

Study of Psycho Social Aspects of Suicidal Burns patients

Santhosh V^{1*}, Mano Bijay², Ambrish Kumar Mishra³

¹Department of psychology, Psychiatrist, Central Prison Mysore, India, ²Department of Psychiatry, Shri BM Patil Medical College, Hospital & Research Centre, Vijayapur, India, ³Senior Resident, King George Medical University, Lucknow, India

ABSTRACT

Background & Objectives: Suicidal Burns are quite common. Previous studies have shown that people who attempted suicidal burns have high social stressors and psychopathology. In this background present study is undertaken. 1) To evaluate demographic profile of suicidal burns patients. 2) To assess the psycho-social aspects in the study population.

Methods: 60 consecutive patients who were admitted who gave consent for study were taken up. Semi structured socio-demographic pro-forma was applied. Then MINI Screening was done. Beck's Suicide Intent scale, Perceived stress scale administered. All the data obtained were entered into SPSS 24. Statistical Analysis was done and results obtained.

Results: Suicidal attempt was commonly seen in group about 20-40 years old. In the study population about 67% are females, 73.2% are literates, 61.5% are employed, 47% among females are house wives, 74.9% are married, 80% are Hindu by religion, 66.6% were from urban, 88.3% belong to upper class and upper middle class, 68.3% have used kerosene has mode of attempt, 45% had psychiatric comorbidity, 30% were under the influence of alcohol during the time of suicidal attempt, 33.3% had one attempt of suicide attempt and family history of suicide present in 46.6%, 61.7% has conflicts has precipitating event before attempting suicide burns in that 43.3% had conflicts with spouse. When MINI administered 31.6% had psychotic disorder, 25% had alcohol dependence, females had affective disorder as common psychiatric comorbidity, and males have alcohol dependence as common psychiatric diagnosis. 38.3% had high perceived stress.

Conclusion: Psychosocial conflicts and psychiatric comorbidity, past-history of suicidal attempt and family history of suicide, patients with high perceived stress are the risk for attempting suicide by burns. Early identification of psychiatric illness can prevent suicidal attempt. Restriction of sell and storage of kerosene, petrol and diesel is recommended.

Keywords: attempted suicide; Burns

INTRODUCTION

The word "suicide" comes from two Latin roots, sui ("of oneself") and cidium ("killing" or "slaying"). [1] Suicide is a conscious act of self-induced annihilation, best understood as a multidimensional malaise in a needful individual who defines an issue for which suicide is perceived as best solution. Suicidal Act, attempt and intent have different definitions. [2] It also is

important to distinguish between self-injury with intent to die (suicidal self-injury) and self-injury with no intent to die (non-suicidal self-injury); Some researchers and clinicians dislike the term "gesture," holding that it denotes that an individual intends to "manipulate" others. [3, 4]

Suicide is thought to kill about 1 million people a year. Out of the number that attempt suicide, 1 in 10 to 1 in 20 succeeds [5]. WHO reports that one death occurs every 40 seconds

*Corresponding to: Santhosh V, Department of psychology, Psychiatrist, Central Prison Mysore, India, Tel: 7379100540; E-mail: drsantoshkittur@gmail.com

Received date: June 29, 2021; Accepted date: October 08, 2021; Published date: October 19, 2021

Citation: Santosh V, Bijay M, Mishra AK (2021) Study of Psycho Social Aspects of Suicidal Burns patients. J Psychiatry 24:p494

Copyright: © 2021 Santosh V et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

worldwide. It is predicted that by 2020, the rate of death will increase to one every 20 seconds. Added to this, data from CDC report - 2010 suggested that more than 2 million adults reported thinking about suicide. Suicides are a hidden and unrecognized epidemic in the Indian region, affecting predominantly younger age groups.

