Original Article

Correlates of Suicidal Ideation in Adolescents: A Cross Sectional Study

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ABSTRACT

OBJECTIVE: To determine the factors associated with suicidal ideation among college students in Pakistan.

METHODOLOGY: This was a cross sectional study, sample was selected randomly from public and private colleges located in different areas of Karachi, Pakistan. Data was collected from Sep 2014 to Feb 2015. 545 adolescents, aged 16 years to 19 years were selected by random sampling. Positive and negative suicide ideation Inventory, Personal Information Form, Beck hopelessness Scale, and Aga Khan Anxiety and Depression Scale were administered. Adolescents with any physical disability, chronic physical illness and any diagnosed psychiatric disease were excluded. Statistical analysis was done by using SPSS 14.

RESULTS: Descriptive statistics and Binary Logistic Regression analysis were used to analyse the collected data. The analysis revealed that gender, living in nuclear family setup, suicide attempt in past, a suicide attempt by family members, suicide attempt by friends, illness in family members, and the severity of hopelessness and symptoms of anxiety were found significantly correlated with the suicidal Ideation.

CONCLUSION: Findings of the study evidenced that certain socio-demographic and psychological associated risk factors should be consider to design and implement strategies for intervention and prevention of suicidal behaviours. Limitations and implications of the present study have also been recommended.

KEYWORDS: Suicidal ideation, Adolescent, Students, Anxiety-Depression, Hopelessness

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INTRODUCTION

Suicide has been rising steadily over the years. Most alarming, suicide is ranked as the second notable cause of death among college students each year[1,2]. Having suicidal thoughts, increase risk of suicidal attempts about 60% within the first year of its onset and increases more sharply among college students[3].

Besides the developmental period, gender is one of the potential contributing factors in suicidal behaviours. Literature shows, though suicide completion is higher in males, suicidal ideation and attempts are higher in females[4]. Exposure of suicidal behaviours by having personal history, family member and friend with a history of suicidal behaviour cause acceptance and predisposition toward actual suicide[5,6].

Medical and psychiatric illnesses are critical factors that may put people at the risk of suicidal behaviour or amplify the risk. Previous studies suggest that various medical (e.g. respiratory diseases etc.) and psychiatric illnesses (e.g. mood disorders, schizophrenia) are found to be independent risk factors for suicidal ideation or suicidal behavior[7]. Similarly, history of physical and mental illnesses in the family such as asthma depression, substance abuse and negative emotional climate is associated with physical (e.g. asthma, headache, abdominal pain etc.) and psychiatric problems (e.g. depressive symptoms) among their children[8].

Suicide is not classified as a psychological disorder but one of the most catastrophic consequences of psychiatric illness. It is evidenced that more than 90% of patients suffering from mental disorders commit suicide and over 50% found to be under psychiatric treatment[9]. Moreover, comorbidity of anxiety and depressive disorders amplifies proneness towards suicide, psychiatric hospitalization as well as decline the compliance with the medical treatment therefore resulted in long term treatment[10].

Hopelessness is another significant cognitive indicator that is closely linked with suicidal behaviours in youth[11]. Hopelessness directed towards distorted thinking that a person may view the future as bleak and find it hard to look at options or alternatives of current distressing situations[12]. It also emerged as the most consistent and unique cognitive variable associated with suicidal ideation[13].

Suicide, as indicated in the literature, is one of the leading causes of death among adolescents around

the globe. This era of life is critical concerning developmental, traditional, educational and familial aspects. It has been validated by study conducted on Pakistani college population showed quite higher rate of suicidal ideation in both males (29.2%) and females (33%)[14]. Specifically, in Pakistan, parents' expectations from their children are high and culturally embedded regarding their roles, education and other responsibilities. It is highly appreciated and esteemed in Pakistani culture to submit in front of parents' demands. Presumptively, physical changes, culturally defined roles and family expectations may lead to distress, and it aggravates when they view situations as intolerable to endure and they want to get rid of it by taking their own lives as shown by above mentioned literature. Nonetheless, these factors greatly influenced by culture, logically, studies carried out in western culture, perhaps, may not depict accurate scenario regarding suicidal rate and correlated factors prevailing in eastern culture like Pakistan. Yet, there is dearth of information regarding associated factors of suicide in Pakistan. Considering all of these global and native trends, the current study aims to investigate how various factors are associated with suicidal ideation in adolescent college students of Pakistan.

