Assessment of Suicidal Tendencies among Students in Peshawar: A Cross Sectional Study.

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ABSTRACT

Background: Suicidal tendencies means "thoughts about or a strange obsession" with suicide. The suicidal thought varies greatly from occasional thinking, permanent tendencies about suicide to comprehensive planning, role playing and incomplete attempts, or fully prepared attempt to result in death.

Objective: To assess the suicidal tendencies using Beck Depression Inventory among students in Peshawar.

Material & Methods: This study was conducted in two Medical colleges and two non-medical institutions of Peshawar. This was a cross sectional study, non-probability convenient sampling technique was utilized. Study duration was from December 2016 to April 2017. Students below 18 years and above 29 years, unwilling and on sick leave were excluded from the study. The suicidal ideation was assessed through validated standardized Beck depression inventory.

Results: Out of the total, n=421 students completed the survey, which included 216 (51%) medical students and 205(48%) non-medical students. There were 250 (59.2%) male and 171 (40.5%) female students in the study. N=343 (82%) showed no suicidal tendencies while n=44 (10.4%) showed mild suicidal tendencies, n=25 (5.9%) showed moderate suicidal tendencies and n=10 (2.4%) showed severe suicidal tendencies in the sample population. There was no significant difference between gender, socioeconomic status and medical and non-medical students.

Conclusion: Suicidal tendencies were observed among male gender and non-medical students more as compared to female gender and medical students respectively.

Keywords: *suicidal tendencies, Beck Depression Inventory, obsession, comprehensive, Peshawar, medical students, non-medical students.*

INTRODUCTION

Suicide is the self-inflicted death of an individual with clear or inferred intent to die [1]. It is an intricate phenomenon related to multitude of biological, social, and psychological factors [2,3,4]. Recently studies shows that the suicidal behavior is a serious public health emergency [5]. An estimated 804, 000 deaths by suicide occurred worldwide in 2012, demonstrating an annual global age-standardized suicide rates of 11.4 per 100,000 population [2]. In several Asian countries reported suicides appear to be higher than the average global rates [4]. In 2012, there were 13,377 estimated suicides (females 7085; males 6021) in Pakistan, with rates of 7.5 per 100,000, according to WHO. When compared with the year 2000 there is an increase of 2.6% in its rate which is alarming [2]. Wide variety of stressful events may serve as a prompt for suicide [6]. For instance, interpersonal problems with family members or other associates, [7,8], psychological state and

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socioeconomic dynamics, discrimination, family history of suicide, apart from mental illnesses, [9] whereas in South Asia, interpersonal relationship problems appears to play a critical role [7, 10]. Pakistan is a lower middle income country with an estimated population of 200 million. Ninety-seven percent of its population is Muslim. Approximately 50% of its population is under the age of 25 years [6]. The country has faced challenges of a terrorism recently, with the death toll of over 35000 [4] in addition to an unstable political system and poor governance. Its social and health indicators remain unsatisfactory [9]. The country has four provinces including Khyber Pakhtunkhwa (KP). Current study was conducted in district Peshawar of KP. Peshawar as the most affected terror stricken provincial capital. Students being the most vulnerable group may have more suicidal tendencies as compare to some other strata or region. Suicidal behavior is not enough studied topic in Pakistan [11]. Statistics on suicide are not available since they are not part of the national vital registration system. Due to financial reasons as well as legal, socio-cultural and religious stigma about suicidal behavior, the underlying psychosocial issues remain largely neglected. The social impact of suicidal behavior in Pakistan can be immense, with families often stigmatized and detested [12].

Several studies concluded that the suicide rate was considerably higher among students than among nonstudents of the same age. At the same time there is increasing evidence that suicidal tendencies in the medical profession are greater than in the general population and other academic professions [13].Students experiencing study tension are more prone to mental distress. In addition other stresses recognized as social support, issues with female students, marital status and some life events leads to aggressive thoughts regarding suicide [14]. It's necessary to consider depression and anxiety as key factors that plays a significant role in developing suicidal tendencies [15].

Considering the limited evidence available on suicidal behavior in Pakistan, the current study is conducted to determine the effects of demography, gender, socio economic status, past failures on the suicidal tendencies among medical and non-medical students of city of district Peshawar. This study may also define prevalence of suicidal tendencies among students of Khyber Pakhtunkhwa.