All over world the attempted suicide rate among adolescents and young adults is alarmingly increasing. The particular vulnerability in adolescents and young adults may due to emotional turmoil, interpersonal problems, increase in alcohol and substance abuse, breakdown in extended family, job difficulties and academic setbacks. Thus as large number of this high-risk group enters the phase of life, this is associated with greatest suicide risk.[6]

In India, it is estimated that over 1, 00,000 people die by suicide every year i.e., > 10% of suicides in the world and about 11.2 (per 1, 00,000 of population) in 2011. [7] In India, suicide is the cause of about twice as many deaths as is HIV/AIDS [8] and about the same number as maternal causes of death in young women,[9] though work done towards its prevention is meager. 1 in 60 persons is affected by suicide i.e., includes those who have attempted suicide and those who have been affected by the suicide of a close family or friend [10].

The different methods employed for suicide may reflect differences in socioeconomic factors, availability of lethal means, and firearms legislation, rather than differences in the nature of the behavior, per se. Common methods used in developed countries include firearms, car exhaust asphyxiation, and poisoning whereas in developing countries, pesticide poisoning, hanging, and self-immolation lead the list.

In India, during 2009:

- Consumption of a poison (33.6%),
- Hanging (31.5%),
- Self-immolation (9.2%),
- Drowning (6.1%)

Were the commonest modes of suicide? Jumping from buildings accounted for 1.5%. This pattern is recapitulated in the NCRB 2010 report.

A burn is an injury to the skin or other organic tissue primarily caused by heat or due to radiation, radioactivity, electricity, friction or contact with chemicals. Skin injuries due to ultraviolet radiation, radioactivity, electricity or chemicals, as well as respiratory damage resulting from smoke inhalation, are also considered to be burns.[11]

Burns can also be classified by which layers of skin and tissues in the body are affected namely, First degree (superficial) which involves epidermis. Second degree (superficial and deep partial thickness extends into superficial dermis and deep dermis)

Third degree (full thickness) extends through entire dermis

Fourth degree (extends through entire skin and into underlying fat, muscle and bone) [12]

Studies have shown that suicidal burn patients seem to have their own epidemiological characteristics. Knowledge of the

psychosocial aspects is needed to select target groups for preventive actions. In India there are less studies which reveal psychosocial aspects of suicide burns patients. Hence, there is need to study the psychosocial factors which favor in attempting the suicide in form of burns.

- To evaluate demographic profile of suicidal burns patients.
- To assess the psycho-social aspects in the study population.

MATERIALS AND METHODS

This was a Cross sectional study conducted at Mahan Bodhi burns center, Victoria Hospital which is attached to Bangalore Medical College and Research Institute over a period of November 2016 to May 2018. After getting approval of Institutional Ethical committee from our institute gave clearance for the study. In the context of the study suicide was defined as an act, whether physical injury, drug over dosage or poisoning etc. carried out in the knowledge that it was potentially harmful and in the case of drug over dosage, that the amount taken was excessive. All suicide attempts through burns admitted in Plastic Surgery department were screened (keeping the inclusion-exclusion criterion in mind). Total 60 consenting patients with history of attempted suicide admitted for treatment or attending outpatient department at Victoria Hospital. All Patients with age more than 18 years (including 18 years) up to 70 year's. Patients with history of Burns, with suicidal intent admitted to Victoria hospital. Those who give informed consent were included. Patients who have more than 70% Burns, Major medical problems & acute condition were excluded.

- Socio-demographic Data pro-forma (Semi-Structured) was administered for all participants of study
- M.I.N.I.: It is structured interview design for the major Axis I psychiatric disorders in DSM-IV and ICD-10. The MINI is divided into modules identified by letters, each corresponding to a diagnostic category, at the beginning of each of which are screening questions corresponding to the main criteria of the disorder which is used as a screener tool in this study for comorbid psychiatric conditions. [13]
- Beck's Suicide Intent Scale: -Suicide intent scale (SIS) was selected as the most appropriate research tool to quantify patient's subjective experience. This psychometric instrument was designed to record data regarding the intensity of attempters wish to die at the time of the attempt. Hawton has reviewed the reliability and validity of this rating scale and concluded that they are satisfactory. The first section of the SIS relates to circumstantial evidence gathered from as many sources as possible to ensure validity. The second section concerns introspective data. There are fifteen questions which are scored 0, 1, and 2, the maximum score is 30. It is further categorized into those with High, Medium and Low Suicidal Intent.