METHODOLOGY

This cross-sectional study consisting of 545 adolescent students including 337 females and 208 males participated in this study. Their age ranges from 16 years to 19 years with a mean age of 17.18 (0.98) years. The sample was selected randomly from public and private colleges located in different areas of Karachi, Pakistan. Data was collected from Sep 2014 to Feb 2015. Adolescents with any physical disability, chronic physical illness and any diagnosed psychiatric disease were excluded.

This study was approved from the Board of advance study, University of Karachi, Pakistan and suggested ethical consideration was followed. Students were instructed that participation is voluntary and they can withdraw at any point during data collection. Informed consent was also signed by participants.

Personal information i.e. age, gender, family setup, grades, the educational institute was obtained through personal information form. This form also comprised of different questions about the personal history of suicide as well as by their family members and friends. Questions related to the history of chronic physical and mental illness in family members were also asked in the personal information form.

Positive and Negative Suicide Ideation Inventory

Positive and Negative Suicide Ideation Inventory (PANSI) is developed to assess the frequency of positive and negative ideation about suicide simultaneously[15]. This inventory contained two subscales named as PANSI-PI (Positive Ideation) and PANSI-NI (Negative Ideation). All items in scale answered on five-point scale (1 - None of the time, 5 - most of the time). Higher scores on PANSI- Negative suicidal ideation and lower score PANSI- positive ideation indicates a greater risk of suicide ideation. PANSI has good evidence of reliability as well as the criterion and construct validity[16]. Urdu version of PANSI was used in this study[17].

The Aga Khan Anxiety and Depression Scale

The Aga Khan Anxiety and Depression Scale was developed and constructed by the Ali et al.[18] in Urdu to screen symptomatology of anxiety and depression. It is composed of 25 items developed on basis of complaints by 150 depressed and anxious patients. It has also been validated on 53 patients undergoing psychiatric treatment. At the score of 20, it has a sensitivity of 66°k with the positive predictive value of 83 as well as specificity of 79% with a negative predictive value of 60.

Beck Hopelessness Scale (BHS)

Beck hopelessness scale was constructed to assess the extent to which an individual has a negative attitude towards future[19]. BHS is comprised of 20 items, having nine items with positive wording while remaining 11 items with negative wording. Psychometric properties have been established on sample of college students[20].In this study, adapted Urdu version of BHS was administered[21].

RESULTS

As shown in Table I, more females students (61.2%) with the mean age of 16.84(.84) participated. A large number of participants were students of intermediate part-I (79.6%) compared to part-II (20.4%).

As preliminary analysis, mean and SD was also calculated, showing in Table II.

Odd Ratio was determined at 95 per cent confidence interval (CI) and results are summarized in Table III. It is showing that past suicide attempts is more contributing variable among the potential contributing variables of suicidal ideation (OR = 18.761, 95% CI [6.282 – 56.031]), followed by the symptoms of anxiety-depression (OR = 6.968, CI [4.290 – 11.318], $p < .001$). Other contributing variables are moderate to severe hopelessness level (OR = 5.526, CI [2.988 – 10.219], $p < .001$), suicide attempt by family members (OR=5.172, CI [2.579-10.372], p<.001), illness in family members (OR=3.270, CI [2.099-5.094], p<.001) and nuclear family setup (OR=2.515, CI [1.593-3.970], p<.001).

