# Assessment of Suicide Risk and Potential Protective Factors among Patients Admitted at a Tertiary Mental Health Care Institute in Assam

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**Abstract**

*Suicide is a major public health concern having a number of risk factors. Psychopathology is found to be one of the many protective factors of suicide. The current study intended to appraise the risks of attempting suicide and the presence of preventive factors among the patients admitted to tertiary mental health care setting. A total of 53 patients with mental illness care hospital included in the study. The risk of suicide was assessed with modified SAD PERSONS and Nurses' Global Assessment of Suicide Risk tools and protective factors were assessed with the Reasons for Living inventory. The result showed that 13.3 percent of the admitted patients with mental illness had high risk of suicide and 3.8 percent very high risk of suicide requiring hospitalisation for the same. The participants had scored considerably higher in protective factors as described by the reasons for living inventory.*

**Key words:** Suicide prevention, Suicide risk, Protective factors

Suicide is one of the leading causes of death worldwide. World Health Organization (WHO) report shows that around 10.53 per 100000 people commit suicide every year worldwide and the rate is seen higher in South-East Asia where 13.2 per 100000 people commits suicide every year. In India, crude suicide rate was 16.3 per 100000 population as per statistics of 2016 (WHO, 2019).

WHO had recognised suicide as the public health priority. The act of suicide is multifactorial. Research studies had identified various risk factors of suicide and suicide behaviour. Presence of psychopathology is one of the risk factors (Brent et al, 1999). There are other clinical factors found associated with suicide are diagnosis of depression, schizophrenia, increased duration of admission, previous deliberate self-harm first week of admission etc. (Copas & Robin 1982; Shah et al, 1996). Life time risk of suicide among persons with mental illness is more than the non-psychiatric population (Nordentoft et al, 2011) Life time risk of suicide in affective disorder, schizophrenia and alcohol dependence is estimated to be 6 percent, 4 percent and 7 percent respectively (Inskip et al, 1998). Identifying the high-risk individual for suicide and assist them in follow up may prevent the suicidal behaviour.

Identifying the positive factors that reduce the suicide risk is as important as identifying the factors that contribute to it. The positive attitude like hope and reasons for living, feeling satisfied with the interpersonal relationship, feeling the meaning of life, religiosity are evidenced to be some of the protective factors against suicide (Luo et al, 2016; Burshtein et al, 2016). It is suggested that reasons for living can mediate against suicide even at times of risk like presence of mental illness (Malone et l, 2000). Child-related concerns as a reason for living is found to be negatively correlated with the suicidal behavior (Moody & Smith, 2013). The construct identified for the reasons for living like survival and coping beliefs, responsibility to family, child-related concerns, fear of suicide, fear of social disapproval and moral objections may protect individuals from suicide and suicide behaviour.

**Need for the study:** The patients with mental illness are at high risk of suicidal behaviour. Around 30 percent of the patients admitted with schizophrenia have suicidal ideation and 26 percent have history of suicidal attempt (Nath et al, 2021). A holistic management approach is required to prevent the fatality which includes indentifying the risk, empowering with the factors preventing suicide and immediate environmental safety. Along with the other mental health professional, it is the responsibility of the nurses to prevent the suicidal behaviour in this high risk group. Detailed assessment of the risk of suicide among the patients with mental ill-

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ness along with the protective factors in them will help the mental health care professionals to take appropriate measures on time. However, there is paucity of researches exploring the phenomena in the North-Eastern region of the country. Hence, the need was felt to conduct a research study with aim to assess the suicide risk and potential protective factors among the patients admitted to a tertiary mental health care institute.

## Objectives

1. To assess the socio-demographic and clinical variables of the patients admitted to a tertiary mental health care institute.
2. To assess the suicidal risk of the patients admitted to a tertiary mental health care institute.
3. To assess the potential protective factors of suicide in patients admitted to a tertiary mental health care institute.
4. To identify the association of selected Socio-demographic and clinical variables with risk of suicide and protective factors of suicide.
5. To identify the relation of suicide risk with protective factors of suicide.

### Operational definitions

*Suicide risk:* Suicide risk refers to presence of predicting variables which are reported to be strongly linked with suicide behaviour of individual as measured by the modified SAD PERSONS and Nurses' Global Assessment of Suicide Risk tools.

