

Coping mechanisms as predictors of suicidal ideation among the medical students of Pakistan

Bushra Akram,¹ Mirza Ashfaq Ahmad,² Abrar Akram³

Abstract

Objective: To identify the coping mechanisms as positive and negative predictors of suicidal ideation among medical students.

Method: This cross-sectional analytical study was conducted from January to October 2017, and comprised students aged 19-25 years selected from 3 public-sector medical colleges located in Gujrat and Lahore, both in the Punjab province of Pakistan. Multilevel mixed methods sampling was used. Two standardised scales were used to assess the suicidal ideation and coping mechanisms of the participants.

Results: Of the 1200 subjects, 640(53%) were males and 560(47%) were females. Besides, 390(32%) subjects hailed from Gujrat and 810(68%) from Lahore. Self-distraction ($p<0.05$), active coping ($p<0.0001$), use of emotional support ($p<0.05$), use of instrumental support ($p<0.001$) positive reframing ($p<0.0001$), planning ($p<0.001$), humour ($p>0.05$), acceptance ($p<0.001$) and religion ($p<0.0001$) were negative predictors of suicidal ideation whereas denial ($p<0.0001$), substance use ($p<0.05$), venting ($p>0.05$) and self-blame ($p<0.0001$) were positive predictors of suicidal ideation.

Conclusion: A psycho-educational programme must be introduced for medical students to enable them to adopt the right coping strategies in order to handle stressful situations.

Keywords: Coping strategies, Suicide, Medical students. (JPMA 68: 1608; 2018)

Introduction

The tough nature of curriculum and hectic academic activities put burden on medical students and give them less opportunity to relax and plan for recreation which may lead to anxiety, depression, stress and other mental health problems.^{1,2} Factors like academic pressure, fear of failure, frequent examinations, lengthy courses along with other health and psychosocial problems result in stress which may lead towards suicidal ideation among students.³⁻⁵

Suicide is an act of purposefully putting oneself to death. Suicidal behaviour encompasses suicidal ideation, planning and attempt. Majority of the people who have thoughts and desire to kill themselves do not actually commit suicide but they are at risk of taking their lives on their own.⁶

Literature indicates an alarming ratio of depression and

suicidal behaviour among medical students all over the world.^{4,5,7} Suicide, after accidents, is the second most common cause of death among medical students and professionals.^{8,9} Physicians showed higher levels of suicidal ideation and behaviour compared to medical students. The extremely busy schedule and stress of caring for patients does not let them take proper care of themselves. Their tough routine does not allow them to spare a reasonable amount of time for rest, relaxation and entertainment.⁸ A recent study conducted in the United States indicated that 11% of medical students committed suicide. It further reported that medical professionals and students are at a high risk for suicidal ideation and depression compared to the other population.⁹

Similarly, another study conducted in Canada found suicidal ideation in 11% of medical students of whom only 16% visited doctors for alleviation of their symptoms.¹⁰

Recently an alarming rise in suicides among medical

¹Psychology Department, ²Department of Management Sciences,

³MSc. IT, University of Gujrat, Gujrat.

Correspondence: Bushra Akram. e-mail: bushra.akram@uog.edu.pk

students and professionals has been reported in Pakistan.¹¹ A number of studies have been carried out on suicidal behaviour among medical students in the developed world but this issue has been less researched in developing countries like Pakistan, Nepal and India. Medical students of this region face many social problems along with academic stress which further leads to suicidal behaviour.¹²⁻¹⁴

Coping strategies are cognitive and behavioural efforts that are used to maintain a balance between the internal and external demands upon an individual and to deal with emotional and maladaptive stressors.^{15,16} Two styles of coping that have been widely used are active and avoidant cop about confronted stress,¹⁴ whereas denial, alcohol/drug use, and behavioural detachment are included in avoidant coping strategies.¹⁶ However, it has been suggested to study each and every coping strategy to understand a pattern of coping mechanisms of individuals.

In a study the students were asked to keep a record of their failures, their preferred coping strategies and their satisfaction level on a daily basis for 3 to 14 days. The results showed that the participants variously used self-blame, behavioural disengagement, emotional or instrumental support, denial, self-distraction, venting, substance use and religion as their preferred strategy. However, the students who used avoidant strategies like self-blame, venting, behavioural disengagement and substance use reported higher level of dis-satisfaction.¹⁵ Avoidant coping is another psychological risk factor for unfavourable responses to stressful life events and is observed more in males than females. Of these negative responses, suicidal ideation is more common.¹⁵

Similar results have been indicated by another study conducted on the depression and anxiety levels of military veterans. Higher levels of anxiety and generalised anxiety disorders were observed among the veterans who used denial and avoidant coping strategies to reduce their stress while the participants only with social support who used planning and problem-solving strategies reported significant lower levels of depression and anxiety.¹⁶

In short, coping strategies as psychological or behavioural efforts are being used to master, tolerate, reduce, or minimise stressful events.^{15,16} Use of effective and appropriate coping strategies may defuse the impact of

newly confronted stressful situations which may further decrease the occurrence of mental health issues, and literature indicates that coping strategies can be learnt.¹⁷

Medical professionals play a key role in the mental as well as physical health of any nation in the world. Therefore, their own mental and physical health matters a lot. During the demanding and hectic period of their study and training, they need to know and practise positive and constructive ways to deal with their stress so that they may be more productive for themselves as well as for others because the death of one medical professional is the death of hundreds of patients who could have been treated by that healer.¹¹ Recent studies have found medication ineffective in the long run for patients with stress and anxiety. Consequently, the world is turning towards coping strategies to deal with stress, anxiety and depression.¹⁷

The current study was planned to identify positive and negative coping strategies as determinants of suicidal ideation among medical students.

