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Risk Factors of Suicidal Attempt in Patients with Psychiatric Disorder

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Abstract **Original Research Article**

Introduction: Mental health problem is a major public health issue in the world especially across the developed and developing countries. However, data in most of the developing countries including Bangladesh are scarce. In Bangladesh, socio-political situation is insecure and unstable. The burden of poverty and the frequency of natural disasters are also high. All those may the cause of psychiatric morbidity. ***Objective:*** The main objective of this study was to assess the risk factors associated with suicidal attempt in patients with Psychiatric Disorder. ***Methods:*** This was descriptive study conducted in the Department of Psychiatry, Community Based Medical College, Mymensingh, Bangladesh during the period from January 2018 to December 2018. After collecting data from the participants (Total 50) editing was done manually and was analyzed with the help of computer software program such a SPSS version 16.0. Mean and standard deviation were calculated for continuous data and % for categorical data. To test the significance, chi-square test and Fisher's exact test were applied where necessary. ***Result:*** We found the mean age of the patients was 23.542 ± 8.918 years. Most of the patients (86.5%) were below the age of 30 years. Male constituted 40.7% and female 59.3%. Disease process (39.0%) was the most common cause of suicide attempt, followed by family problem (33.9%), quarrel with spouse (11.8%), quarrel with boy/girlfriend (8.5%), poverty (3.4%), failure in examination (1.7%) and unknown cause (1.7%). The most common psychiatric disorder in suicide attempters was major depressive disorder (32.2%), followed by anxiety disorder (13.6%), schizophrenia (10.2%), adjustment disorder (5.1%), personality disorder (3.4%), schizophreniform disorder (3.4%) and bipolar mood disorder (1.7%). ***Conclusion:*** The findings of such a study may help in prevention of suicidal behavior. Identifying, treating and managing risk individuals with a mental disorder with suicide attempt are a very important intervention for prevention of further attempts.

Key word: Psychiatric, Morbidity, Suicide Attempt, Anxiety.

INTRODUCTION

According to the report of World Health Organization more than 804 000 suicide deaths occurred worldwide per year and suicide represents 1.8% of the global burden of disease. The global burden of suicide is estimated to increase to 2.4% by the year 2020 and the rate of death due to suicide will be one for every 20 seconds. Suicide is an act with a fatal outcome that is deliberately initiated and performed by the person in the knowledge or expectation of the fatal outcome [1]. Attempted is an unsuccessful suicide act with no fatal outcome, in which an individual deliberately causes self-injury or ingests a substance in excess of any prescribed or generally recognized therapeutic dosage. It also labeled as suicide attempts, para suicide or deliberate self-harm [2, 3]. Suicide is a major cause of mortality and use of health resources. It is also a tragic and serious preventable public health problem all over the world [4]. The World Health Organization estimates that one suicide attempt occurs approximately every three seconds, and one completed suicide occurs approximately every minute. This means that more people die by suicide than by armed conflict. Consequently, reducing suicide has become an important international health goal [5].Suicide among adolescents and young adults are a national tragedy and a major public health problem. Indeed, during the past several decades, suicide has come to play a proportionately larger role in teenager deaths [6].