*Potential protective factors:* Potential protective factors refers to the reasons for which a person has not or would not commit suicide even after thought of suicide or if someone would suggest for it. The reasons might be given by a person who either thought of committing suicide or who never considered it. The phenomena will be described by the measures of Reasons for Living inventory as survival and coping beliefs, responsibility to family, child-related concerns, fear of suicide, fear of social disapproval and moral objections.

## Methodology

Non-experimental descriptive design with quantitative approach was adopted for the current study in a tertiary mental health care institute in the North-East India. Total 53 patients aged 18-60 years admitted to the inpatient department were selected by systematic random sampling method. The list of patients with mental illness was collected from the admission registers of the wards of the tertiary mental health care institute. Every alternate patient was selected for data collection after one week of admission. (The average admitted patients with mental illness in the institute were around 106 during the data collection period. Hence the sample size for the study was considered to be 53). The patients who were un-cooperative, having any co-morbid physical illness and unable to read and write the vernacular language were excluded from the study. The socio-demographic and clinical data of the patients were collected with a structured Proforma. The risk of suicide was assessed with modified version of sad persons and Nurses' Global Assessment of Suicide Risk (NGASR) tools. The protective factors were assessed with Reasons for Living (RFL) Inventory.

**SAD PERSONS:** The modified version SAD PERSONS tool was developed by Patterson et al. It tool uses a brief acronym based on ten major risk factors and assess the likelihood of suicide attempt. The total score ranged from 0 to 14 where scores 0-5 indicate safe to discharge, 6-8 indicate require psychiatric consultation, and scores above 8 indicate requiring hospitalisation. The tool has a good specificity.

**Nurses' Global Assessment of Suicide Risk (NGASR):** This tool was developed by John Cutcliffe & Barker (2014). It is a 15-item observation/interview screening tool used for adult psychiatric inpatient and outpatient setting. The tool weighs risk in four categories namely very little risk, intermediate risk, high degree of risk and extremely high risk of suicide.

**Reasons for Living Inventory(RFL):** It is a 48 items self-report questionnaire. The items are rated on 6 point likert scale, scoring (1) for "not at all important" to (6) "extremely important". The tool has six subscales namely survival and coping beliefs (24 items, probable maximum score 144), responsibility to family (seven items, probable maximum score 42), child related concerns (three items, probable maximum score 18), fear of suicide (seven items, probable maximum score 42), fear of social disapproval(three items, probable maximum score 18), and moral objections(four items, probable maximum score 24). The tool has good internal consistency (Cronbach alpha range 0.72 - 0.92. The tool was translated into vernacular language as per WHO tool translation guideline and reliability of the translated tool was ensured before data collection. The content validity of the translated tool was ensured from the subject experts and internal consistency (split-half method) was found to be 0.925.

Ethical clearance for the study was obtained from the Institutional Ethics Committee of the institute. Data were collected after permission from the concerned authority and written informed consent from the participants during the period from November 2019 to July 2021. Data were collected when the patients were co-operative and out of active psychopathology. Informed written consent was obtained from the patients. However, the verbal

consent was taken from the attending family members before data collection.

## Results

Collected data were analysed with SPSS version 20 as per the set objectives.

*Socio-demographic and clinical profile*

The descriptive statistics showed that mean age of the participants was 31.68±8.69 years. Eighty-one percent of the participants belonged to nuclear family with median of 4 family members. Maximum numbers of participants (73.6%) were residing in rural area. Their mean monthly family income was Rs. 2759.23±2710.22. The mean duration of illness was 78.34±83.83 months and mean duration of treatment was 46.14±68.66 months. Other socio-demographic and clinical variables are described in the Table 1.

