Original Article

Epidemiology of Suicide in Multan

Suicide

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ABSTRACT

Objectives: Since suicide is increasing in Pakistan and has become a major Public problem, the objective of our study is Analysis of the different methods used for suicide, most vulnerable persons from point of view of factors responsible for suicide ideation and commission. Finally to suggest remedial measure for prevention of suicide.

Study Design: Retrospective study.

Place and Duration of study: This study was carried out at the Department of Forensic Medicine, NMC Multan from 01-01-2007 to 31-12-2011

Materials and Methods: The study consisted of 90 cases of suicidal deaths declared as suicideon the information retrieved through psychological Autopsy belonging to both genders and different age groups, whose autopsy was conducted in the mortuary of department of Forensic Medicine, NMC Multan. Findings were recorded on the Performa and the results statistically analysed.

Results: The study disclosed that suicidal rate was 1.22/100000 with male dominance. The most vulnerable age for suicide in male was 21-30 years and that for females was between 11-20 years. Hanging was the commonest method employed.

Conclusion: The suicide is increasing in Multan and all over Pakistan and demands immediate intervention and remedial measures for its prevention.

Key Words: Suicide, Hanging, Socio-economic status.

INTRODUCTION

Killing of self is called suicide. It is an act of taking one's own life voluntarily and intentionally. The term attempted-suicide is used when a person attempts to take or has a tendency to take his own life. Suicide can be classified into six degrees depending upon the circumstances while attempting suicide[1]. Legal position in Pakistan is that attempted suicide is crime according to Qisas and Diyat act 1997 vide section 325 which states that whoever attempts to commit suicide and does any act toward the commission of such offence, shall be punished with simple imprisonment for a term which may extend to one year, or with fine , or with both[2] where as it is no more a crime in U.K since 1961and also in U.S.A with exception of some states. The incidence and pattern of suicide vary from country to country. Cultural, religious and social values play some role in this regard[3]. According to the W.H.O, every year; almost onemillionpeople die from suicide, a "global" mortality rate of 16 per100, 000 or one death every 40 seconds. .On World Suicide Prevention Day 2008, WHO claimed that Japan, China and India might account for about 40% of the world suicides. Most people who commit suicide in India (37.8%) are below 30 years of age. The percentage of suicides committed by those below 44 years is 71%. Experts claim that 60% of these suicides have not occurred if proper intervention was undertaken. Mental disorders (particularly depression and alcohol use disorders) are a major risk factor for suicide in Europe and North America; however, in Asian countries, impulsiveness plays an important role. Suicide is complex with psychological, social, biological, cultural and environmental factors involved[4]. A study conducted in Pakistan negates the widely held belief that suicide is a rare phenomenon in an Islamic country like Pakistan, and underscores the need for more culture specific research on this important public health problem[5].

There are no official statistics on suicide from Pakistan. Suicide deaths are not included in the national annual mortality statistics. National rates are neither known nor reported to the World Health Organization[6]. Information on suicide in Pakistan comes from a number of sources including newspapers and reports of Non-Governmental Organizations (NGO).

MATERIALS AND METHODS

A total numberof 90 dead bodies were received in mortuary of NMC, Multan whose death was declared as suicidal on the basis of information retrieved from the police inquest, observations/findings during the conduction of the autopsy on these cases and psychological autopsy (questions with the relatives, old/new friends and neighbours of the victim) were segregated from all the autopsies conducted at the department of Nishtar Medical College Multan during the period of five years with effect from 01-01-2007 to 31-12-2011. These cases were divided on the basis of age, gender, method of commission of suicide, socio economic status and the weather during which the suicide occurred.

RESULTS

On the analysis of data recorded, our study revealed as under; the total number of autopsies conducted during

the period of study w.e.f. 01-01-2007 to 31-12-2011 were 1652 and the cases of suicides were 90, which is 5.45% of the total number of autopsies. The highest incidence of suicide occurrence was during 2007 (24 cases) at the rate of 2.0/month and the lowest was during 2010 (14 cases) at the rate of 1.16/month.

Table No.1: Year wise distribution of autopsies on suicidal/total number of autopsies

Year	No of autopsies conducted on suicide cases.	Total no. of autopsies conducted.	%age	Per month incidences of cases of suicide.
2007	24	392	6.12%	2.0
2008	20	336	5.95%	1.66
2009	16	370	4.32%	1.33
2010	14	290	4.82%	1.16
2011	16	264	6.06%	1.33
Totals:	90	1652	5.45%	1.49

Table No.2: Deaths due to suicides in various age groups

Age (yrs)	Male	Female	Combined
11 – 20	10	14	24
21 – 30	32	08	40
31 – 40	08	08	16
41 – 50	02	-	02
51 – 60	06	-	06
Above 60 Yrs	02	-	02
Totals:	60	30	90

Keeping in view the average midyear population of Multan and the average suicide rate in the five years, the rate of the suicide comes out to be 1.22/100000 in the city of Multan. The most vulnerable age for suicide in the male was between 21-30 years (32 cases) followed by the age between 11-20 years (10 cases), where as in female, the most vulnerable age for suicide was 11-20 years (14 cases) followed by the age between 21-30 years (8 cases).