Part I (8 questions) examines factual aspects of the event such as location of the attempt and whether suicide note had been written.

Part II (7 questions) investigates the patients feeling and thoughts at the time of the act. It taps patient's perception of the model, lethality, concept of medical reachability etc. Pierce

D.W. as done predictive validation of SIS. 500 patients who had completed SIS after self-injury were followed up-to 5yrs, 13 suicides occurred. Thus future suicides tended to have high scores on the scale of original self-injury episodes and had very high scores for the penultimate self-injury before suicide. The scale can be used as a predictor of suicide and was suggested that it can be used in suicide prevention programs.[14]

In this study SIS was translated to local language (Kannada) as most of our subjects had little knowledge of English language. The translated version was retranslated to English 5 times by different groups of people and the most acceptable version was used in the study. The question in the scale was read out to the patient by the resident who chose the most appropriate statement in each category reflecting the patient's attitude at the time of the interview. Among literate subjects the translated copy of SIS- II was given and they were asked to read and mark their feelings in the copy.

- Perceived Stress Scale: A more precise measure of personal stress can be determined by using a variety of instruments that have been designed to help measure individual stress levels. The first of these is called the Perceived Stress Scale (PSS) is a classic stress assessment instrument. The tool, while originally developed in 1983, remains a popular choice for helping us understand how different situations affect our feelings and our perceived stress. The questions in this scale ask about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and we should treat each one as a separate question.

Statistical analysis

Data were analyzed using software Statistical Package for Social Sciences (SPSS) version 24. SPSS Inc. First, the descriptive statistics were computed. These included the range, mean and standard deviation for quantitative variables and category frequency counts and percentages for qualitative variables. The Chi-square test was used to see any statistical significance in association; graphs and tables were used judiciously to depict results.

RESULTS

The age ranged from 18-79 years. The majority of cases were present in the age group of 20-40 years. Majority of the study subjects were female which includes 63.3%. Majority belong to upper class and upper middle class, about 43.3% and 45% respectively. [According to Kuppaswamy socio-economic scale] 5% having diabetes and 6.6% having other physical illness 30% of study group consumed alcohol before attempting suicide burns. (Table 1)31.6% having major depressive episode, 25%having alcohol dependence ,8.3% having psychotic disorder, dysthymia is seen in 3.3% (Table 2) 38.3% having high stress, and 46.6% having moderate stress.(Table 3)Mode of attempt, medical complication, percentage of BSA has association with Becks Suicide Intent Scale. Psychiatric

comorbidity has association with Perceived Stress Scale. BSIS has no association with PSS. (Table 4 and 5)

DISCUSSION

This descriptive cross-sectional clinical study was carried out on 60 consecutive suicide burns attempters from the burns ward, Department of Plastic surgery, Bangalore Medical College and Research Institute, Bangalore. The purpose of this study was to observe, to evaluate demographic profile of suicidal burns patients and to assess the psycho-social aspects in the study population.

The study group consisted of individuals with a mean age of 32.3 ± 10.6 years, most of whom were in productive age group of 20 - 40 years, includes 37 % males and 67% females, with a sex - ratio of 1:1.8 respectively. The study population constituted of 80%.

About 45% belong to upper middle class and 43.3% belong to upper class according to Kuppaswamy classification of socio-economic status scale.

In the study group, psychiatric co-morbidity present as 43.3% having past psychiatric illness mainly, schizophrenia 8.3%, substance use disorder in 23.3% and 6% had mood disorder. The particular vulnerability in adolescents and young adults may be due to emotional turmoil, interpersonal problems, increase in alcohol and substance abuse, breakdown in extended family, job difficulties and academic setbacks. Thus as large number of this high-risk group enters the phase of life associated with greatest risk. As age progresses, individuals become more practical and have learnt better coping strategies through their life's experiences. This study finding supports the current growing trend of suicides and attempts in younger population worldwide. [6,15]

Males to female sex ratio in our study are 1:1.8. This is in contrast to world statistics that indicate completed suicides to be more common in males and attempted suicides to be commoner in females. [15, 16, 17] report higher incidence in males, [18] had reported female preponderance. In our study, there is female preponderance. [19, 17, 20, 21] Reason for this variation from western study can be due to neglect of female's health prevalent in our country.

