Patterns and socio-demographic correlates of attempted suicide cases admitted in a tertiary care hospital of Kanpur (U.P.)

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Abstract

Introduction: Every year about 800 000 people take their own life and there are many more people who attempt suicide. The second leading cause of death was suicide among 15–29 year olds globally in 2015 although it occurred in most of the ages. Suicide does not just occur in high income countries, but is a global phenomenon in all regions of the world. In fact, over 78% of global suicides occurred in low and middle income countries in 2015.

Materials and Methods: Present study is carried out among attempted suicide cases admitted in last 3years between Jan 2015 to Dec 2017 at Rama Medical College Hospital and Research Centre (RMCH&RC) Kanpur (U.P). Retrospective hospital record based study carried out after obtaining ethical clearance from institutional ethical committee. Data was collected from medical record section.

Inclusion Criteria: Patients admitted in the hospital and classified as ICD10 (X60-84) code for suicide under international coding of disease for whom, all necessary information were available, have been included in the study.

Study Sample: Total (N=102) who were admitted at RMCH&RC and fulfilled the necessary information criteria included in study. Subjects aged <15 years admitted were very few and not qualified the study criteria.

Results and Discussion: Most of the suicide cases 47(46.1%) were aged between 15-25 years with mean age of suicide cases being 30.53 ±12.12, with M/F ratio (1.1:1). The data shows that most common method of suicide is the poisoning in 52.9% cases just literate were 62.7% and only 11.8%were illiterate. Hospital care determinants like duration of hospital stay was <1week 52.0%, between 1-3 weeks for 43.2% cases and >3weeks for 4.9% cases only with mean duration of hospital stay was 7.60±6.24. Complications among survivors 27.5% Hepatic, 26.5% Physical disability, 17.6% Respiratory, 8.8% neurological and only 6.9%cardiacwith overall mortality (10.8%).The results are comparable with most of the hospital based studies.

Conclusion: Mental health bill decriminalizing suicide passed by Parliament in India on March 27, 2017 that a person who attempts suicide shall not be punished under IPC 309.This will render misclassification of suicide cases and it will permit psychosocial counseling of survivors which in turn enhance prevention and control. Suicides are preventable there are a number of measures that can be taken at population, sub-population and individual levels to prevent suicide and suicide attempts.

Keywords: Self harm, Suicide attempt, Decriminalization of suicide.

Introduction

Every year about 800 000 people take their own life and there are many more people who attempt suicide. The second leading cause of death was suicide among 15–29 year olds globally in 2015 although it occurred in most of the ages. Suicide does not just occur in high income countries, but is a global phenomenon in all regions of the world. In fact, over 78% of global suicides occurred in low and middle income countries in 2015.[1]

The psychological and social impact of suicide on the family and society is immeasurable. On average, single suicide intimately affects at least six other people. If a suicide occurs in a school or workplace it has an impact on hundreds of people. The burden of suicide can be estimated in terms of DALYs (disability-adjusted life years). According to this indicator, in 1998 suicide was responsible for 1.8% of the total burden of disease worldwide, varying between 2.3% in high-income countries and 1.7% in low-income countries. This is equal to the burden due to wars and homicide, roughly twice the burden of diabetes, and equal to the burden of birth asphyxia and trauma. In 2011, middle-aged adults accounted for the largest proportion of suicides (56%) and from 1999-2010, the suicide rate among this group increased by nearly 30%.Thereafter from 2014 rate is declining.[2]

Suicide is the third leading cause of death among persons aged 10-14, the second among persons aged 15-34 years, the fourth among persons aged 35-44 years, the fifth among persons aged 45-54 years, the eighth among person 55-64 years, and the seventeenth among persons 65 years and older.[3]

Objectives

1. To know the patterns and socio-demographic correlates of attempted suicide cases admitted at Rama medical College Hospital and Research Centre Kanpur (U.P)
2. Determinants of hospital care in terms of duration of stay in hospital, complications among survivors and outcome.

