (OPD) of the National Institute of Mental Health (NIMH), Dhaka, Bangladesh. The NIMH is in the capital city of Dhaka and is one of the largest psychiatric hospitals in the country. It is well-established and equipped, providing ideal psychiatric services for decades. This institute have well-organized inpatient and outpatient departments. According to the outdoor patient register, about 300-350 patients receive treatment from NIMH outdoors daily. As a tertiary care hospital patients are referred to this institute from different socio-economic class and different parts of the country. So, the sample was more representative of the general population.

The study period was from August 2018 to December 2018. A total of 98 consecutive cases were included those who were at and above 18 years, have a definite psychiatric disorder and history of suicidal attempts. Persons with major cognitive disorder and unable to communicate were excluded from this study. We conducted direct interviews with those who had given informed consent for interviews. Initially, a brief, semi-structured questionnaire (in Bangla) was used to obtain information regarding socio-demographic information and then the interview focused on their history of suicidal attempts and behavior.

Psychiatric morbidity was assessed by using DSM- 5 by the researcher. Physical comorbidity like diabetes mellitus,

hypertension etc. was documented from their medical history and other clinical documents. Data analysis was performed by Statistical Package for Social Science (SPSS), version-24. The results were analyzed using appropriate statistical measures.

Results

The study identified the socio-demographic characteristics of the respondents including age, sex, educational level, habitat, religion, and family pattern, number of a family member, marital status, and monthly income (Table 1).

Table 1: Distribution of the respondents according to socio-demographic characteristics (n=98)

Socio-demographic variables	Frequency	Percent
Age (years)		
11-20	21	21.4
21-30	52	53.1
31-40	17	17.3
41-50	8	8.2
Total	98	100.0
Mean $\pm$ SD (min-max)	27.02 $\pm$ 8.42 (11-50)	
Sex		
Male	37	37.8
Female	61	62.2
Religion		
Muslim	93	94.9
Hindu	5	5.1
Habitat		
Urban	56	57.1
Rural	42	42.9
Education level		
Illiterate	4	4.1
Primary	19	19.4
SSC	35	35.7
HSC	20	20.4
Graduate	14	14.3
Post graduate	6	6.1
Marital status		
Married	50	51.0
Unmarried	40	40.8
Divorced	4	4.1
Separated	4	4.1
Occupation		
Unemployed	24	24.5
Employed	8	8.2
Sacked	2	2.0
Student	25	25.5
Housewife	35	35.7
Day labour	2	2.0
Others	2	2.0
Family type		
Nuclear	72	73.5
Joint	26	26.5
Family member		
Mean $\pm$ SD (mn-max)	5.26 $\pm$ 2.17 (2-12)	
Monthly family income (Tk.)		
Mean $\pm$ SD (min-max)	33244.90 $\pm$ 38039 (6000-255000)	

Mood disorders (depressive, bipolar and related disorders) were present in 41.8% cases and next majority was schizophrenia spectrum and other psychotic disorders (21.4%), both obsessive-compulsive and related disorders and substance-related and addictive disorders were same in number (11.2%). Other disorders were personality disorders, somatic symptom and related disorders etc. (Table 2).

The mean duration of the untreated period for Psychiatric disorder was 2.36 ± 2.68 hours, past history of suicidal attempts was present in 43.9%, Known physical comorbidity 8.2%, family

history of psychiatric illness 35.7%, and family history of suicide 17.3% (Table 3).

Mood disorder was more common in joint family (57.7 %, $P=0.056$), where schizophrenia spectrum and other psychotic disorders were more in respondents from nuclear family (Table 4).

Personality disorders were exclusively (16.1%, $p = 0.009$) from urban background while both mood disorder, psychotic disorders and somatic symptom and related disorders were little more from rural habitants (Table 5).