Attempted suicide is one of the strongest predictors for future suicide, which is one of the leading causes of death worldwide among people under the age of 45. It is being gradually recognized as a major health problem that urgently calls for vigorous preventive action [7].The magnitude of attempted suicide is not clearly known. Epidemiological data suggest 12 months prevalence rates for suicide attempts of 4.6% [8], but it has been suggested that there may be 8-25 suicide attempts for every completed suicide [9]. Nearly 10-30% of registrations in hospital emergency departments are due to attempted suicide [10]. The suicide rate in men is more than four times that in women [11]. Whereas, attempted suicides are four times more in women than man [5]. In India a study in Ludhiana, the biggest densely populated city of Panjab showed that 41% of the attempted suicides were the age group of 20-29 years, 32% were below 20 years, 22% were 30-39 years and only 5% were above the age of 40 years. Attempted suicides were more among males (58%) than female (42%) and from middle class, nuclear families [12].In a study in Dhaka, the capital city of Bangladesh Ali *et al*. [10] fond that majority (45.6%) of the attempted suicides were below 25 years, followed by the age group of 26-35 years (42.6%), and more than 36 years (11.8%). Attempted suicides were more among female (54.4%) than male (45.6%) [10]. Women demonstrated nonfatal suicidal behavior two to three times more than men [13]. Pattern of self-harm is also different between developing and developed countries. The people of developed countries mostly use psychoactive substances, in contrast, agrochemical by the people of developing ones. In self-poisoning by benzodiazepine, analgesic, antidepressant (89.5 to 92.5%); self-injury by cutting, jumping and hanging (10.7 to 12.1%); occasionally both methods are used for suicide attempts [14].Suicidal behavior has been linked to biological, cognitive, psychological, social and familial factors. Most of the western studies reported that psychiatric disorders were the main risk factors in adult suicides. In psychological autopsy study performed in the southeastern part of Turkey, the n of psychopathological conditions was reported to be 69% [9]. Psychiatric disorders are the most important risk factors for suicide. Patients with psychiatric disorders or a family history of psychiatric disorder have an increased risk of suicide. The rate of suicide with depression was identified to range from 47% to 90%, whereas people with affective psychosis, personality disorders, schizophrenia, and alcohol and drug abuse problems are more prone to suicide [15]. A study in Bangladesh, Ali *et al*. [10] found that about 66% of suicide attempters had some psychiatric problems and about 14% had medical disorder. Among the psychiatric disorder, 70.6% had major depressive disorder, 16.2% had personality disorder, 4.4% had schizophrenia [10]. It has been found that aggression, hostility, and a history of substance use disorders would predict future suicidal behavior in men. While depressive symptoms, history of abuse in childhood and comorbid borderline personality disorder would do so in women [16].The prevalence of suicide attempt in schizophrenia is reported to range from18 to 55%. Depression appears to be an important risk factor for suicide attempts [14].The slogan, "Suicide prevention is everybody's business", has been used in a number of campaigns around the world in recent years, and there is growing recognition of the need for whole community approaches to suicide prevention [17].

OBJECTIVES

- **General objective**
  To assess the risk factors associated with suicidal attempt in patients with Psychiatric Disorder

- **Specific Objectives**
  To assess the types of psychiatric disorders among the suicide attempters

METHODOLOGY AND MATERIALS

This was descriptive study conducted in the Department of Psychiatry, Community Based Medical College, Mymensingh, Bangladesh during the period from January 2018 to December 2018. The total study population was 50 in number. All patients with suicide attempts admitted in the different wards in Community Based Medical College, Mymensingh, and fulfilling the inclusion and exclusion criteria were selected as a sample for the study. Informed consent was taken from the patients. Attempters were interviewed using the semi structured questionnaire containing socio-demographic and other relevant information about attempted suicide and psychiatric disorders. Mental state examination of all suicide attempters were done and recorded in a MSE sheet. For diagnosis of psychiatric disorders all respondents were assessed by using DSM-IV criteria and psychiatric disorders were confirmed by psychiatrist. The interview was held in a peaceful, non-threatening environment. After collecting data editing was done manually and was analyzed with the help of computer software program such a SPSS version 20. Mean and standard deviation were calculated for continuous data and percentage for categorical data. To test the significance, chi-square test and Fisher's Exact Test were applied where necessary. For all analytical tests a value of 5% or less ($p= 0.05$ or $p< 0.05$) was considered significant. According to the exclusion criteria mute, stupor, non-communicable patients, those who denied giving any information and seriously ill patients were excluded from the study.

RESULT

This descriptive was study conducted with a view to assess the risk factors associated with suicidal attempt in patients with Psychiatric Disorder. For this purpose 50 patients of attempted suicide were selected according to inclusion and exclusion criteria and categorized as attempted suicide. Among total study