Materials and Methods

Present study is carried out among attempted suicide cases admitted in last 3years between Jan 2015

to Dec 2017 at Rama Medical College Hospital and Research Centre (RMCH&RC) Kanpur (U.P). RMCH&RC is a tertiary care teaching hospital which provides care predominantly to rural population.

Retrospective hospital record based study carried out after obtaining ethical clearance from institutional ethical committee. Data was collected from medical record section. Patient files (BHT) including medico-legal record of admitted cases scrutinized, history regarding socio- demographic profile and reasons behind attempted act were noted.

Inclusion Criteria

Patients admitted in the hospital and classified as ICD10 (X60-84) code for suicide under international coding of disease for whom, all necessary information i.e. socio–demographic history and history regarding the act were available, have been included in the study.

We defined "self-injurious behavior with a fatal or nonfatal outcome accompanied by evidence (either explicit or implicit that the person intended to die)."We defined self- poisoning as cases in which a substance had been ingested in order to cause self-harm. Accidental harm arising from recreational use of drugs or alcohol was not included. However, if it was clear that someone had deliberately taken an overdose of recreational drugs then we coded it as self-harm.[4]

Study Sample

Total (N=102) who were admitted at RMCH&RC and fulfilled necessary information availability criteria included in study. Subjects aged <15 years admitted very few and not qualified the inclusion criteria.

Data Analysis

Data thus obtained was subjected to statistical analysis percent proportions means with standard deviation were calculated and chi square test applied to know the associations among variables by using software Statistical Package for Social sciences (SPSS ervsion-21).

Results

Most of the suicide cases 47(46.1%) were aged between 15-25 years. As per gender distribution, 52.9% were male and 48 47.1% were females with M/F ratio (1.1:1). It's observed that 73 (71.6%) were married and 29 (28.4%) were unmarried. Majority of the suicide cases 64(62.7%) were just literate and only 12 (11.8%) were illiterate. Among these maximum 43(42.9%) belong to upper lower income group, 39 (38.2%) belong to middle income group, 12 (11.8%) lower income group and only 8 (7.8%) cases belong to higher income group in the hospital (all income groups as per (modified B.G Prasad socio economic classification).[5] The data shows that most common mode of suicide is poisoning 54(52.9%) followed by burn 42 (41.2%) and 6 (5.9%) by hanging among 102 suicide cases admitted in the hospital. A majority of cases who attempted suicide (59.8%) were having psychosocial reasons behind this act, 22 (21.6%) having personal/Family reasons. Only 11 (10.8%) stated economic and 6 (7.8%), physical disability. Table 1, Fig. 1 Statistical association between modes of suicide and age group was found statistically significant (p=.024). This association between mode of suicide and gender (p=.066), Literacy (p=.459) and Socio-economic status (p=.498) was not found statistically significant. Table. 2, Fig. 2,3

Table 1: Socio- economic variables of suicide cases (N=102)

Variables	Number(n)	Percent (%)
Age Group		
15-25	47	46.1%
26-35	31	30.4%
36-45	14	13.7%
46 and Above	10	9.8%
Gender		
Male	54	52.9%
Female	48	47.1%
Marital Status		
Married	73	71.6%
Unmarried	29	28.4%
Literacy		
Illiterate	12	11.8%
Just Literate	64	62.7%
Educated	26	25.5%
Socio Economic Status		
Upper middle	8	7,8%
Middle	39	38.2%

Upper Lower	43	42,2%
Lower	12	11.8%
Modes of Suicide		
Burn	42	41.2%
Hanging	6	5.9%
Poisoning	54	52.9%
Reasons of Suicide		
Physical Disability	6	7.8%
Personal/Family	22	21.6%
Psychosocial	61	59.8%
Economical	11	10.8%
Seasonal Trends		
Jan-Mar	31	30.4%
Apr-Jun	37	36.3%
Jul-Sep	21	20.6%
Oct-Dec	13	12.7%

