

Epidemiology of Attempted Suicides in Emergency of Mayo Hospital in 2004

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Background: Suicide is one of the ten leading causes of death in the world, it ranks 8th leading cause in America and 4th as years of lost life. It accounts for more than 400,000 deaths annually. Different countries have different incidence rate and suicidal patterns, which are in accordance to their cultural, religious and social values. Suicide, a major global public health problem, is an under-studied and under researched subject in Pakistan, a conservative Islamic and developing country, with severe, legal, social and religious sanctions against it. Basic epidemiological data including national suicide rates are neither known nor reported to the World Health Organization. Despite this there is strong suggestive evidence that suicide not only occurs regularly but there has been an increase in the incidence over the last few years. **Objective:** The purpose of this study was to evaluate all the cases that presented in Mayo hospital Lahore from the duration 1st January 2004-31st December 2004, of attempted suicide. We wanted to find out what area they belonged to, which age group had an increased incidence, what was the male to female ratio, What method of suicide was adopted and during which season was the incidence the greatest. **Materials and methods:** All people who attempted suicide (medico-legal cases) from 1st January 2004 to 31st December 2004 were included in the study. Detailed information was provided by forensic department in Mayo Hospital, about age, sex, date of attempt and area they belonged to. **Results:** showed a male dominance, also the age group of 21-30 years showed the greatest frequency. Greater number of cases belonged to the urban area, the most common mode of suicide was by poisoning and contrary to international studies the greatest number of attempts was during the summer season. **Conclusion:** The results in our study show that attempted suicidal rate has rapidly increased since 1995. In 2004 almost 4/day of attempted suicide (medico-legal) cases presented in the emergency department of Mayo hospital compared to less than 0.4/day in 1995. Our study also shows male dominance in number of attempted suicide. It also showed that in our population 21-30 years had the highest number of attempts. Our study also shows a greater number of attempts during summer months where as in the western countries a greater number is shown during spring and winter.

Key words: Attempted suicides, epidemiology, Mayo Hospital

Suicide has been defined as an act with fatal outcome, that is deliberately initiated and performed by the person in the knowledge or expectation of its fatal outcome¹. Suicide has been observed to be higher in countries which do not boost a network of good social and religious practice. It has been observed to be lower in countries with strict religious devotion and practice².

Suicidal risk factors are different for different age groups. Teenagers are more competitive, where as middle aged people have more concern with failures in their goals, and elderly people are lonelier and face multiple financial and health problems³.

Religion, culture and social reasons play a significant role in prevalence and incidence of suicide in a society⁴. The rate of suicide varies from as low as .04/100,000 in Nigeria⁵ to as high as 22.75/100,000 in Geneva⁶. Attempted suicide is more common in females but death due to suicide is more in males. The incidence of suicide in both sexes tends to increase with growing age. Methods of suicide vary from country to country. In England men use hanging and women are more likely to use an overdose of drugs, as a method of committing suicide. In USA suicide by firearms is by far the commonest method of suicide. In Singapore jumping from a height is the

commonest method⁸. Suicide incidence and prevalence is more during winters and spring².

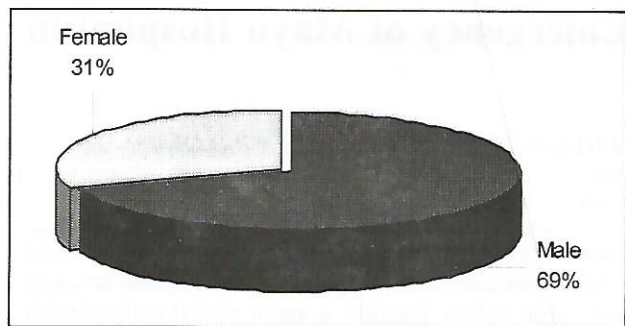
Very few studies have been conducted concerning suicide in Pakistan. Most information regarding suicide is provided by newspaper reports^{9,10}. We chose to conduct this study in order to provide awareness of suicide. This is the first step in trying to evaluate the modes of suicide being used and this information can be used in the future for prevention of suicide.

Material and methods:

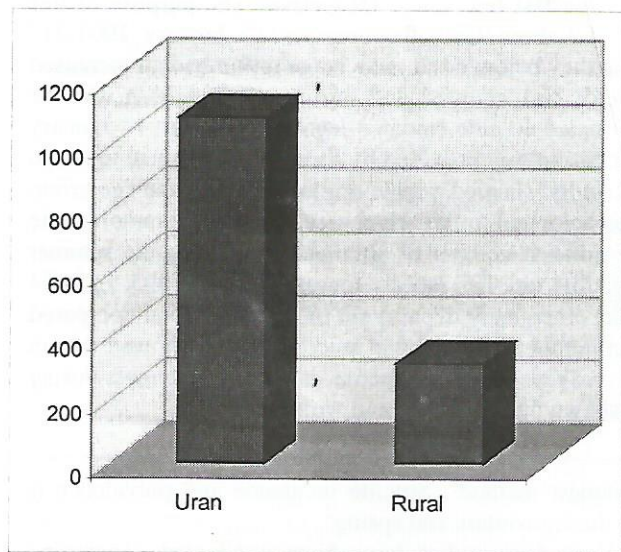
A total of 1390 cases of attempted suicide (medico-legal) presented during the period of 1st January 2004 to 31st December 2004. The data was collected from the forensic department at Mayo hospital Lahore. The cases were grouped on the basis of age, sex, method of suicide employed, area they belonged to, and the season during which the suicide was attempted.