population most common co-morbid psychiatric disorder was major depressive disorder (48%), followed by anxiety disorder (22%), schizophrenia (10%), adjustment disorder (8%), personality disorder (6%), schizophrenia form disorder (4%) and bipolar mood disorder (2%). Study shows the distribution of socio-economic status of the respondents. Among the respondents 46% were in the middle class, 38% were in the lower class and 16% were in the upper class of socio-economic status. Study shows the distribution of the respondents according to type of family. In total 66% were in the joint family and 34% were in the nuclear family. Study shows the distribution of patients according to marital status of the respondents. Among total study population 38% of patients were married, 58% were unmarried, 4% were widow/er. Study shows the distribution of respondents according to their social background. In total 70% of patients were rural and 30% were urban by social background. Among 68% patients had Co-morbid Psychiatric disorders and 32% were free from that. Among all the participants the highest 42% patients attempted for suicide during the period from 6:00 am to 12:00 pm. Then 31% during the period from 12:00 to 06:00 am, 22% during the period from 06:00 pm to 12:00 pm and only 5% during the period from 12:00 pm to 06:00 am. In total 16% participants had the family history of Psychiatric Disorder and 13% had the family history of suicide attempted.

Table-I: Background characteristics of the study participants (n=50)

Particulars	N	%
Age		
11-21 Years	15	30
21-30 Years	26	52
31-40 Years	4	8
41-50 Years	2	4
51-60 Years	2	4
≥61 Years	1	2
Sex		
Male	23	46
Female	27	54
Socio-economic status		
Higher class	8	16
Middle class	23	46
Lower class	19	38
Family type		
Joint	33	66
Nuclear	17	34
Marital status		
Unmarried	29	58
Married	19	38
Widow/er	2	4
Profession		
Student	19	38
House wife	10	20
Service	2	4
Business	4	8
Cultivator	2	4
Day laborer	2	4
Unemployment	11	22
living status		
Urban	15	30
Rural	35	70

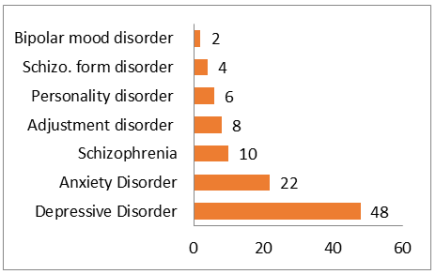

Fig-I: Distribution of suicide attempters with psychiatric disorder (n=50)

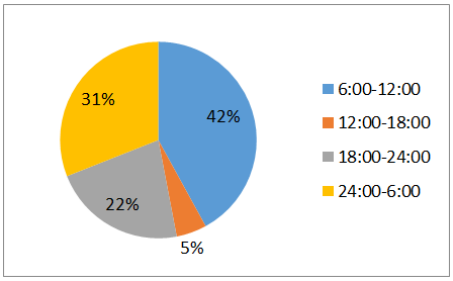

Fig-II: Distribution of respondents according to time of attempted suicide (n=50)

DISCUSSION

This was a descriptive study conducted in the Department of Psychiatry, Community Based Medical College, Mymensingh, Bangladesh during the period from Januarys 2018 to December 2018 with a view to evaluate psychiatric morbidity among the patients with attempted suicide. For this purpose 50 patients of attempted suicide were selected according to inclusion and exclusion criteria and categorized as attempted suicide. The results of the study were discussed below: The age of the patients was ranging from 11 to 62 years. It was comparable to the study of Baby *et al*. [4] that the age of the subjects ranged from 14 t 82 years. The mean age of the patients was 23.542 ±8.918 years in this study. The present study found that 46% of attempted suicide patients were male and 54% were female. These findings were consistent with the study of Ali *et al*. [7] that 45.6% were male and 54.4% were female in their attempted suicide patients. It may be because the behavioral norms in most societies allow boys to express their feelings more openly. For example, boys can express their aggression by fights, whereas girls are expected to keep their feeling to themselves. At times of stress, hurting themselves offers the girls a way to show their distress. The current study showed that 38% of patients were married, 58% were unmarried, 4% were widow/er. This result was supported by Meimandi and Nakhaee [7] that 33.3% were married and 66.75 were unmarried, but was differed from Narang *et al*. [12] that married 50% and single 50% among their series. In our study we did not consider the educational status of the participants. But in attempted suicide group, 32.2% had their educational status of secondary level, 23.7% had passed the SSC, 22.0% were in primary level, 11.9% were illiterate, 8.5% had passed the HSC and 1.7% were graduate or

