Study Of Pattern Of Suicides In Bikaner Region Of Rajasthan

[1]Dr. Navdeep Singh, [2]Dr. Yogesh Sharma, [3]Dr. Manju Singh and [4]Dr. Manoj Garg

[1]Resident Doctor, Forensic Medicine, [2] Professor & Head, Forensic Medicine, [3]Resident Doctor, Anesthesia, [4]Senior Demonstrator, Forensic Medicine[4] P.B.M. & AG Hospitals, Bikaner (Rajasthan)

ABSTRACT: Background: Various social, economical and psychological factors contribute to the occurrence of suicide. In practice, it is observed that health problems, i.e. physical illness and psychiatric problems are also quoted important-motives-for-suicide. **Aims & Objectives:** Pattern of suicide varies from person to person, place to place, and country to country. The common patterns of suicide occurring in this place are observed in this study.**Methods:** The present study has been carried out in the P.B.M. and AG Hospitals, Bikaner during the period of one year from January 2014 to December 2014. All cases brought to the department for medico-legal clearance with an alleged history of suicide attempt were selected and studied in details during this study. **Results:** The data of our study reveal that the majority of the victims in our study were Hindu males of 21-30 years of age, belonging to urban area who committed suicide due to their impulsive behavior by consumption of poison. **Conclusion:** In this study the high risk group for suicide was involving younger aged male victims who were suffering from some psychiatric problems. Screening of these victims for early detection of their behavior and psychotherapy can reduce the incidences in this population.

Key-words: Autopsy, Demography, Death and Suicide.

Corresponding Author: **Dr. Navdeep Singh,** Resident Doctor,Department of Forensic Medicine,P.B.M. and AGHospitals,Bikaner, Rajasthan,India.Email:drnavdeepsingh81@gmail.com

INTRODUCTION:

Bikaner is a city with a population of 647,904 (according to 2011 census), which is situated in the north-west area of Rajasthan in northern India occupying a widely spread area of 28,466 km2 in mid of Thar Desert. Males constituted 53% of the population and females 47%. Bikaner has an average literacy rate of 66%, higher than the national average of 59.5%; with male literacy of 74% and female literacy of 57%. [1]

Incidences of suicide are increased in this area of Rajasthan and to prevent the morbidity and mortality pattern of suicide in that particular area should be known so that preventive strategies can be applied. According to WHO, to improve prevention efforts, better knowledge of national, regional and local suicide patterns is vital, and better understanding of the underlying mechanisms is absolutely crucial. [2] The present study was undertaken with this aim to know the pattern of suicide in this area of the world.

MATERIAL & METHODS:

The present study was conducted in the P.B.M. and AG Hospitals, Bikaner (Rajasthan) during the period of January 2014 to December 2014. After taking ethical clearance from the institute, study was done prospectively in which total 60 cases by simple random sampling were selected from the cases, which were brought to us for medico-legal clearance with an alleged history of suicide attempt or who were concluded as suicide after postmortem examination. During this study, unknown bodies without relevant history and burn cases were not taken into consideration, since their detailed history and reasons were not available till the last time of this study. Detailed history regarding epidemiological criteria of the cases with the mode of

committing suicide and previous behavior was recorded into a proforma and conclusions were drawn after comparing it with works of other authors.

The-sample size was estimated based on the precision consisting of significant level and allowable error. In this study, the 2.5 % significance level and 10% allowable error has been taken.

P = 25.5%, q = 36.7% & E = 3.7% for 19% Error.

The sample size $n = \frac{\square \times \square}{\square^2} = \frac{(0.89)^2 \times 25.5 \times 36.7}{3.7^2} = 54 \approx 60$

Hence the number of cases to be studied = 54 however, the total number of cases studied = 60.

RESULTS:

Table-1 presents the data on the distribution of cases according to their age, which reveals that the majority of cases (51.66%) who committed suicides were in the age group of 21-30 years, followed by the age group 11-20 years (26.66%) and 31-40 years (16.66%), whereas the persons having old age such as 41 years and above have committed suicide very less. The results depict that the persons with young age are more prone to commit suicide. Table-2 reveals the data on the sex wise distribution of cases. Perusal of data reveals that frequency of suicidal attempts was more in males (63.34%) as compared to females (36.66%).

Table 1. Distribution of Cases According to their Age

Age group (In Yrs)	Number of cases (Percentage)
11 -20	16 (26.66%)
21 -30	31 (51.66%)
31 -40	10 (16.66%)
41 -50	2 (3.33%)
51 -60	1 (1.66%)
Total	60 (100%)

Table 2. Distribution of Cases According to Sex

Sex	Number of cases
Male	38 (63.34%)
Female	22 (36.66%)
Total	60 (100%)

Table 3. Distribution of Cases according to their Religion

Religion	Number of cases (%)
Hindu	51 (85.0%)
Muslim	9 (15.0%)

The majority of the victims of suicide in the present study were Hindus, constituted 85% of cases and the remaining were

Table 4. Distribution of Cases according to their Residence

Residence	Number of cases (%)
Urban	31 (51.7%)
Rural	29(48.3%)

The data presented in the Table-4 show the distribution of cases according to their residence and it reveals that the majority of the cases (51.66%) were from an urban background and only 48.34% were from rural background. The data presented in Table-5 show the mode of suicide in the present study group. In our study, most of the victims (81.65%) attempted suicide by ingestion of poison, which were commonly available to them followed by hanging (16.66%).