Table 2: Proportion of psychiatric disorders among the participants (n=98)

Psychiatric disorder	n	%
Mood disorders (depressive, bipolar and related disorders)	41	41.8
Schizophrenia spectrum and other psychotic disorders	21	21.4
Obsessive-compulsive disorder and related disorders	11	11.2
Personality disorders	9	9.2
Substance-related and addictive disorders	11	11.2
Somatic symptom and related disorders	4	4.1
Disruptive, impulse-control and conduct disorders	1	1.0
Total	98	100

Table 3: Relevant clinical factors of psychiatric disorders among the participants (n=98)

Clinical factors	n	%
Duration (years)		
Mean $\pm$ SD (min-max)	4.94 $\pm$ 5.25 (0.01-20.00)	
Treatment and any history of hospitalization	34	34.7
Duration of untreated period		
Mean $\pm$ SD (min-max)	2.36 $\pm$ 2.68 (0.01-15.00)	
Past history of suicidal attempt	43	43.9
Known physical comorbidity	8	8.2
Family history of psychiatric illness	35	35.7
Family history of suicide	17	17.3

Table 4: Distribution of the respondents according to type of psychiatric disorder by family type (n=98)

Psychiatric disorder	Family type n (%)		p value
	Nuclear (n= 72)	Joint (n=26)	
Mood disorders (depressive, bipolar and related disorders)	26 (36.1)	15(57.7)	0.056 ^a
Schizophrenia spectrum and other psychotic disorders	18 (25.0)	3 (11.5)	0.152 ^a
Obsessive-compulsive and related disorders.	8 (11.1)	3 (11.5)	0.999 ^b
Personality disorders	7 (9.7)	2 (7.7)	0.999 ^b
Substance related and addictive disorders	8 (11.1)	3 (11.5)	0.999 ^b
Somatic symptom and related disorders	4 (5.6)	0 (0.0)	0.008 ^b
Disruptive, impulse-control and conduct disorders	1 (1.4)	0 (0.0)	0.276 ^b

^aChi square test was done to measure the level of significance.

^bFisher's Exact test was done to measure the level of significance.

Table 5: Distribution of the participants according to type of psychiatric disorder by habitat (n=98)

Psychiatric disorder	Habitat n (%)		p value
	Urban (n=57)	Rural (n=41)	
Mood disorders (depressive, bipolar and related disorders)	21(36.8)	20 (48.8)	0.315 ^a
Schizophrenia spectrum and other psychotic disorders	9 (15.8)	12 (29.3)	0.136 ^a
Obsessive-compulsive and related disorders	9 (15.8)	2 (4.9)	0.109 ^b
Personality disorders	9 (15.8)	0 (0.0)	0.009 ^b
Substance related and addictive disorders	7 (12.3)	4 (9.7)	0.753 ^b
Somatic symptom and related disorders	1(1.7)	3 (7.3)	0.306 ^b
Disruptive, impulse-control and conduct disorders	1 (1.7)	(0.0)	1.000 ^b

^aChi square test was done to measure the level of significance.

^bFisher's Exact test was done to measure the level of significance.

Discussion

Psychiatric disorder is an important factor playing role in a suicidal attempt. This study suggests that patients attending Out Patient Department of National Institute of Mental Health, Dhaka with a history of suicidal attempts had a DSM-5 diagnosis most commonly mood disorders (Depressive, Bipolar and Related disorders) (41.8%).

Current study showed nearly similar about mood related disorder but a far difference in case of Schizophrenia spectrum and other psychotic disorders (21.4%).

A study on suicidal behavior in schizophrenia and other psychotic disorder indicated that 30.2% reported a lifetime history of suicide attempts¹² and 10-13% of patients with schizophrenia killing themselves.¹³ Another study revealed that a wide range of patients with schizophrenia also attempts suicide, with estimates of lifetime occurrence ranging from 18% to 55%.¹⁴ This research was exclusively done on Schizophrenia and our findings was on different type of psychotic disorders.

A systematic review of 20 articles on the association between mental disorder and suicide found that the pooled rate ratio was 13.2 for psychotic disorders, 12.3 for mood disorders, 8.1 for personality disorders, 4.4 for substance use disorders, and 4.1 for anxiety disorders in the general population.¹⁵ Articles of this review study was included the general population but our sample was from the psychiatric outpatient department so the difference is expected. Research finding from a review study revealed that the majority (98%) of the person with suicidal attempt had a diagnosis of at least one mental disorder. Commonly mood disorders accounted for (30.2%), substance-use related disorders (17.6%), schizophrenia (14.1%), and personality disorders (13.0%).¹⁶ Our study also showed more suicidal attempts were taken by patients with different type of mood disorder but the second-highest came from a schizophrenia spectrum and other psychotic disorders rather than a substance

use disorder. Comparable finding was found in another study where 32.1% of outpatients' suicides occurred in the context of depression, and substance-related, somatoform, anxiety, and adjustment disorders. Depression was present in both groups, but rates differed.¹⁷

