

Pattern of Suicide: A descriptive, comparative study conducted in Karachi during period 2011- 2015

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ABSTRACT

Background: Suicide cases in Karachi are increasing sharply. This is a study with mixed methodology. A descriptive comparative study in which retrospective data of 500 completed suicide (CS) from police record was taken and 200 fresh interviews of Attempted Suicide (AS) from National Poison Centre, JPMC were recorded.

Aim: To understand the pattern of suicide in Karachi and to compare association of complete and attempted suicide with different socio- economic factors.

Methods: A total of 500 cases of completed suicide (CS) from 2011-2015 were randomly selected from police stations of all 18 towns of Karachi. In addition 200 attempted suicide (AS) cases were interviewed from National Poison Centre, JPMC, Karachi. This made a total of 700 suicide cases. The data were entered into SPSS-17. Frequencies were calculated for categorical variables. Mean and standard deviation were calculated for age. Chi-square test of significance was applied for independent variable. Level of significance was kept 5 percent.

Results: The study includes 700 suicide cases from Karachi. There were 2.46 suicide cases per 100,000 populations per year. It is found increasing each year. The mean age is 28.19±8.79 years in males while 26.07±8.25 years in females. The suicide is committed mostly by males 64.3%, married 48.57%, and young people up to 30 years age 66.7%. Suicide is more common, 40.1% in unemployed persons. Cause of AS is economy in 24.9%, among CS, it is bad family relations in 23.6%. Poisoning was the main method of suicide in AS 56.5%, while hanging is common method in 40.4% in CS. There is no significant difference between CS and AS with gender, age, marital status, and employment with p value of 0.549, 0.187, 0.649, and 0.266 respectively.

Conclusion: The suicide rates are increasing in Karachi. The rate of CS is 2.46/1,00,000 population. Mostly young people of 20-30 years of age commit suicide. There is no significance difference between marital status and job status. The study showed different reasons for suicide in CS and AS; it is bad family relations and bad economy consecutively. The method is similarly different, it is hanging in CS and poisoning in AS.

Keywords: Completed suicide, attempted suicide, Police Station, Karachi.

INTRODUCTION

Completed suicide (CS) is defined as intentional act of self damage that leads to death, while attempted suicide (AS) is deliberate harm not amounting to death¹. Emile Durkheim says "Suicide is applied to all cases of death resulting directly or indirectly from a positive or negative act of the victim himself, which he knows will produce this result"². The Quranic teaching to Muslims keeps them away from act of suicide, but from last few years suicidal rate has increased in Muslims countries^{3,4}.

Suicide is a serious issue, globally one person commits suicide in every 40 seconds. This number is more than sum of deaths due to war and homicide both⁵. Hughes kirral**. More than 1 million people commit suicide in the world every year. It is the 13th

leading cause of death worldwide, with China, India, and Japan accounting for almost half of all suicides. Regarding suicidal thoughts and unsuccessful suicide attempts a cross-sectional survey of 17,016 youth aged 15-24 years was conducted in rural and urban areas of Hanoi, Vietnam; Shanghai, China; and Taipei, Taiwan in 2006. The 12-month prevalence of suicidal ideation and attempt was 8.4% and 2.5% across all three cities, respectively⁶. A study in Ilum, Iran concluded AS is more common phenomenon among females, 94.51% than males 74.98%. Complete suicide is also more common in males, 2.40/100,000 while it is 1.14/100,000 in females. Young age of 15-24 is most commonly effected population⁷. In South Asia the declared suicide rate by WHO, 2013 is 25.2/100,000 with male female ratio of 1.57:1⁷. Different countries of South Asia have following suicide rate; Bangladesh 58.3 (SD=63.22), India 28.8 (SD=32.17), Sri Lanka 25.7 (SD=4.8), Nepal 8.6 (SD=8.87), and Pakistan 3.6 (SD=5.06)⁸.

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In a study different social parameters were studied and the result shows increased suicidal tendency among people with; low socioeconomic position, economic recession, poor problem solving ability, and area level people attitude towards problems of life⁹.

A study in determining suicide rates in six cities of Pakistan gives different findings. The author stated, "These figures underestimate suicide rates in Pakistan frequency of suicide is 2/100,000 in Pakistan"¹⁰.

Contemporary research on suicide generally focuses on demographic, epidemiological, biological, neurological, psychological and socio-cultural issues. The epidemiological study of suicide focuses on rate, why, how, or where of suicide. The data on suicide rates, the causes or motivation of suicide, and methods of suicide shows different dimensions of the phenomenon of suicide.

In the context of epidemiology of Suicide in Pakistan, a number of studies have appeared. In a study conducted in Faisalabad the incidence of suicide came out to be 1.12/100,000 with male preponderance¹¹. The cases of suicide in Karachi, and rest of the country, show that suicide is a serious problem. Unexplained deaths are taken to medico-legal centers for autopsy, the police are required to conduct inquiry of such cases, declare it as suicide or otherwise.