The most common method adopted for committing suicide was hanging which was utilized by 53.33% of the victims followed by flame burning (13.33%). This was followed by firearm (12.22%) and then poisoning (11.11%). There was male preponderance, who resorted the method of hanging to commit suicide (66.6%) as compared to females (33.4%) who hung themselves for committing suicide. Our study revealed that female preferential method was flame burning to commit suicide, with the significantly higher percentage (66.6%) as compared to males (33.4%).

It was also disclosed by our study that the highest number of the persons 80 (88.9%)who committed suicide belonged to low socio-economic status followed by middle socio economic status, which was only 6.7%. The minimum number of persons who committed suicide belonged to upper socio-economic status with the lowest of 4.4% which is an agreement with the study conducted in India[7].

Table No.3: Different Methods used for Commission of Suicides

Modes of suicide		11 – 20	21 – 30	31 – 40	41 – 50	51 – 60	Above 60 Yrs	Totals
Hanging	M	06	16	08	-	-	02	32
	F	06	06	02	-	02	-	16
Poisoning	M	-	02	-	02	-	-	04
	F	02	02	02	-	-	-	06
Flame	M	-	-	04	-	-	-	04
	F	02	02	04	-	-	-	08
Drowning	M	04	02	-	-	02	01	09
	F	-	-	-	-	-	-	-
Firearm	M	-	10	-	-	-	-	10
	F	-	01	-	-	-	-	01
Sharp weapons	M	-	-	-	-	-	-	-
	F	-	-	-	-	-	-	-
Misc	M	-	-	-	-	-	-	-
	F	-	-	-	-	-	-	-
Totals:	M	10	30	12	01	02	04	59
	F	10	11	08	-	02	-	31

Table No.4: Socio-economic status of suicide

Status	Total No of cases	Percentage
Low socio-economic status	80	88.9 %
High socio-economic status	06	6.7 %
Upper socio-economic status	04	4.4 %

DISCUSSION

Suicide is one of the ten leading causes of death in the world, accounting for more than a million deaths annually.[7]However incidence and pattern of suicide varies from country to country depending on social, cultural and religious values[3]

Suicide rates are highest in Europe's Baltic states, where around 40 people per 100,000 die by suicide each year, second inline is the Sub-Saharan Africa where 32 people per 100,000 die by suicide each year. The lowest rates are found mainly in Latin America and few countries in Asia[8].

Our study showed that hanging is the most common method used by 53.33% of the suicide which is consistent with the other studies conducted in Pakistan and other countries. The reason for hanging to be resorted for majority of suicide might be easy and is certain lethal method[7, 9, 11, 12, 13, 14, 15], followed by poisoning[3, 6,7,9,10,19] and firearm[3, 9, 17, 23, 24].

Our study disclosed that male to female ratio of the victim of the suicide is 2:1 with male preponderance and coincides with the reports of the studies conducted in Pakistan and abroad.[3, 5, 9, 10]

According to our study, about 71 % of the suicides were committed by the persons between the ages of 11-30, declining toward the advancing age whereas only 8.8% cases of the suicide were found to be above 50 years of age,which is in contrast with the western countries where the number of the suicide in elderly subject is greater[16].

The trend of suicide is increasing day by day in Pakistan. The common causative factors are unemployment, homelessness, socio-economic problems, social injustice, marital disharmony, difficulty in inter personal relationships, and extreme poverty[17].Extreme poverty has evolved a new method of jumping into the water of the mother along with the children, the reason might be that her children may not suffer socio-economical and socio-cultural problems after her death. This phenomenon is very alarming for the authorities engaged in the prevention of suicide in Pakistan.

Murad M Khan (2007) reported that while official rate of suicides are lacking it has been possible to calculate the rates of suicides in six cities of the Pakistan. The crude rates vary from a low of 0.43/100,000 per year (average for 1991-2000) in Peshawar to a high of 2.86/100,000 for Rawalpindi (in 2006), with other cities falling in between: Karachi, 2.1/100,000 (1995-2001); Lahore, 1.08/100,000 (1993-95); Faisalabad, 1.12/100,000 (1998-2001) and Larkana, 2.6/100,000 (2003-2004)[18], which is agreementwith our study and other studies conducted in Pakistan which also shows low rate of suicide in Pakistan.

M. S. Reddy reported in 2010 that 90% of the suicides can be traced finally to the hopelessness leading to depression, so all the major psychiatric disorders carry an increased risk of suicide, and also commented that people on antidepressant therapy have tendency to commit suicide after 10-14 days of commencement of antidepressant therapy[19].