Data from 27 mortality studies revealed that lifetime risks of suicide were 6% for affective disorder, 7% for alcohol use disorder and 4% for schizophrenia.¹⁸ A longitudinal study gave the impression, that suicidal acts commonly take place during major depressive episodes or mixed illness episodes and lifetime risk of completed suicide in psychiatric patients with mood disorders is likely between 5% and 6%. Same study also provided the information that the incidence of suicide attempts was about 20- to 40-fold in depressive or manic episodes in comparison with euthymia. Comorbid substance uses and cluster B personality disorders markedly increase the risk of suicidal acts during mood episodes.¹⁹

In current study we have found that patients with different mood disorders are more vulnerable to suicide than other clusters of psychiatric disorders. Few studies support these findings that most (58%) psychiatric patients suffering from a major depressive or a mixed mood episode consider, plan, or attempt suicide.²⁰ A study on psychiatric inpatient and outpatient revealed that patients attempted suicide was 20% and 61% had suicidal ideation in current episode and lifetime risk of attempted suicide (51%) and suicidal behavior was very significant (80%) among those patients.²¹ Current research explore that mood related disorders were more (57.7%) in the joint family than nuclear family ($p < 0.056^a$). An Indian study also indicated that the family structure had a significant influence on depression, especially in old aged person living in nuclear family.²² Another study conducted by Taqui et al examined the relationship between old age depression and family system in Pakistan. They found that one important significant ($p < 0.05$) independent predictors of depression were family system and the elderly living in a nuclear

family system were 4.3 times more vulnerable to suffer from depression than those living in a joint family.²³ Patients were suffering from a Personality disorders (9.2%) took suicidal attempts impulsively, was another finding in our research. This finding was supported by a meta-analysis, evident that 8.1% and 4.4 % for personality disorders and substance use disorders respectively¹⁵ whereas the current study differed (11.2%) in number tried to commit suicide with a history of substance-related and other addictive disorders attending in Outpatient Department. A study on association of borderline personality disorder (BPD) with attempted suicide revealed that BPD emerged as very significant factor associated with prospectively observed suicide attempt(s) (odds ratio [OR], 4.18; 95% CI, 2.68-6.52).²⁴ Patients who had come with a diagnosis of personality disorders and a history of suicidal attempts exclusively ($p < 0.009^b$) resided from urban areas. It may be due to the site of sample collection and the attitude of our people to psychiatric disorder. Usually, they come to tertiary level hospitals for consultation when too prominent psychiatric sign-symptom or gross functional impairment. Rural-urban difference was seen relatively common for antisocial personality disorder, especially in the poor -urban area and among mobile residents of these areas.²⁵ Residential difference evident in a nationwide survey in Finland, which explore that cluster B personality disorders (24% vs. 9%) were found more commonly in urban cases than rural suicides.²⁶ A systemic review showed that somatic symptom and related disorders are associated with increased risk for both suicidal ideation and attempts, (24–34%)²⁷ which is far away from our situation (4.1%) attempt, but this though it is a cross-sectional study the difference may not unexpected.

Significant number (11.2%) of patients, suffering from Obsessive-Compulsive and Related Disorders tried to commit suicide for one or more than once. Almost similar observation was seen in a long term (44 year) cohort where individuals suffering from obsessive-compulsive disorder had died by suicide (1.48%), and attempted suicide (11.68%) at least once.²⁸

In our country maximum patients suffering from psychiatric disorders are reluctant to attend to psychiatrists, probably due to lack of awareness or due to stigma. So, patients attending psychiatric OPD found a wide range suffering regarding the total duration of the illness varying from one month to twenty years 4.94 ± 5.25 (Mean $\pm$ SD) and duration of untreated period was 2.36 ± 2.68 (Mean $\pm$ SD). In different cohort studies, it was also found that long term suicide risk for specific diagnoses in the Lundby population was 5.6% for depression²⁹, 9% for psychosis³⁰ and 6.3% for alcohol use disorders.³¹