It is common in people who are living with chronic mental illness. Individuals with severe clinical depression and alcohol use are at highest risk if untreated⁸. In a study conducted at seven US schools a dose-response relationship was found between the number of manifestations of distress and recent suicidal ideation or serious thoughts of dropping out⁹.

A study conducted in US army showed total of 255 soldiers committed suicide in 2007-8, with rate of 20.2 per 100 000. Factors associated with higher suicide risk included male gender, lower enlisted rank and mental health disorders treated on an outpatient basis¹⁰.

Karachi is a big cosmopolitan city. It is developing with high immigration rate from all over the Pakistan. Thick population and stress in life has increased the suicide rate. Methods of suicide here are changing with the time as industrial chemicals are easily available now. Family values and media stress are drastically changed. A fresh study is needed to compare pattern of suicide, and its relation with different social parameters in Karachi.

METHOD

A descriptive comparative study was conducted retrospectively from 2011 to 2015. Five years police

record of completed suicide from 2011-2015 was taken from all 18 towns of Karachi. From each town three police stations (PS) and from every PS 10 cases of completed suicide were then selected randomly. Out of 540 cases forty were rejected due to incomplete data. A total of 500 complete suicide cases were analyzed. To have detailed information a primary data of 200 interviewed patients of attempted cases were taken from National poison centre, JPMC, Karachi prospectively from July 2014- June 2015. Sample size is 700 cases (500 complete and 200 attempted suicides). Cases with incomplete police record were excluded. Patients who were not willing to participate in the study and cases with accidental poisoning were also excluded.

Statistical Analysis: The data from filled questionnaires were entered into SPSS-17. Frequencies were calculated for categorical variables like sex, age, marital status, employment status and monthly income. Mean and standard deviation were calculated for age. Chi-square test of significance was applied to determine association of each of the independent variable (gender, age group, marital status and employment status) with the dependent variable i.e. suicide. Confidence interval was kept 95%.

Ethical consideration: Permission was taken from station house officers of police stations after clarifying the purpose of the study. Anonymity and confidentiality of attempted suicidal participants were given top priority. They had complete liberty not to answer any question or quit during the study at any time.

RESULT

The study includes 700 suicide cases from Karachi, 500 cases of complete suicide from police record and further interview of 200 cases of attempted suicide from National Poison Centre, JPMC, Karachi. Fig-1; shows mean suicide rate of 2.46 per year per 100,000.

Table 1: Different social parameters of suicide (n=700)

Social Parameters	Group	Frequency
Gender	Male	64
	Female	36
Age	Up to 30 years	66.7
	> 30 years	33.3
Marital Status	Married	48.7
	Single	51.3
Employment Status	Employed	19.57
	Unemployed	40
	Dependent	40.43

Table-1; shows different social parameters of suicide. In male the act is more common and is 64%. Younger population of up to 30 years commits more

suicide 66.7%. Average age is 28.19± 8.79 in male, and 26.07±8.25 years in female.

Married or single have no effect on the act, it is 48.7% and 51.3% consequently. Frequency of committing suicide among employed persons is only 19.57%. Among unemployed it is 40%. In study students and house wives are grouped as dependents, and frequency among this group is 40.43%.

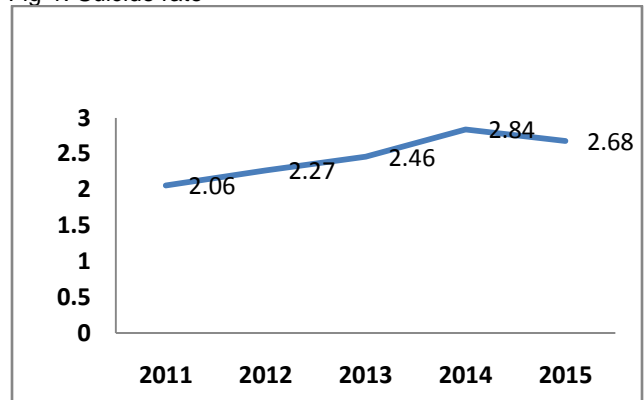
Table-2 shows comparison of cause and method leading to completed and attempted suicide. The most common cause in CS is bad family relations 24.4%, while in AS it is bad economy 28.5%. Similarly method was compared in CS and AS. It is found that hanging is on top in 40.4% in CS, while poisoning is most common method in AS 56.5%.

Table3; shows comparison of different social factors between CS and AS. There is no difference in incidence of CS and AS, gender wise. It is 64% and 66% consequently in male gender. Data shows younger age group up to 30 years indulge into the act of suicide which is 68% and 63% consequently. Marital status in CS is 48% and in AS is 49%.

Finding in employment status is different in complete and attempted suicide. It is 51.4% in CS by

the employed people. While in AS, unemployed people attempt more 61.5%. This shows common trend of AS by the dependents or unemployed while CS is more common in employed people. There is no significant association of gender, age, marital status, and employment status with suicide group. Their p value is 0.549, 0.187, 0.649, and 0.266 respectively.