TABLE I:
DEMOGRAPHIC CHARACTERISTICS OF SAMPLE

Items	N	%
Gender		
Males	208	38.2
Females	337	61.8
Age		
16years	154	28.3
17years	204	37.4
18years	120	22.0
19years	67	12.3
Mean Age+ SD for total sample	17.18(.98)	
Mean Age + SD for Males	17.74(.93)	
Mean Age + SD for Females	16.84(.84)	
Education		
Intermediate (Part I)	434	79.6
Intermediate (Part II)	111	20.4

SD = Standard Deviation

TABLE II:
MEAN AND SD OF TOTAL SAMPLE (n=545)

Variables	*M*	*SD*
PANSI-NSI	1.42	.73
AKUADS	19.60	10.74
BHS	4.80	2.99

TABLE III:
ASSOCIATED FACTORS OF SUICIDAL IDEATION

Variables	*OR*	*95% CI*	*P*
Being female	2.143	1.380-3.329	<.001
System of educational institute	1.096	.720-1.668	.671
Family system-Nuclear	2.515	1.593-3.970	<.001
Previous suicide attempt	18.761	6.282-56.031	<.001
Suicide attempt by family members	5.172	2.579-10.372	<.001
Suicide attempt by friends	2.639	1.495-4.659	<.001
Diagnosis of chronic disease in family members	3.270	2.099-5.094	<.001
Symptoms of anxiety-depression	6.968	4.290-11.318	<.001
Hopelessness-mild	1.696	1.069-2.691	.025
Hopelessness-moderate to severe	5.526	2.988-10.219	<.001

DISCUSSION

This study aimed to examine associated risk factors of suicidal ideation among students in Pakistan. As expected, females are at risk in developing suicidal ideation as compared to males. Non- fatal suicidal behaviours such as suicidal ideation are considered as feminine act[22] which may be triggered by many cultural and family factors for instance autonomy seeking behaviours[23]. In Pakistan, females are expected more to follow cultural and gender-specific roles and to be dependent on family members. While modernization influencing human values by encouraging females to get an education, be part of mainstream which might create conflict to traditional values and roles. Living in nuclear family setup appeared as risk factors of suicidal ideation in the targeted sample which corroborated prior study[24]. Nuclear family setups are formulating rapidly but it might be increasing the feeling of loneliness and damaging the bonding with extended family members with whom children share distressing feelings including educational or familial stress.

Suicide attempt in past and exposure to suicide increase the risk for suicidal ideation later in life. Previous studies demonstrated that the history of suicidal behaviours including ideation is stronger predictors of recurrence and persistence of suicidal behavior[25,26]. Findings of the current study indicated that exposure to suicide in terms of suicide among family members and friends may increase the vulnerability of suicidal ideation in adolescent students. This is in line with the findings obtained in another study[5] that having exposure to suicide may put an individual at risk of suicidal ideation and attempts.

Presence of any mental or physical illness among family members heightens the probability of suicidal ideation is also observed in this study. One possible explanation of this finding could be that diagnosis of illness in any family member influence well-being of remaining family members. Generally, psychological distress experienced by patients as well as by the formal caregivers found at parallel level, further, when the treatment is given to patients, caregivers were found to experiencing more distress compared to patients[27].

Consistent with other studies conducted over the decades, symptoms of depression and anxiety identified as associated risk factors of suicidal ideation among the adolescent students[28,29]. It can be inferred from obtained results that the adolescents, participated in this study were students aged 16 years to 19 years; therefore, they may be burdened with educational stress as well as parental expectations to perform and excel in studies. Educational stress, career growth, fears of failure and not meeting the expectations, particularly in this age, may lead them to feel in battle, emotional instability, anxiousness and

physical complaints. Guilt feelings and psychological distress including symptoms of depression and anxiety can be potent factors that lead youngsters to contemplate suicide as way out[30].

Hopelessness is found the significant variable that increases the odds ratios for the suicidal ideation. It can be inferred from these results that ambitiousness is usually high among adolescents but failure to attain set goals and targets may evoke negative outcome. Findings of the current and previous study demonstrated that individuals can develop negative thinking such as self-blame, think failure as irreversible and permanent, consequently, they seek suicide as an escape to get rid of stressful and painful self-awareness[31].

CONCLUSION

The study concluded that female gender, living in nuclear family setup, suicide attempt in past, a suicide attempt by family members, suicide attempt by friends, illness in family members, and severity of hopelessness and symptoms of anxiety-depression are found significantly associated factors that increase the probability of suicidal ideation among the adolescents.

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AUTHOR CONTRIBUTIONS

Yasien S: Concept, manuscript writing, drafting
Siddiqui Z: Concept, critical review
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