Results:

A total of 1390 cases of attempted suicide (medico-legal) presented during the study period. 960 cases were that of males and 430 cases of females.



In the study 1078 cases belonged to urban areas where as only 312 belonged to rural area.



In the age group the following results were obtained.

Age group (years)	Male	Female	Total
11-20	287	170	457
21-30	292	205	497
31-40	167	28	195
41-50	104	16	104
51-60	49	6	55
61-70	33	5	38
71-80	16	0	16
81-90	28	0	28

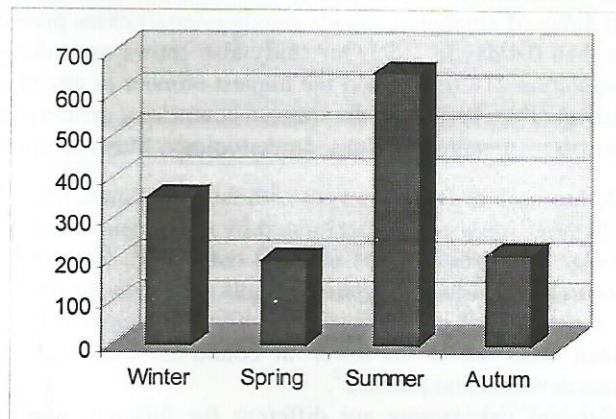
These results clearly show that in both male and females the incidence was greatest between the ages of 21 and 30 years. The results also show that with growing age groups there is a decrease in over all incidences of suicide attempts.

The results for mode of suicide showed a clear dominance towards poisoning by unidentified means. The most amazing result was that only one case had used firearm as a mode of attempting suicide this is a reflection of the attempts by the government to keep a strict check on keeping of unlicensed fire arms at home. In a study conducted in Faisalabad in 2001 showed out of 96 cases of suicide 13 had used firearm.

The results are as follows:

Mode of suicide	No. of cases
Poisoning (by unknown means)	1152
Intake of rat pills	47
Intake of wheat pills	46
Intake of bleach	24
Intake of acid	19
Intake of ativan tablets	17
Intake of pills (Unknown)	15
Intake of phenyl tablets	13
Intake of CuSO ₄	10
Burning	10
Intake of spirit	5
hanging	4
Intake of kerosene oil	2
Intake of K ₂ MnO ₄	2
Intake of hydrogen peroxide	1
Intake of shampoo	1
Firearm	1
Head banging	1
Unidentified methods (no cause found)	20

The seasonal variation of suicide shows some interesting variations from the western figures. It shows in our study a clear dominance in the summer months (may-September).



Where as in the western data there is a clear dominance of winter and spring months as mentioned earlier.

Discussion:

Throughout the world 2000 people kill themselves each day. The incidence and pattern of suicide varies from country to country depending on social, cultural and religious values⁴. The incidence of suicide in our country is lower than USA^{11,12}, UK¹³, Switzerland⁶, China¹⁴, Singapore¹⁵, and Spain¹⁶, but is near to that of Jordan¹⁷, Nigeria⁵ and the Malay population of Malaysia⁴. One reason for this difference may be the degree of urbanization and industrial development leading to increasing detachment of the individual from his social milieu resulting in a weakening of the individual's identification with the social group which controls and defines his actions². Yet another important reason could be the role of religion specially the belief in the world hereafter, which prevents the feeling of hopelessness, a feeling that has been described as an important

predisposing factor for suicide². In addition the religious code of Islam strictly prohibits suicide¹. Though suicide is also prohibited in Christianity however belief on religious teachings is not as strong in Western societies.

The gender ratio in our study is similar to the accepted view of male dominance² and has also been reported in many other countries^{5, 6, 11, 13, 15, 17-22} and in Pakistan^{9, 10, 23}.

About 69% of the suicides in our study occurred between the ages of 10–29 years. Only about 3% cases were above fifty years. This finding goes against the concept of increasing rate of suicide with advancing age in western literature², and as revealed by studies in Ireland²⁴, USA¹², Italy¹⁹, Singapore⁸, Japan²⁰ and Spain^{21, 25}, but is closer to the age of predilection reported in other less developed countries like Nigeria⁵, Malaysia⁴, West Indies¹⁸ and Jordan¹⁶ and by other studies in Pakistan^{9, 10, 23}.

The reason for suicide at an early age in our study could be the social pressures of growing up accompanied by marital and domestic issues in females (Age 10–19 years) and the economic pressures and failure to achieve life goals in cases of males (Age 20–29 years), in their early years of economically independent existence.

In our study the incidence decreased with advancing age. The reason for this could be the family system in which elders are taken care of and usually relax and enjoy their advancing years with their grandchildren in addition to the increased inclination towards religion with advancing age usually noted in our setup.

Our study also showed that during the month of summer there was a greater incidence of suicide, which is contrary to the western figures, which show a greater incidence during the winter and spring². This can be due to several reasons. One being that there is a longer duration of summer season in our country then that in the west. Our summer season is harsher with temperatures reaching up to 49 degree Celsius with limited shelter and having a direct affect on people's behaviour.

Prevention: For a good preventive programme to be implemented we need to find out information of more years and make a detailed note on the factors leading to an increased rate of attempted suicide over the past decade. Differentiation between attempted suicide/deliberate self harm and suicide needs to be made clear. More regulations need to be implemented in order to stop and regulate availability of poisonous substances.

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