Fig-1: Suicide rate



Five years suicide rate per 100,000 populations

Table2: Comparison of cause & method between complete & attempted suicide

		Complete Suicide(n=500)	Attempted Suicide(n=200)	Total (n=700)
Cause	Economy	117(23.4)	57(28.5)	174(24.9)
	Bad family relations	122(24.4)	43(21.5)	165(23.6)
	Depression	111(22.2)	39(19.5)	150(21.4)
	Addiction	24(4.8)	8(4.0)	32(4.6)
	Failure in love	26(5.2)	16(8.0)	42(6.0)
	Terminal illness	12(2.4)	10(5.0)	22(3.1)
	Scolding by parents	54(10.8)	16(8.0)	70(10.0)
	Unknown	34(6.8)	11(5.5)	45(6.4)
	Total	500(100)	200(100)	700(100)
Method	Hanging	202(40.4)	46(23.0)	248(35.4)
	Poisoning	137(27.4)	113(56.5)	250(35.7)
	Shooting	64(12.8)	14(7.0)	78(11.1)
	Jumping	13(2.6)	3(1.5)	16(2.3)
	Self Immolation	10(2.0)	9(4.5)	19(2.7)
	Drowning	52(10.4)	5(2.5)	57(8.1)
	Jumping before Train	21(4.2)	3(1.5)	24(3.4)
	Other	1(0.2)	7(3.5)	8(1.1)
		Total	500(100)	200(100)

Table3: Comparison of social factors between complete & attempted suicide

Social factor		Complete suicide(500)	Attempted suicide(200)	P-value
Sex	Male	318(63.3)	0.549	132(66)
	Female	182(36.4)		68(34)
Age	Age up to 30 yrs	341(68.2)	0.187	126(63)
	Age >30 yrs	159(31.8)		74(37)
Married	Married	242(48.4)	0.649	98(49)
	Single	258(51.6)		102(51)
*Employed	Employed	257(51.4)	0.266	77(38.5)
	Dependent	241(48.2)		123(61.5)

Comparison between Completed & Attempted Suicide(*two readings in data were missing)

DISCUSSION

Epidemiology of suicide was studied globally by different researchers. In 2001 it was studied in six different countries and reported that in 2020, approximately 1.53 million people will die from suicide, and suicide in younger age group will go on rise¹¹. Study in hand shows suicide rate as 2.46/100,000 in Karachi. Other Karachi based studies are showing lesser suicide rate. This can be due to under reporting. In the past it was researched and found as 0.72 (1964), 0.11 (1981) and 1.12 (2002) in Pakistan⁴. In Muslims countries suicide rate is low. Literature on suicide shows religion sanctions¹². Study in Nijeria reported 0.4¹³. In Non Muslim countries like Geneva, Switzerland it is 22.75/100,000¹⁴. In this five years study it is found that suicide rate is increasing 2.06(2011), 2.27(2012), 2.45(2013), 2.84(2014), 2.68(2015).

The study in hand shows suicide rate is more common in males 64.3% as in other international studies^{15,16}. Other studies in Asia and Far East shows younger people commit suicide more commonly than elder people¹⁷. In Pakistan also the findings are nearly the same^{17,18}.

The suicide is increasing especially in young males¹⁹. The study in hand shows more common suicide, 66.7% in young age group up to 30 years of age. Global suicidal rates in young age are a source of alarm and calls for urgent measures to fight the menace of suicidal behavior.

A study in 2010 found single people, jobless commit suicide more²⁰. The study in hand determined suicide in employed people as 57%, while 43% are dependents which include house wives also. Marriage has no significant effect on suicide in the study, shows 48.6% in married people. Joblessness, inflation, desire of easy living could be the contributing factors in youngsters²¹. The study in hand shows bad economy in 24.9% and disturbed relation among family members in 23.6% as cause of suicide. These findings are in consistence with international studies²². Psychiatric illness especially depression is major cause of suicide in literature²³ but in this study it appeared third in the list. This may be because of unawareness of people about mental illnesses in Pakistan. The study in hand shows poisoning and hanging as almost equal method of suicide 35.7 & 35.4% respectively. Study by Uzuni in 2007 confirms hanging common method of suicide²⁴. In other studies poisoning found to be leading method²². Complete suicide by bad family relations, while bad economy leads to half hearted attempt and actor survived.

CONCLUSION

The study shows constant increase in suicide rate in population of Karachi. Point of concern is involvement of very young age group and both genders. Other social factors like marital status and employment are not influencing significantly on suicide. There is no significant difference between completed suicide and attempted suicide with gender, age, marital status, and employment with p value of 0.549, 0.187, 0.649, and 0.266 respectively.

Limitations: In the study suicide survivors were interviewed in national poison centre, JPMC. It may be the reason that poisoning become on top of the list in method.

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Suggestions

1. Job opportunities should be increased.
2. Media should play its role in promoting healthy life style.
3. There should be good communication among society members.
4. Awareness to treat psychological disorders should be educated.

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