Table 5. Distribution of Cases according to Mode of Suicide

Mode of Suicide	Number of cases (%)
Hanging	10 (16.66)
Household Insecticide	9 (15.0%)
Kerosene ingestion	1 (1.66%)
OP poisoning	23 (38.33%)
Rodenticide	7 (11.66%)
Run over train	1 (1.66%)
Sedation overdose	9 (15.0%)

Table 6. Distribution of Cases according to Impulsive Behavior

Impulsive Behavior	Number of cases
Yes	32 (53.4%)
No	28(46.6%)

The data presented in Table-6 reveal that 53.34% cases in the present study showed impulsive behavior, whereas 46.66% cases did not show any impulsive behavior before their final attempt of committing suicide.

DISCUSSION:

In our study majority of the incidences of suicide were involving the victims of 21-30 years of age, which may be attributed to factors like hasty decision, failure to face the difficulties like academic failure, unemployment,unsuccesful romantic deeds, family conflicts, marital disharmony, inability to adjust with the changing pattern of life like financial instability, wide gap between aspiration and actual capabilities, improper judgment of the problem, dowry harassment in case of females and ill health. The victims of younger age are at the threshold of building their career and have the at most zeal and urge to be ahead of others. It was noticed that stress did not spare the professional students like medical and engineering students who committed suicide after exams and results. Many of the child suicides were due to scolding by parents for very trivial reasons. Unsuccessful academics and romance were attributed to suicide in adolescents. Similar findings were observed in the studies conducted by Martinez and Cameron,[3] Sahoo,[4] Sharma,[5] Aauer[6]and George.[7] It is in contrast to the findings observed by Scott[8] and Roberts[9] in their studies.

Perusal of data reveals that the frequencies of suicidal attempts were more in males (63.34%) as compared to females (36.66%). Similar combined opinion has been stated by the Sahu[8] and Scott[8] with Robertsa[9], Chandrasekhar[10] and Trivedi.[11] While Bose[12] is disagree with our observations. The data from western countries shows that men commit suicide more than 4 times as often as women a rate that was stable over all ages. Men in India commit suicide 1.2 times more than women and highest rate of suicide (30-40%) was between 15-29 years. Observations of our study are also in line with those reported earlier. The majority of the victims in present study belong to Hindu community who were from an urban area, which may be due to place of study center at an urban locality.

Analysis of data reveals that majority of the victims (81.65%) committed suicide by consuming a poison, which was also observed by other authors in their studies.[3,8,10] In our study hanging was the second common mode of suicide, which was the most common pattern of suicide in studies conducted by Sahoo,[4] Roberts,[9] Trivedi,[11] Parikh[13] and Bose.[12] It was also observed that the patterns of committing suicide by violent methods like hanging; drowning and fall under train are more common in males while soft methods like burns and poisoning are more common amongst females. Easy availability of ligature material, simple procedure, immediate death and surety of death, were the main reason for people choosing, hanging as the pattern of suicide very commonly. Jeff[14] and Deborah [15] observed in their studies that firearm was the most common pattern of suicide while in the current study not even a single case of suicide using firearms was reported. This may be attributed to the cost factor and strict enforcement of law both in regards to possession and usage of firearms in this area.

The burn cases were not taken into consideration in the present study, since their reasons are not correctly explained by the relatives. In the majority of cases, the burn cases are mostly seen in females probably due to conflict in the marital disturbances. However, the reasons for the burn are explained differently by the in-laws and parental side of the women. Thus, no concrete reasons can be ascertained in such cases. In 53.4% cases, we found that the behavior of the victims was impulsive, which was the common cause of their final suicide attempt. Most of the suicides are committed during an impulse and high risk is also associated with other psychotic symptoms like anxiety, depression, schizophrenia, delusions and hallucinations. In the present study also more than half of the victims were having some

kind of psychotic problems and their behavior was impulsive with either severe anger or depression.

CONCLUSION:

In this study the high risk group for suicide was involving younger aged male victims who were suffering from some psychiatric problems. On the basis of these findings, it can be concluded that screening of these victims for early detection of their behavior by their family doctor and further psychotherapy with counseling can reduce the incidences in this population. Psychiatric assessment with proper treatment of the person who is having impulsive behavior can also help to reduce the morbidity and mortality by suicides in this area of the world.

Source of Funding: Nil.

Conflicts of Interest: None.

References:

1. Wikipedia: http://en.wikipedia.org/wiki/Bikaner retrieved on 26th April 2015.
2. Vladeta AG, Mitchell GW, Mariann R, Urs H, Matthias B, Felix G, Wulf R. Methods of suicide: International suicide patterns derived from the WHO mortality database, Available on http://www.who.int/bulletin/volumes/86/9/07-043489/en/ retrieved on 26th April 2015.
3. Martinez AP, Cameron JM. "Trends in Suicide 1983-87", Med Sci and Law, 1992; 32(4): 289-295.
4. Sahoo PC, Das BK, Mohanty MK, Acharya S. "Trends in Suicide - A study in MKCG Medical College, P.M. Centre", J of For Med and Toxicol, 1999; 16(1):34-35.
5. Sharma BR, Harish D, Sharma V, Vij K. "The epidemiology of poisoning: An Indian viewpoint", J of For Med and Toxicol, 2002;19(2):5-1