MATERIAL AND METHODS

This cross sectional study was conducted on students of two Medical colleges and two non-medical institutions of Peshawar. Non-probability convenient sampling technique was utilized in the survey. Sample size was selected assuming 50% prevalence of suicidal tendencies in past with 95% confidence interval. All students of two selected medical colleges and all non-medical students of achelors, Masters of Peshawar University and IM sciences were included in the study. Students below 18 years and above 29 years, unwilling and on sick leave were excluded from the study. Study was executed after approval from ethical committee and informed consents from the students and institutions. Standardized Beck depression inventory was utilized for the study. Section related to suicidal ideation was used for the survey. The inventory was based on rating scale from 0-3, where zero represent normal behaviors, 1 signify mild, 2 moderate while 3 represents severe suicidal tendencies. Questionnaires were distributed to 110 students from each college. N=421 students filled the questionnaire appropriately whereas the rest of the questionnaires were disregarded. For categorical data both frequency and Chi square were calculated. Data was analyzed through SPSS version (22.2) and graph were formulated through excel. Study duration was from December 2016 to April 2017.

RESULTS

A total of n=421 students participated in a study. Out of the total n=216 (51%) were medical students and n=205 (48%) were non-medical students. Total n=250 (59.2%) male and 171(40.5%) female participated in the survey.

Two medical colleges were selected for the survey i.e. Pak International Medical College (PIMS) Peshawar, Khyber Medical College (KMC) Peshawar, Institute of Management Sciences (IMS) Peshawar and Peshawar University (PU). Figure no 1 shows the bar chart of number of students who participated from these Institutions in the survey.

Figure no 1: Number of Students Participated In the Survey
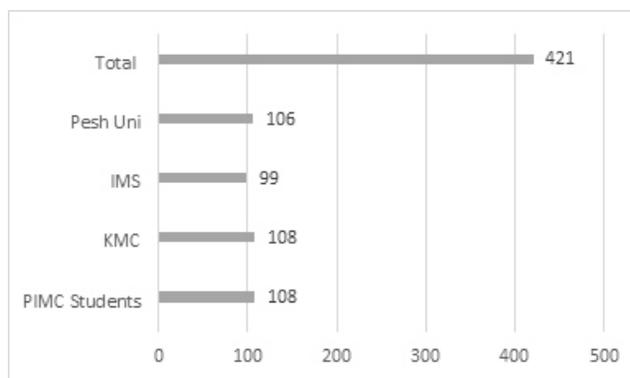
& 58.8 %), 24-26 years (n=54 &12.8%) and 27-29 years (n =8 & 1.9%). N= 131 (31.1%)

Among the Students who belonged to the family income less than < 50000, n=112(32%) showed no suicidal tendencies, n=9(20%) showed mild suicidal tendencies, n= 9(20%) showed moderate suicidal tendencies whereas only one student showed severe suicidal tendency, making total of n=19(40%)

Out of total n=125 (29.7%) belonged to the social status of income between 50000-75000, n= 96(76%) showed no suicidal tendencies, n=14(14%) showed mild suicidal tendencies, n=9 (9%) showed moderate suicidal tendencies whereas n=6(6%) showed severe suicidal tendencies making total of n=29(30%).

N=165(39.2%) students belonged to the social status of income more than 75000. Among them n=134(81%) showed no suicidal tendencies, n=21(12%) showed mild suicidal tendencies, n=7(7%) showed moderate suicidal tendencies whereas n=3(3%) showed severe suicidal tendencies, making total of n=31(18%).

Table no 1 shows the cumulative frequencies and percentages of the suicidal thought among students.

Out of the total n=108(25%) students of Pak International Medical college, n=96(88%) showed no suicidal tendencies, n=6(5%) showed mild suicidal tendencies, n=6(5%) showed moderate suicidal tendencies whereas only one showed severe suicidal tendency.

Out of n=108 (25%) of Khyber Medical College students n=86(79%) showed no suicidal tendencies, n=12(11%) showed mild suicidal tendencies, n=5(4%) showed moderate suicidal tendencies whereas n=2(1%) showed severe suicidal tendencies.

Among total of n=99 (23%) students of Institute of Management Sciences n=75(75%) showed no suicidal tendencies, n=15(15%) mild suicidal tendencies, n=7(7%) showed moderate suicidal tendencies, whereas n=2(1) showed severe suicidal tendencies.

Out of the total n=106 (25%) Peshawar university students n=83(78%) showed no suicidal tendencies, n=11(10%) showed mild suicidal tendencies, n=7 (7%) showed moderate suicidal tendencies, whereas n=5(4%) showed severe suicidal tendencies.