**Table1: Description of Socio-demographic and clinical variables and its association with suicide risk (N=53)**

| Variables | | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 42 | 79.2 |
| | Female | 11 | 20.8 |
| Religion | Hindu | 21 | 77.4 |
| | Islam | 9 | 17 |
| | Christian | 2 | 3.8 |
| | Others | 1 | 1.9 |
| Marital status | Married | 19 | 35.8 |
| | Unmarried | 29 | 54.7 |
| | Separated | 4 | 7.5 |
| | Widow | 1 | 1.9 |
| Family type | Nuclear | 43 | 81.1 |
| | Joint | 10 | 19.9 |
| Education | Upto Class X | 17 | 32.08 |
| | Above Class X | 33 | 62.26 |
| | Professional Education | 3 | 5.66 |
| Occupation | Unemployed and students | 19 | 35.85 |
| | Service | 12 | 22.64 |
| | Cultivation/Business | 8 | 15.09 |
| | Home maker | 5 | 9.43 |
| | Daily wage earner | 9 | 16.98 |
| Habitat | Rural | 39 | 73.6 |
| | Urban | 14 | 26.4 |
| Ethnicity | Tribal | 13 | 24.5 |
| | Non-tribal | 40 | 75.5 |
| Clinical diagnosis | F10-F19 | 8 | 15.1 |
| | F20-F29 | 31 | 58.5 |
| | F30-F39 | 14 | 26.5 |
| Any physical illness | Yes | 9 | 16.98 |
| | No | 44 | 83.02 |
| History of relapse | First time illness or continuous illness | 20 | 37.74 |
| | With history of relapse | 33 | 62.26 |
| Previous Admission to hospital | Yes | 33 | 62.26 |
| | No | 20 | 37.74 |

*Description of suicidal risk and protective factors*

As per the score of modified SAD PERSONS, 81.1 percent of the participants were safe to discharge, 15.1% require psychiatric consultation and 3.8 percent require hospitalised care in respect to risk of suicide. As per the NGASR scores, 69.8 percent of the participants had low risk of suicide, 13.2% had intermediate risk of suicide, 13.2 percent high risk of suicide and 3.8% had very high risk of suicide requiring care at hospital.

The higher scores of RFL inventory signify more reasons to live; in other word have more protective factors. The present study results showed that patients admitted to the tertiary mental health care institute had considerable protective factors against suicide. The mean scores of all the subscales and the total score were found to be in higher side of the probable score range described in the tool. The scores of the participants on RFL inventory and its all six subscales are described in the Table 2.

*Association of suicidal risk and protective factors with socio-demographic and clinical variables*

None of the socio-demographic and clinical variables are found to be significantly associated neither with the suicide risk nor with the protective factors of persons with mental illness.

*Relationship of suicidal risk and protective factors*

There was a very weak negative correlation observed between the scores of suicidal risk and reasons for living (r=-0.117 & -0.1 for NGASR and SADPERSONS respectively). This implies that risk of suicide reduces with more protective factors among the patients admitted in the tertiary mental health care setting. However, the result is not statistically significant.

## Discussion

The descriptive information regarding socio-demographic variables of the current study is similar to the with study conducted in the same setting by Nath et al (2021).

In respect to suicide risk among the admitted persons with mental illness, 3.8 percent of the participants had very high risk of attempting suicide and 15.1 percent required special psychiatric attention for suicide. Various studies already had suggested that suicide is more common in persons