above educational level. In this regards Srivastava *et al*. [20] found that 55.5% were illiterate 23.3% were primary, 19.7% were secondary and 1.5% were higher secondary by educational status among their attempted suicide patients. In attempted suicide group, 33.9% of respondents were student, 20.3% respondents were unemployment, 18.6% respondents were house wife, 11.9% others, 6.8% were business man, 5.1% were cultivator and service holder and day labourer each comprises 1.7%. In this study it was found that 70% of suicide attempters lived in rural area and 30% in urban area. Andnus *et al*. [18] found that among their suicide attempters 19.8% lived in urban, 40.3% in rural and 39.8% in suburban. Among the suicide attempters in the present study, 66% were lived in the joint family and 34% in nuclear family. Narang *et al*. [12] observed 46% were lived in the joint family and 54% in nuclear family among their series. In this study it was found that 16% attempted suicide had the positive family history of psychiatric disorder. This result was similar to the study of Yamada *et al*. [21] that 13.7% of suicide attempters had a family history of suicide or attempted suicide. In the present study the most of the respondents attempted suicide between 6 am to 12 pm (42%), others between 6 pm to 12 am (31%), 12 pm to 6 pm (22.0%) and 12 am to 6 am (5%). Ali *et al*. [10] found attempted suicide was most frequently between 13 to 18 hours (41.2%), others between 7 to 12 hours (32.4%), 19 to 24 hour (17.6%), and 0 to 6 hours (8.8%). Other studies also found nearly similar results. Kurihara *et al*. [19] found interpersonal problems with spouses (20.0%), a boy/girlfriend (6.7%) and family members like parents, brothers, sisters and others (28.3%). Ali *et al*. [10] found family problem (41.2%), love disappointment (11.8%), marital problem (11.8%) and financial problem (5.9%).Insecticides (40.7%) was the most common method used in attempted suicide in this study, followed by hanging (16.9%), drug ingestion (15.3%), household cleaner (15.3%), cut throat injury (6.8%), jumping, stab injury and cutting by sharp weapon each comprises (1.7%). In current study, the number of attempted suicide was first attempt in 80% of respondents, second attempt in 10%, third attempt in 4% and more than three attempts only 2% of the respondents. Yamada *et al*. [21] found that the attempted suicide was first time in 56.4%, second time 22.5% and third times or above in 21.1%.The present study showed that among the attempted suicide patients co-morbid psychiatric disorder was 68%. This result was supported by Kurihara *et al*. [19] and Ali *et al*. [10] and Narang *et al*. [12]. Kurihara *et al*. [19] found a significantly higher prevalence of psychiatric disorders (80.0%) in attempted suicide patients. Ali *et al*. [10] found 65.4% of suicide attempters had co-morbid psychiatric disorder. Narag *et al*. [12] observed 57.0% of suicide attempters had co-morbid psychiatric disorder. In the current study, the most common co-morbid psychiatric disorder was major depressive disorder (48%), followed by anxiety disorder (22%), schizophrenia (10%), adjustment disorder (8%), personality disorder (6%), schizophreni form disorder (4%) and bipolar mood disorder (2%). These findings were supported by Kurihara *et al*. [19] that the most prevalent disorder was major depressive episode (51.7%), followed by schizophrenia and other psychotic disorders (15.0%; schizophrenia, schizophreni form disorder, psychotic disorder due to epilepsy, psychotic disorder due to auditory impairment), substance-related disorders (6.7%; alcohol abuse and other substance abuse), adjustment disorders (6.7%), and anxiety disorders (3.3%).

Limitations of the study

The study was carried out in a small scale, so it may not reflect the actual picture. Since the study conducted in one selected tertiary level hospital only, the study result may however differ from other hospitals and may not reflect the actual situation of the country.

Conclusion and recommendations

The findings of such a study may help in prevention of suicidal behavior. Identifying, treating and managing risk individuals with a mental disorder with suicide attempt are a very important intervention for prevention of further attempts. Proper medication, improvement and strengthening of liaison psychiatry practice, counseling, family support and readjustment to life situations are essential in these situations. Skills in resolving family and other conflicts can be taught in schools according to WHO's suicide-prevention resources for teachers. This was a single centered study with some limitations. So we would like to recommend for conducting more studies with larger sample size to get more clear concepts.

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