Past history of suicidal attempts were present in a large number of respondents (43.9 %) where a study of 2016 also indicated that individuals with a record of self-harm (HR= 1.68, 95% CI

1.38–2.05, K = 4) before an index episode were more prone to completing suicide than those who did not have such a history³² Findings regarding previous attempts differ from the study conducted in East London where 75% patients had no prior suicide attempts³³ and very poor association was seen with previous attempts (1.5%) of suicide.³⁴

A significant number (35.7%) of respondents had a family history of psychiatric illness which was a little more from an Indian study (31%)⁹ and also revealed that family history of suicide was less (11%)⁹ than present study (17.3%). The high preponderance of family history of psychiatric disorders in the sample is in variance with another case-control study ranges from as low as 1.5%³⁴ and as high as 71%.³⁵ The later one was done in 1989 on young adults only. The difference may be due to the place of sample selection and age group.

Here known physical comorbidity especially metabolic syndrome was found in (8.2%) which is more than twice from a case-control study conducted in India (3.12%) for suffering from physical disorders but support the finding (6.78%) for suffering from idiopathic pain.³⁴

Conclusion

This research finds out the proportion of different group of psychiatric disorders in respondents that attempt to commit suicide, thus indicate the need for early and proper intervention in persons with psychiatric disorder. Future large-scale research in this field may help in promoting social support and reducing the additional risk of suicide in person suffering from psychiatric disorder.

References

1. Association AP. Diagnostic and Statistical Manual of Mental Disorders, 5th ed. American Psychiatric Publishing 2013;801.
2. Bachmann S. Epidemiology of Suicide and the Psychiatric Perspective. *Int. J. Environ. Res. Public Health* 2018;15:1425.
3. Janis L Cutler, *Psychiatry*, 3rd ed, Oxford University Press 2014. p-396-7.
4. Brent DA, Mann JJ. Family genetic studies, suicide, and suicidal behavior. *Am J Med Genet C Semin Med Genet* 2005;133:13–24.
5. Drake RE, Gates C, Whitaker A, Cotton PG. Suicide among schizophrenics: a review. *Compr Psychiatry* 1985; 26:90–100.
6. Johns CA, Stanley M, Stanley B. Suicide in schizophrenia. *Psychobiology of Suicidal Behavior* (ed Mann JJ, Stanley M): 294–300. New York Academy of Sciences 1986.
7. Caldwell CB, Gottesman II: Schizophrenia—a high-risk factor for suicide: clues to risk reduction. *Suicide Life Threat Behav* 1992;22:479–493.