Bertolote and Fleischmann, 2002, observed that Suicide rates in Islamic countries are considerably lower than other countries[20]. Simpson and Conklin (1989) carried out a 71 nation cross-national analysis and showed when factors such as social, economic and demographic modernity are controlled; Islam has an independent effect on lowering suicide rates[21].The major deterrent effect of Islam toward the commission of the suicide is perhaps the firm belief in the life herein after and suicide has been declared as "Haram" according to the teachings of the Islam.

It has been observed in our study that most of the suicide incidents took place in hot/ rainy weather i.e. months of April, May, June and July which has also been reported in many studies conducted worldwide[3, 7,17, 22].

CONCLUSION

In Pakistan, the suicide DSH (Deliberate Self Harm) rate has increased very speedily in the recent years. The most powerful factor towards depression & suicidal ideation and commission, should be alleviated by the hectic efforts of the Government and NGOs. Crisis intervention centres& suicidal prevention hot line should be established on the pattern of Sri Lanka and other western countries. As mentioned earlier, attempted suicide is a crime in Pakistan, suicide in most other countries is thought as less as a crime and more as ill-fated outcome of the hopelessness/depression resultant from social disorganization. It is therefore suggested that the person who attempts suicide should be provided treatment in psychiatric institution rather than to be subjected to punitive action for his rehabilitation in the society.

REFERENCES

1. Awan NR. Medical Aspects of Law. Principles and Practice in Forensic Medicine. 1st ed. Publishers; Sublime Arts (Lahore); 2004.p.23-30..
2. Qisas & Diyat Act 1997
3. Saeed A, Bashir MZ, Khan D, Iqbal J, Raja KS, Rehman A. Epidemiology of Suicide in Faisalabad, Pakistan. J Ayub Med Coll Abbottabad 2002;14(4):34-7.
4. World suicide prevention day 2008, report by WHO.
5. Khan M, Moosa M, Hashim R. The pattern of suicide in Pakistan. The J of Crisis Intervention and Suicide Prev 2000;21(1): 31- 35.
6. Khan MM. Suicide prevention in Pakistan: an impossible challenge? J of Pak Med Assoc 2007.
7. Mohanty S, Sahu G, Patnaik M. suicide in India – A four year retrospective study. J Forensic and Legal Med 2007;14(4):185 -189
8. Staff. "Self-directed violence". World Health Organization 2002. Retrieved 2006-04-11. Accessed on 18/11/2013

9. Obabasi BA, Turkmen N, Fedakar R, Tumer RA. The characteristic of suicidal cases regarding the gender. Turk J Med Sci 2009:39 (6): 917-922.
10. Soman C. R, Safraj, Kutty R. V, Vijayakumar K. Suicide in South India: A community-based study in Kerala. Ind J of Psychiatr 2009;51(4): 261-264.
11. Burns A, Goodall E, Moore T. A study of suicides in Londonderry, Northern Ireland, for the year period spanning. 2000-2005. J Forensic Leg Med 2008;15:148-57
12. Abe R, Shiori T, Nishimura A, Nushida H, Ueno Y, Kojima M. Economic slump and suicide method: Preliminary study in Kobe. Psych Clin Neurosis 2004;58: 213-16.
13. Yamamura T, Kinoshita H, Nishiguchi M, Hishida S.A perspective in epidemiology of suicide in Japan. Vojnosanit Pregl 2006; 63: 575-83.
14. Mgaya E, Kazaura MR, Outwater A, Kinabo L. Suicide in the Dar e Salaam region, Tanzania, 2005. J Forensic Leg Med 2008;15: 172-6.
15. Mc Govern C, Cusack DA. A study of suicides in Kildare, 1995- 2002. J Clin Forensic Med 2004; 11: 289-98.
16. Khan, Murad M. Suicide on the Indian Subcontinent. The J Crisis Interven and Suicide Prev 2002; 23(3): 104-107.
17. Nestor D, Kapusta, Sonnrck G. Suicides of men in Austria: an epidemiological analysis over a 30-year period. 2004;1(2-3):197-202.
18. Khan MM, Naqvi H, Thaver D, and Prince M, Epidemiology of Suicide in Pakistan: Determining Rates in six Cities, in archives of suicide research. 2008; 12:155-160.
19. Reddy MS. Suicide Incidence and Epidemiology. Ind J Psychol Med 2010;32(2):77-82.
20. Bertolote JM, Fleischmann. A global perspective on the epidemiology of suicide, Sociological. 2002;7:6-8.
21. Simpson ME, Conklin GH. socio-economic development, suicide and religion: A test of Durkheim's theory of religions and religion and Suicide. Social forces. 1989;67:945-965.
22. Durk D, Fedakar R, Turkmen N, Update of suicide trends in Turkey from 1996 to 2002. An analysis of Forensic autopsy cases, Abstract Book. 2003:408.
23. Lester D, Leenaars A. Suicide rates in Canada before and after tightening firearm control laws. Psychol Rep 1993;72(3 Pt 1):787-90.
24. Lambert MT, Silva PS. An update on the impact of gun control legislation on suicide. Psychiatr Q 1998;69(2):127-34..

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