

# Psychological Autopsy Study of Suicide Pattern and its Relationship to Depressive Illness

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Suicide with respect to the high risk individuals is emerging as an important entity in our society requiring research and evaluation. The following study was conducted at CMC Hospital Larkana by doing a psychological autopsy, to see the pattern of suicide and its relation to depressive illness. A total of 52 suicide cases were reported by police authorities for autopsy examination during the months of November 2002 to October 2004. The autopsy records of these cases were consulted along with the police inquest reports. The relatives were traced with the help of police records and interviews were held using a structured interview form with at least two informants including a near relative or a friend. The results demonstrate that the act of suicide is more prevalent in males than in females. The high risk age group is 30 – 39 yrs. Firearms and Hanging is the most commonly employed mean. Most of the victims were married. Only 4 were widow / widowers. The trimester from August to October occasioned for about 53.8% cases. 71% of the victims were assessed to be suffering from major depressive illness. Recognition of high risk individuals and their treatment at a psychiatric hospital may save precious lives. The study also calls to repeal the law concerning suicide.

**Key Words:** Suicide, depressive illness, firearm injury, hanging

Though we know little about the suicide process, but it is generally believed that it is an extreme response to stress and severe depression<sup>1</sup>. It is the ultimate outcome of multiple interacting factors<sup>2</sup> like Psychiatric, cognitive, physiological and neurobiological. The Qisas & Diyat Act 1997, section 325 defines attempt to commit suicide as a crime upon whose completion there is no punishment but the attempt is deemed punishable<sup>3</sup>. In western countries, the subject was never given due importance under these provisions. In our country the society is mute probably because of its immense stigmatizing impact on the families of victims. The Government and medical forums have also failed to pay attention to this emerging threat which can be substantiated by the fact that no statistics are available on the subject. A consistent finding in the research of adult's suicide has been that the majority of victims have suffered from psychiatric disorders<sup>4,5</sup>. This fact and the present study may eventually draw the attention of medical and legal forums to suicide that may lead to repeal the law and to provide enhanced psychiatric treatment facilities to these patients.

## Methods and materials:

The study was conducted in Larkana division which consists of a population of approximately one million. The city has predominant Sindhi population with a minority of other races. The data base for this study consists of the medico legal record of Chandka Medical College Hospital; Larkana as in all violent deaths being investigated by the Police, the autopsy is to be carried out in the concerned Tehsil / District Headquarters Hospital<sup>6</sup>. The medico legal records of the period from November 2002 to October 2004 were used and a total 52 cases were included in the study. These cases were reported to the various police

stations of Larkana division and were brought to the CMC hospital for autopsy. Police inquest reports were studied in each case. Interviews were held with near relative and friend in each case with the help of structured interview form after obtaining informed consent of the individuals concerned.

## Results:

Over a period of two year, from November 2002 to October 2004, a total 52 suicide cases were reported in Larkana division resulting in an average suicide rate of 2.6 per 100,000 persons per annum.

Males were seen to be involved in majority of cases (67.3%). 30–39 years age group was the high risk group as 44.2 % of all victims belonged to this age group. Only 04 victims belonged to 40 years or more. This is in contrast to various western studies which have shown that the older age groups are susceptible to suicide whereas younger age groups have less incidence of suicide. Age and gender distribution are shown in Table I.

Table 1:

Age in years	Male	Female	Total
<20	5	2	7
20–29	13	5	18
30–39	15	8	23
40 & above	2	2	4
Total	35	17	52

Firearm was most commonly employed as this was used by 22 victims (42.3%). Hanging was the next favored choice of committing suicide as 16(30.7%) used this method.



The tendency among suicides to use certain target areas found in this study is in line in the experience stated in older medico legal text books<sup>7</sup>. Interestingly handguns were used in the majority of cases. The sites chosen were either epigastrium or temple. Out of all the victims who used a firearm to kill, epigastrium was chosen by 63.6%. The rest selected temple as target area. 4 out of 52 victims died because of self immolation, out of those 3 were females. 4 victims drowned themselves in a nearby nullah / well. 3 persons committed suicide by self inflicted cut throat and 2 died of self poisoning. Table 2 and 3 shows the detail.