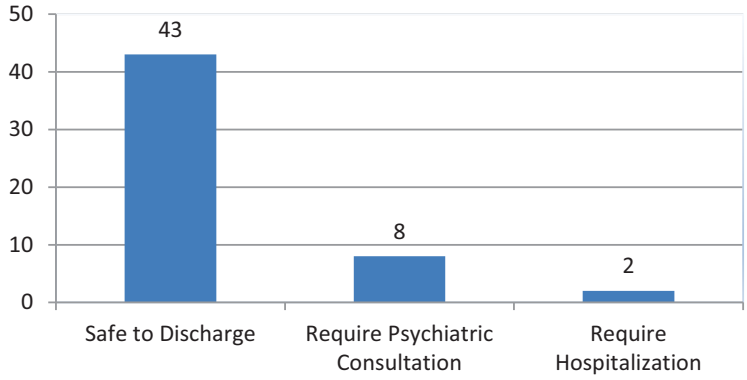


**Fig1: Description of suicide risk as per SAD PERSONS *(N=53)***

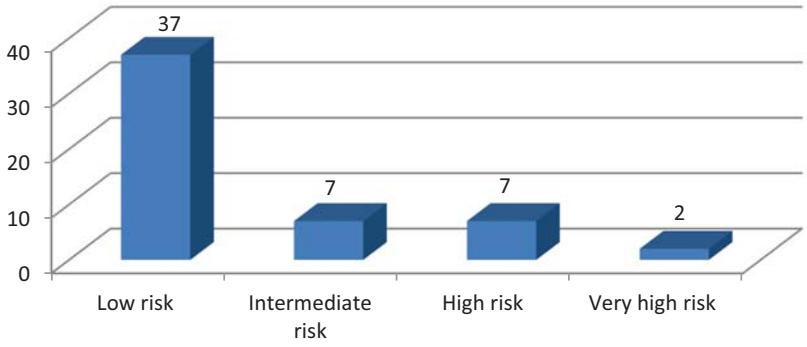


**Fig 2: Description of suicide risk as per NGASR*(N=53)***

with mental illness in compare to the general population (Nordentoft et al, 2011). Suicide risk among the persons with mental illness is estimated to be 5-8 percent (Bradvik, 2018). Research study suggested that risk of suicide peaks in the first week of hospitalisation and first week after discharge (Copas & Robin, 1982; Qin & Nordentoft, 2005). The data for the current study were collected after the patient became cooperative and usually after subsiding of the active psychopathology. This might have been a reason that the current study findings showed comparatively lower suicide risk compared to existing literature.

The social level factors like family and social relationship, marital relationship, spirituality and religious faith, connectedness etc. along with individual level factors like resilience, positive coping, problem solving skills, self-control thought and behaviour and reasons for living etc. have been seen to be protective factor against suicidal behavior (Eisenberg et al, 2007; McClean et al, 2008). Religious participation and practices may be protective factors against suicidal behaviour as most of the religious beliefs inculcate the value of life in individuals through various means. Similarly, one's belief in moral obligations towards the life, family and society protects against suicide, as they can identify their values and responsibilities rather ending the life. In this study, the mean of total score and the domains of reasons for living tool were found to be more than the mid values indicating higher protective factors which suggested that the participants had considerable amount of protective factors in all the domains. This can also explain the finding of current study that majority of the participant had lower risk of suicide. However this could not be statistically proved. A study by Malone et al (2000) had showed that patients who had not attempted suicide scored higher on the feelings of responsibility toward family, fear of social disapproval, moral objections to suicide, survival and coping skills, and fear of suicide subscale of reasons for living inventory. Also the study found a negative correlation of clinical suicidality with reasons for living (r = –0.64). Another cross-sectional study conducted by Oquendo et al (2005) found moral objections to suicide and survival and coping skills as the protective factors among the persons with mental illness.

The current study results showed that the suicide risk of persons with mental illness is independent of their socio-demographic and clinical variables as there was no statistically significant association between the scores. However the existing literature suggests that factors like age, gender, marital status etc. are associated with the suicide risk. This contradictory finding may be caused by the smaller sample size.

**Table 2: Description of scores in reasons for living inventory (N=53)**

| Subscales of RFL | Minimum score | Maximum score | Range | Mean Score | Standard deviation |
|---|---|---|---|---|---|
| Survival coping | 89.00 | 144.00 | 55 | 121.2075 | 14.92 |
| Responsibility to family | 18.00 | 42.00 | 24 | 33.2264 | 6.36 |
| Child related concern | 0.00 | 18.00 | 18 | 14.1321 | 4.94 |
| Fear of suicide | 7.00 | 42.00 | 35 | 24.4717 | 8.04 |
| Fear of social disapproval | 3.00 | 18.00 | 15 | 12.0377 | 4.04 |
| Moral objection | 7.00 | 24.00 | 17 | 18.0755 | 4.57 |
| Total RFL score | 175.00 | 278.00 | 103 | 225.3253 | 27.58 |

## Nursing Implications

A considerable number of the patients admitted with mental illness is having high risk of suicide. Being the first hand caregiver in the hospital, nurse should have extra eyes on the patients with mental illness to prevent the suicide incidents. Along with, the nurses also need to be actively involved in the suicide prevention protocols and policies, improving and modifying the environmental safety, and trainings for the persons involved in

the care. Nurses may also help the patients with mental illness to empower themselves with adaptive beliefs and expectations which are considered to be the protective factors against suicide.

### Recommendations

More research studies with minimum methodological glitches are needed to explore the issues and the related interventions reducing suicide among the mentally ill patients. Also a cohort of studies on prevalence of suicide, risk and preventive factors along with the interventions for suicide prevention are recommended for future.

## Conclusion

Evaluation of suicide risk of the patients with mental illness admitted to the hospital is essential. Knowing the protective factors may help in understanding the suicidal behaviour of the patients with mental illnesses. The present study had included relatively smaller sample size, conducted in a single setting with a cross-sectional study design to estimate the risk of suicide and the protective factors among the patients admitted to the mental healthcare setting. Also the study had used the less sensitive tools to assess the suicide risk. These limitations of the study are suggestive of better exploration of research.

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