8. Haas GL. Suicidal behavior in schizophrenia. Review of Suicidology (Maris RW, Silverman NM, Canetto SS): 202–236. Guilford Press, 1997.
9. Rao KN, Kulkarni RR, Begum S. Comorbidity of psychiatric and personality disorders in first suicide attempters. *Indian J Psychol Med* 2013;35(1):75-79.
10. Bertolote JM, Fleischmann A. Suicide rates in China. *Lancet* 2002;359(9325):2274-5.
11. Nordentoft M, Mortensen PB, Pedersen CB. The absolute risk of suicide after first hospital contact in mental disorder. *Arch. Gen Psychiatry* 2011;68:1058–64.
12. Radomsky ED, Haas GL, Mann JJ, Sweeney JA. Suicidal behavior in patients with schizophrenia and other psychotic disorders. *Am J Psychiatry* 1999;156(10):1590-5.
13. Caldwell CB, Gottesman II. Schizophrenics kill themselves too: a review of risk factors for suicide. *Schizophr Bull* 1990;16(4):571-89.
14. Roy A. Depression, attempted suicide, and suicide in patients with chronic schizophrenia. *Psychiatr Clin North Am* 1986;9(1):193-206.
15. Too LS, Spittal MJ, Bugeja L, Reifels L, Butterworth P, Pirkis J. The association between mental disorders and suicide: A systematic review and meta-analysis of record linkage studies. *J Affect Disord.* 2019;259:302-313.
16. Bertolote JM, Fleischmann A, De Leo D, Wasserman D. Psychiatric diagnoses and suicide: Revisiting the evidence. *Crisis* 2004;25:147–155.
17. Bertolote JM, Fleischmann A, De Leo D, Wasserman D. Suicide and mental disorders: Do we know enough? *Br. J. Psychiatry* 2003;183:382–83.
18. Inskip HM, Harris EC, Barraclough B. Lifetime risk of suicide for affective disorder, alcoholism and schizophrenia. *Br J Psychiatry* 1998;172:35-7.
19. Isometsä E. Suicidal behaviour in mood disorders—who, when, and why? *Can J Psychiatry* 2014;59(3):120-30.
20. Sokero TP, Melartin TK, Rytälä HJ, Leskelä US, Lestelä-Mielonen PS, Isometsä ET. Suicidal ideation and attempts among psychiatric patients with major depressive disorder. *J Clin Psychiatry* 2003;64(9):1094-100.
21. Valtonen H, Suominen K, Mantere O, Leppämäki S, Arvilommi P, Isometsä ET. Suicidal ideation and attempts in bipolar I and II disorders. *J Clin Psychiatry* 2005;66(11):1456-62.
22. Gautam A. An Empirical Investigation of Depression among Nuclear and Joint Family Aged. National conference (Meerut, 22 Nov 2012); 2012. <https://www.researchgate.net/publication/308952759>
23. Taqui AM, Itrat A, Qidwai W, Qadri Z. Depression in the elderly: does family system play a role? A cross-sectional study. *BMC Psychiatry* 2007;7:57.
24. Yen S, Peters JR, Nishar S, et al. Association of Borderline Personality Disorder Criteria With Suicide Attempts: Findings From the Collaborative Longitudinal Study of Personality Disorders Over 10 Years of Follow-up. *JAMA Psychiatry.* 2021;78(2):187–194.
25. Sadock BJ, Sadock VA. Ruiz P. Synopsis of Psychiatry (11th ed): 748. Lippincott Williams & Wilkins: Philadelphia:2015.
26. Isometsä E, Heikkinen M, Henriksson M, Marttunen M, Aro H, Lönnqvist J. Differences between urban and rural suicides. *Acta Psychiatry Scand* 1997;95(4):297-305.
27. Torres ME, Löwe B, Schmitz S, Pienta JN, Van Der Feltz-Cornelis C, Fiedorowicz JG. Suicide and suicidality in somatic symptom and related disorders: A systematic review. *J Psychosom Res.* 2021;140:110290.
28. Fernández de la Cruz L, Rydell M, Runeson B, D'Onofrio BM, Brander G, Rück C, Lichtenstein P, Larsson H, Mataix-Cols D. Suicide in obsessive-compulsive disorder: a population-based study of 36 788 Swedish patients. *Mol Psychiatry* 2017;22(11):1626-1632.
29. Brådvik L, Mattisson C, Bogren M, Nettelbladt P. Long-term suicide risk of depression in the Lundby cohort 1947-1997—severity and gender. *Acta Psychiatr Scand.* 2008 ;117(3):185-91.
30. Bogren M, Mattisson C, Isberg PE, Munk-Jørgensen P, Nettelbladt P. Incidence of psychotic disorders in the 50 year follow up of the Lundby population. *Aust N Z J Psychiatry.* 2010;44(1):31-9.
31. Mattisson C, Bogren M, Öjehagen A, Nordström G, Horstmann V. Mortality in alcohol use disorder in the Lundby Community Cohort—a 50 year follow-up. *Drug Alcohol Depend.* 2011;118(2-3):141-7.
32. Chan MK, Bhatti H, Meader N, Stockton S, Evans J, O'Connor RC, Kapur N, Kendall T. Predicting suicide following self-harm: systematic review of risk factors and risk scales. *Br J Psychiatry* 2016;209(4):277-283.
33. Uys H. Agents Used and Profiles of Non-Fatal Suicidal Behaviour in Mdantsane, East London: Part 1. *J Psychiatry* 2014;17:128.
34. Srivastava MK, Sahoo RN, Ghotekar LH, Dutta S, Danabalan M, Dutta TK, Das AK. Risk factors associated with attempted suicide: a case control study. *Indian J Psychiatry* 2004;46(1):33-8.
35. Runeson B. Mental disorder in youth suicide. DSM-III-R Axes I and II. *Acta Psychiatr Scand.* 1989 ;79(5):490-7.