Mean Age of suicide cases (N=102)					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Age	102	15.00	70.00	30.23	12.12

Table 2: Association between mode of suicide and Socio-demographic Variables (N=102)

Socio-Demographic variables	Modes of Suicide			Pearson Chi Square	df	'P' Value
	Poisoning	Burn	Hanging			
Age group 15-25	13	02	32	14.54	6	.024
26-35	12	02	17			
36-45	10	01	03			
45&above	07	01	02			
Sex Male	27	02	25	4.05	2	.132
Female	15	04	29			
Literacy Illiterate	07	01	14	2.40	4	.662
Just literate	24	04	36			
Educated	11	01	14			
SES Upper	04	01	03	5.36	6	.498
Middle	19	03	17			
Upper lower	16	01	26			
Lower	03	01	08			

Hospital care determinants like duration of hospital stay was <1week 53 (52.0%), between 1-3 weeks for 44 (43.2%) cases and >3weeks for 5 (4.9%) cases only. Among a total (N=102) suicide complications among survivors 27.5% hepatic, 26.5% physical disability, 17.6% respiratory, 8.8% neurological and only 6.9% cardiac 11 died with overall mortality (10.8%). [Table 4][Fig. 4]

Table 3: Determinants of hospital care among admitted suicide Cases (N=102)

Determinants	Cases (n)	Percent (%)
Duration of Hospital Stay		
<1 Week	53	52.0%
1-3 Week	44	43.1%
>3 Week	5	4.9%
Complications		
Neurological	9	8.8%
Respiratory	18	17.6%
Cardiac	7	6.9%
Hepatic	28	27.5%
Renal	13	12.7%

Physical Disability	27	26.5%
Outcome		
Improved and Discharged	56	55.9%
DOPR/LAMA	29	28.4%
Referred To Higher Centre	6	5.9%
Died	11	10.8%

Mean days hospital stay of suicide cases (N=102)					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Duration of Stay	102	1.00	45.00	7.6	6.2

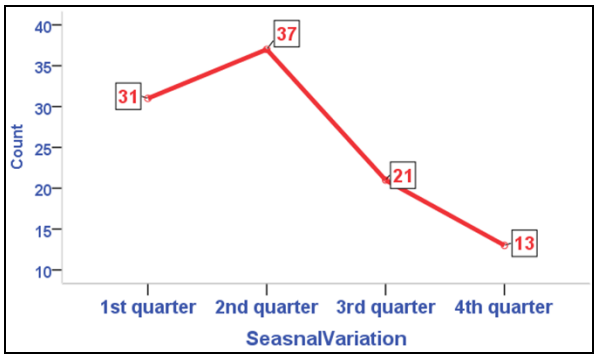

Fig. 1

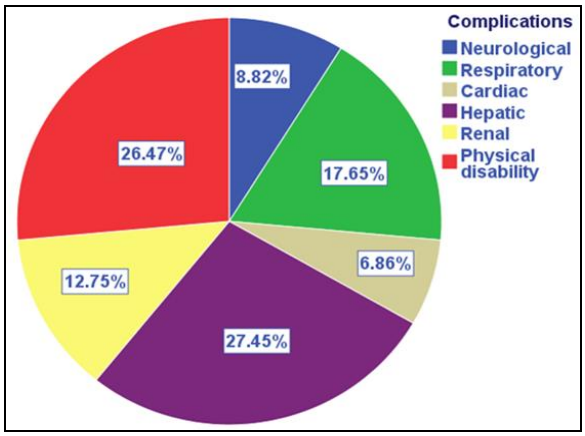

Fig. 2:

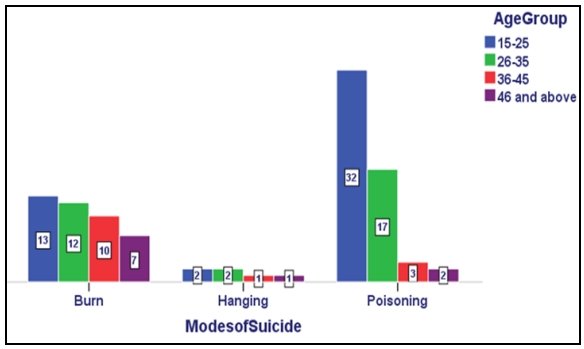

Fig. 3:

Fig. 4:

Discussion

Most of the patients in our study were in age group of 15-29 years, which accounts for 46.1% of the study population. According to the Million Death Study (MDS), registrar general of India 2010[6] 40% of the suicide deaths were noted in the age between 15 and 29yrs.

In our study out of 102 cases 53% were male population with male to female ratio of 1.1:1. A slight male predominance is noted, though this is not statistically significant. In the studies done by Bansal et al.[7] and Nagendra et al.[8] Male patients committing suicide outnumbered females. WHO report says that more males committed suicide compared to females in majority of countries.

In the present study, 63% of the subjects attempted suicide were married compared to 37% of them were singles. In a hospital based study by Pawan et al. similar results were found. Hospital care determinants outcome was noticed among 102 subjects admitted 89.2% survived with complications and only 11(10.8%) died with overall mortality was 10.8%. In a hospital based study by Pawan Saumya et al. in a tertiary care hospital overall mortality among admitted suicide cases were 9.7% almost similar as in our study.[9]

The predominant mode of attempted suicide in our study has been poisoning with incidence of 57% followed by burn41.2 % and hanging at 5-9% as third important mode. In most of the studies poisoning is the commonest method other methods of suicide varying in deferent studies. According to CDC in US commonest

method of suicide is fire arm may be due availability of fire arm with most of the households in US. In the W.H.O fact sheet 2015 common modes of suicide in rural areas worldwide are poisoning, Fire arm and hanging.[10]

A majority of cases who attempted suicide (59.8%) were having psychosocial reasons behind this act, 22 (21.6%) having personal/Family reasons. Only 11 (10.8%) stated economic and 6 (7.8%), physical disability.

In a hospital based study by MR Nagendra Gouda and Sambaji M Rao[8] most common cause was family problem (27.2%) followed by illness (27%). Family problem (27.5%) topped the list in males and illness (33%) in females. According to W.H.O study most common reason were psychosocial followed by personal/Family reasons as found in our study.

Present study results showing most of the subjects 62.7% were just literate and 11.8% illiterate. According to National Crime Records Bureau report suicide in India 2015 chapter-2 14.2% illiterate. Socio economic status of cases in our study maximum 42.9% belongs to upper lower economic group (as per modified B.G Prasad SES scale). The suicides patterns to some extent depend on economic status of persons as 63.1% of victims belonged to low income group (earning below `1 lakh) followed by 34.2% victims (earning `1 lakh to below `5 lakh), 2.4% victims (earning `5 lakh to below `10 lakh) and 0.3% victims (earning `10 lakh & above). Similar patterns can be seen in State/UT as well.[11]

Most of the cases of suicidal attempts were not referred for psychiatric assessment and many of the family members didn't want to disclose the true facts because of the social stigma and possible legislative actions.

Conclusion

Mental health bill decriminalizing suicide passed by Parliament in India on March 27, 2017 that a person who attempts suicide should be presumed to have severe stress and shall not be punished under IPC 309. This will render misclassification of suicide cases and it will permit psychosocial counseling of survivors which in turn enhance prevention and control.[12]

Determinants of hospital care like duration of stay in hospital, complications among survivors and outcome (mortality) according to various methods of suicidal attempts and reasons behind the act will lead to necessary interventions, plans for treatment and rehabilitate them. But population based surveys to know the reasons behind suicide should be given priority for prevention and control of such attempts among population at risk it is the major limitation of hospital based studies.

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