Unemployment may drive up the suicide risk through factors such as poverty, social deprivation, domestic difficulties, and hopelessness. Furthermore, persons with psychiatric disorders are more likely to be unemployed [22].Unskilled and semiskilled employed individuals who are employed were more frequently present in cases who do get the benefits explained by the fact that financial strain and family responsibilities play a contributory part in attempting on life similar to a study done by KyriakiKosidou et al.[23,14]

The observation made in our study that maximum number of suicideattempters belonged to upper class and upper middle class which is similar to study done by AlokGhanate et al [6] and contradictory to other Indian studies in which persons belong to lower socio economic status are vulnerable to suicide attempts. [20] The suicide rate is generally reported to be higher in urban

areas because of a variety of stressors related to living and working in cities, including overcrowding and social isolation[22].

Urban dwellers were of higher percentage than rural and slum dwellers in cases which is in accordance with the worldwide scenario. Stressful life styles may be contributory towards suicide just as mentioned.[14]Concurrent physical problems included the existence of serious illness, chronic pain and disablement, serious illness included terminal / nonterminal, malignant and nonmalignant illness. Chronic pain was rated positively if it had been present in marked degree for at least 6 months [25].

Coming to the psychiatric diagnosis of patients in study group, affective disorders (included major depressive episode and dysthymia) which are a common psychiatric diagnosis was present in about 35.1% of the study population. 25% of the total study group had alcohol dependence or abuse and 8% had psychotic disorder. In males, alcohol dependence is the common psychiatric diagnosis, which is 54.4% among male population. 48.4% of female population had affective disorders, which is statistically significant of 0.003*. The psychiatric comorbidity varies across various studies from 8%to 91.[26,27] In our study, we got affective disorders and substance abuse which combined to about 56.6% of the study population which similar to study done by Krummen [28]Alcoholism is another risk factor with both high rates of suicide among alcoholics and high proportion of alcoholics among suicide attempters. The risk of suicide is higher with early onset of alcohol use, dependence pattern of use, family history of alcohol dependence and depression, and comorbid antisocial personality disorder.

In our study, patients had Moderate stress in 46.6% and people had high perceived stress in 38.3%. Persons with high stress are vulnerable for suicidal attempt [29].When we see association between psychiatric comorbidity and PSS, there was statistically significance which is $X^2(8, N=60)=17.44$, $p=0.026^*$ which may be due to poor support , frequent check-ups, which is constantly associated with psychiatric comorbidity patients. When chi-square test was done to see association between suicidal intent and perceived stress, there was no any association in our study. We got $X^2(9.44, N=60) =4$, $p=0.051$. Persons with High Perceived stress will have high Intent for suicidal attempt [30].

Suicide ideation is any thoughts of engaging in suicide related behavior. Suicide intent is to have suicide or deliberate self-killing as ones purpose. Intent refers to aim, purpose or goal of the behavior rather than the behavior itself. The term connotes conscious desire or wish to leave or escape from life and also connate a resolve to act. Suicide intent is assessed by scale designed by Beck and was used by Casey in 1989studying 60 para-suicide cases, the mean total score being 11. Another study conducted by O Donnel et al in 1996 using the same scale on Para-suicide patients using violent method like jumping in front of railway track in 1996, showed mean score of 17. In this study the mean score is 15.77, which means patients having high intent to attempt suicide by burns [14]. Patients who are having high TBSA is associated with BSIS which is statistically associated which is significant $X^2(6, N=60)=19.79$, $p=0.003^*$ and patients who are having medical complication and suicidal intent is associated which is significant

$X^2(6, N=7)=17.56$, $p=0.007^*$. Many attempters have experienced acute interpersonal problems and financial stressors and they often form the background to the suicidal attempts. The impact of stress is tempered by the mitigating of primary (in the family), secondary (among friends, close relatives and neighbors) and tertiary (at social service organization, religious and charitable services, etc.) factors.[25] But when the person is faced with the issues in the contest of interpersonal and family breakdowns, the stressed individual stands in a high-risk position. Since the younger age group appear to be more vulnerable, both for fatal and non-fatal suicidal acts it is imperative that the section of the population needs more psychological and social support. Thus undesirable life events were the most common occurrences intheir life, during this period [6] .