Figure No 2:   Gender based distribution of suicidal thoughts among students
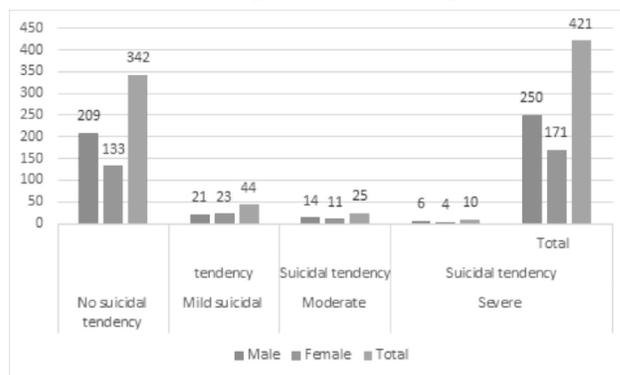
Distribution of suicidal thoughts based on Past Failure was calculated. It was found that out of those students who said that "**they do not feel like a failure**" n=252 (73%) showed no suicidal tendencies, n =26 (59%) showed mild suicidal tendencies, n = 9 (36%) showed moderated suicidal tendencies whereas n=6 (60%) showed severe suicidal tendencies.

Those students who said that "**they failed more than average person**" n=60(75%) showed no suicidal tendencies, n=9(36%) showed mild suicidal tendencies, n=6(60%) showed moderate suicidal tendencies whereas n=1(10) showed severe suicidal tendencies.

 Those students who felt "**lots of Past failure**" n=27(61%) showed no suicidal tendencies, n=7(70%) showed mild suicidal tendencies, n=7(70%) showed moderate suicidal tendencies whereas n=1(10%) showed severe suicidal tendency.

Those students who felt **complete failure** n=7(70%) showed no suicidal tendencies, n=2(20%) showed mild suicidal tendencies, n =3(30%) showed moderate tendencies whereas n=2(20%) showed severe suicidal tendencies.

Table no 1: Frequency of suicidal thoughts among students of District Peshawar

Rating	Suicidal thought criteria	Frequency	Percentages
0	No suicidal tendency	343	82.0%
1	Mild suicidal tendency	44	10.4%
2	Moderate suicidal tendency	25	5.9%
3	Severe suicidal tendency	10	2.4%
	Total	421	100%

Chi square test was applied to calculate the P value of qualitative data i.e. demographic data. For suicidal tendencies with income group the P value was 0.165 and gender was 0.388 calculated and was not significant. Chi square for suicidal tendency with past failures was P value 0.000.

DISCUSSION
Current study identified the suicidal tendencies among n=79 (18.7%) students out of the total study participants n=421. This study did not calculate the actual suicidal acts rather it focused on the gender, socio economic status and past failure to calculate the suicidal tendencies among students of Medical and non-medical colleges in district Peshawar.

From the current study prevalence rate of suicidal tendencies was calculated as 48 per 20000 population which is quiet high as compare to a study conducted in Egypt. In that study the prevalence of actual suicidal attempts [16] was calculated as 38 per 100,000 in a given period of time.

In this study the overall suicidal tendency among both male and female was found to be 14.25%, wherein more male (22.2%) students showed suicidal tendencies as compared to female students (8.8%). A similar study was conducted to assess the prevalence of suicidal tendencies among Pakistani college students. The overall rate of suicidal tendency was 31.4%. While there was no significant difference between genders, in contrast to current study more females (33%) than males (29.2%) showed suicidal tendencies [17]. In another study conducted in Turkey during 2006, 636 students from two Turkish state universities were included in the study. The results showed that the lifetime prevalence of self-harm was 15.4%, the prevalence of suicidal tendency was 11.4%, and the prevalence of suicide attempts was 7.1% [18].

Present study compared the socio-economic status of the students with suicidal tendencies. It was found that although not significant but more suicidal tendencies were found among students of middles and upper class surprisingly exceeding in numbers from students of lower class.

While in our study relationship of suicidal tendencies were assessed with independent variables i.e. past failure. It was found that P value for suicidal tendencies was found significant (p=.000) among those who had past failures.

Limitations include fewer resources, time constraints, convenient sample size (cannot be generalized to the whole population). Emphasis was made only on suicidal tendencies. This study can further elaborated to find out other related factors like behavior and attitudes leading to suicidal tendencies in future.

CONCLUSION
Suicidal tendencies were observed among male gender and non-medical students more as compared to female gender and medical students respectively. Past failure has significant impact on suicidal tendencies among students of District Peshawar.

Recommendation:
1. Funding agencies should encourage that measures of suicidality be included in all large and/or long-term studies of health behaviors, mental health interventions, and genetic studies of mental disorder. Funding agencies should issue program announcements for supplements to ongoing longitudinal studies to include the collection and analysis of these additional measures.
2. Suicidal patients should be included in clinical trials when appropriate safeguards are in place.
3. A national suicide attempt surveillance system should be developed and coordinated through the Central for Disease Control guidelines for counselling and rehabilitation.
4. Professional medical organizations should provide training to health care providers for assessment of suicide risk and provide them with existing tools.

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