Table 2:

Means	Male	Female	Total
Firearms	18	4	22
Hanging	9	7	16
Burning	1	3	4
Drowning	2	2	4
Cut Throat	3	0	3
Poisoning	1	1	2
Jumping	1	0	1

Table 3:

Site	No of victim
Epigastrium	14
Temple	8

Twenty six victims were married. All had children and 22 were unmarried. 14 of the unmarried were males. There were 2 widows and 2 widowers, representing 7.6 % of all cases. Data is shown in Table 4.

Table 4:

Status	Mal	Female	Total
Married	18	8	26
Un married	14	8	22
Widow / widower	2	2	4

It was interesting to note that 28 suicides (53.8 %) took place during the trimester from August to October. Rest of the cases were sporadically distributed in other months. The mental symptoms could be assessed only in 38 cases, rest were either not available or did not consent to the interview. In all cases an informed consent, for the interview was obtained. A structured form was given to two informants in each case and later elaborations of the same were obtained from them. 27 (71 %) cases were found to be suffering from a major depressive illness at the time of suicide. The most prominent symptoms were sadness, sense of failure, guilt, pessimism and insomnia. Self accusations, crying spells, social withdrawal and work retardation were found in a lesser number of cases.

**Discussion:**

Suicide is defined as killing one self intentionally<sup>8</sup>. The present study was an effort to study patterns of suicide and its relationship to depressive illness. It is known that suicide is a multi dimensional act<sup>9</sup>. It has been reported that among the most important indications, intent to die is included in depressive illness or mental disorder<sup>10</sup>. Studies of suicide have repeatedly found that in a high proportion of cases the person had been affected by a psychiatric disorder. In perhaps half of suicides in UK, there had been a previous psychiatric contact. Three conditions have been found to be particularly important. First and most prevalent is depressive illness. Secondly schizophrenia and third is alcohol dependence<sup>11</sup>. This study has shown that the pattern of suicide is distinct in our society. The high risk was found to be 30 - 39 yrs with only 13.4 % adolescent suicide and 7.7 % suicides beyond 40 yrs of age. This probably reflects our strong family fabric which protects the adolescents and older age groups from the ravages of life, or may be that sufficient data is not available for these age groups so predominantly involved in suicides in the developed world. As regards the means of suicide, the most prevalent methods were firearm injury and hanging. Poisoning or self ingestion was found in only 2 cases representing 3.8 % cases. In contrast, in UK 90 percent of episodes of deliberate self harm are due to self ingestion<sup>11</sup>. This may be due to lack of knowledge about harmful substances or their availability. However further research with controlled and large sample studies may indicate true reasons. Clinical research has shown that the purpose of the person committing suicide is to solve their problems; problems that are causing great pain and distress<sup>8</sup>. As this study showed firearms were used by 22 victims and among them 18.2 % were females. Considering not common availability of firearms in Larkana area, this finding is interesting. In a recent Swedish study male predominance was shown among firearm suicides<sup>12</sup>. Our study also revealed that the target area of choice by most of the victims (63.6 %) was the abdomen. Canfield<sup>13</sup> draws attention to the area of suicidal gunshot wounds of the abdomen. Fattah<sup>14</sup> stated that based on his study of 844 firearm suicides, the sites chosen to inflict wound in order of frequency were the temple, heart area, mouth, center of the forehead and under the chin. The present study however showed altogether different target area of choice which is abdomen followed by temple. It is felt that a longitudinal study would be required to answer the seasonal variation of suicide as pointed out in this study, which has shown that the majority of suicides have occurred in the months of August, September and October, though it just can be an incidental findings.

The pattern indicated by the study has confirmed results of earlier studies<sup>15-18</sup> in respect to the relationship of suicide with depressive illness. However for the first time it has been found that the depressive illness is as prevalent in suicide victims as shown by the high % age of such



disorders. Severe depressive episodes due to bereavement include a particularly high risk of suicide<sup>19</sup>. This was however not substantiated in our study. The common limitations of psychological autopsy suicide studies include heavy reliance on retrospective data and frequently small number of informants<sup>20</sup>. The indirect nature of data, lack of systematic information and the tendency of the parents to under report the affective disorders, suicidal threats, and substance abuse. Thus our figures of depressive disorders for example represent an under estimate rather than over estimate while it is difficult how to reduce nonfatal self harm, suicide rates can be minimized by appropriate identification, treatment of depression and other psychiatric disorders.

This study calls for a nationwide campaign on the part of medical forum for better psychiatric facilities as well as the repealing of law regarding suicide or attempted suicide.

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