- It is a clinical sample and cross-sectional study, it was not possible to imply causation or to test the direction of the effects.
- We included in-patients in the sample with no outpatients. The fact that participants were sampled from a single general hospital in an urban setup. It may limit generalizability and findings require replication in other settings.
- Interviewer bias may have played a part as the interviewer was not blinded.
- The samples were non - randomized.
- Follow up study was not able to continue because of high mortality rate in suicide burns patients.

CONCLUSIONS

People with history of psychiatric co-morbidity, past history of suicidal attempt and family history of suicide are at increased risk for future suicidal attempt by burns. Female sex with affective disorder and Male with substance use disorder are riskfor suicidal burns. Persons with conflicts with surrounding people, high perceived stress and high suicidal intent subjects are vulnerable for suicidal burns. Easy availability of kerosene as fuel is used commonly for attempting suicidal burns.

REFERENCES

1. Minois, Georges. History of Suicide: Voluntary Death in Western Culture. Baltimore: The John Hopkins University Press; 1999.
2. Vyas JN, AhujaNiraj. Human Self-Destructive Behavior. Textbook of Postgraduate Psychiatry. 2nd ed. India: Jaypee Brothers; 2008: 35-72
3. Borges G, Angst J, Nock M K. Risk factors for the incidence and persistence of suicide-related outcomes: a 10-year follow-up study using the National Comorbidity Surveys. *J Affect Disord.* 2008; 105(1-3): 25-33.
4. Silverman MM, Berman AL, Sanddal ND, O'Carroll PW, Joiner TE. Rebuilding the tower of Babel: A revised nomenclature for the study of suicide and suicidal behaviors. Part 2: Suicide-related ideations, communications, and behaviors. *Suicide and Life-Threatening Behavior.* 2007; 37(3): 264-277.
5. Bloom DE, Cafiero ET, Jane-Llopias E, Abrahams-Gessel S, Bloom LR, Fathima S. et al. The Global Economic Burden of Non-communicable Diseases. World Economic Forum 2011.
6. AlokGhanate, Deepak R.S, VenkateshPatil, RajeshwariSurpur, Anitha M R, Vijayanath V. Psychiatric comorbidity in suicide

- attempters: Indian scenario *Int J Pharm Biolog Sci.* oct-2012 dec; 2(4): 101-112.
7. Vijayakumar L. Suicide in India in *Suicide in Asia: Indian J Psychiatry* 2010; 52(11): 291-96
 8. 20. Jha P, Kumar R, Khera A, et al. HIV mortality and infection in India: estimates from nationally representative mortality survey of 1 • 1 million homes. *BMJ* 2010; 340: 621
 9. Registrar General of India. Special bulletin on maternal mortality in India 2007
 10. Vijaykumar L. Suicide and its prevention: The urgent need in India. *Indian J Psychiatry* 2007; 49: 81-84.
 11. SriramBhat M. *SRBs manual of surgery*, 4 th edition. India Jaypee Publication p-128
 12. Patton GC, Coffey C, Sawyer SM, Viner RM, Haller DM, Bose K, et al. Global patterns of mortality in young people: A systematic analysis of population health data. *Lancet.* 2009; 374: 881-92.
 13. Aaron T Beck, Maria Kovacs. Assessment of suicidal intention: The scale for suicide ideation. *J cons clin psychol* 1979; 47(2):343-352
 14. Unni SK, Mani AJ. Suicidal ideators in the psychiatric facility of a general hospital - a psycho demographic profile. *Indian J Psychiatry.* 1996; 38: 79-85