Subjects and Methods

This cross-sectional analytical study was conducted from January to October 2017, and comprised students aged 19-25 years selected from 3 medical colleges located in Gujrat and Lahore, both in the Punjab province of Pakistan. Approval was obtained from the institutional review board of Gujrat University, while permission was obtained from the head of the all the three medical colleges before data collection. Also, informed consent was taken from the participants.

Multilevel mixed methods sampling was used to select medical students aged 19-25 years. At the first level, 2 cities were selected conveniently and at the second level by purpose, all government medical colleges located in the selected cities were approached for data collection. Only three institutions gave permission to collect data. At the third level, the probability proportionate stratified technique was employed and population of each of the participating college was divided into 2 groups on the basis of gender. At the fourth level, the sample size was determined from the two strata (male and female) from each of the three institutions. The proportionate sample size was calculated with the help of a mathematical formula, $n = N/(1+N(e)^2)$ with 95% confidence level¹⁸ (Figure).

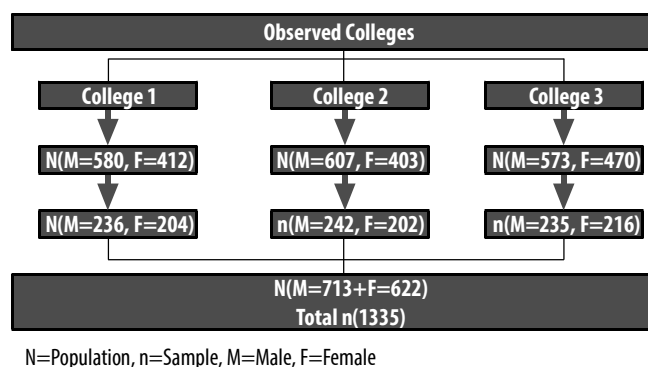


Figure: Flow chart of the study sample.

Demographic information of the participants was obtained on a self-developed form. In order to assess the suicidal behaviour, a standardised instrument, suicide behaviours questionnaire-revised (SBQ-R)¹⁹ was administered. It contains 4 items which assess suicidal ideation, planning and attempt. The scale has good reliability and validity to assess suicidal ideation among non-psychiatric as well as psychiatric population. The calculated alpha reliability for psychiatric patients is α 0.87 and for undergraduate students is α 0.76.¹⁹

Additionally, brief cope inventory²⁰ (BCI) was used to measure the coping strategies of the medical students. BCI is a 4-point Likert type scale. It consists of 14 subscales and 28 items. The alpha reliability of these subscales ranges from α 0.50 to α 0.73. These 14 subscales represent 14 different and independent coping strategies. They are: Distraction: Distract one's thoughts from stressful event by getting involved something; Active Coping: Behavioural and psychological efforts using their own resources; Denial: One refuses to experience the situation that is difficult to handle; Substance Abuse: Harmful substances that may damage physical and mental health; Emotional support: To receive care, acceptance, affection, empathy, trust, encouragement and love from others; Instrumental support: Services, material goods and financial assistance from others; Behavioural Disengagement: Manipulation of the system for a desired outcome by avoiding to confront the situation; Positive reframing: Transforming thinking by reconsidering the things in a positive way; Venting: To disclose or share the stressful events with others; Planning: Carefully organising and arranging things in order to attain desired goals; Humour: Effort to amuse others by one's communication; Acceptance: One's assent

to any situation; Religion: Practices according to the norms and cultural system that connect with the supernatural, and Self-blame: A cognitive process in which an individual attributes the occurrence of a stressful event to oneself.

Results

Of the 1335 subjects recruited, 1200(89.9%) completed the questionnaire. Of them, 640(53%) were males and 560(47%) were females. Besides, 390(32%) subjects hailed from Gujrat and 810(68%) from Lahore (Table-1).

Table-1: Frequencies and percentages of the sample according to the demographic characteristics.

Demographic characteristics	Frequencies	Percentage
Gender		
Male	640	53
Female	560	47
Total	1200	
Medical Colleges		
No 1	390	33
No 2	410	34
No 3	400	33
Total	1200	
Location of colleges		
Gujrat	390	32
Lahore	810	68

Hierarchical regression showed that self-distraction ($p < 0.05$), active coping ($p < 0.0001$), use of emotional support ($p < 0.05$), use of instrumental support ($p < 0.001$) positive reframing ($p < 0.0001$), planning ($p < 0.001$), humour ($p > 0.05$), acceptance ($p < 0.001$) and religion ($p < 0.0001$) were negative predictors of suicidal ideation whereas denial ($p < 0.0001$), substance use ($p < 0.05$), venting ($p > 0.05$) and self-blame ($p < 0.0001$) were positive predictors of suicidal ideation.

Of the demographic variables, age was a positive but insignificant predictor whereas gender was negative but weak predictor of suicidal behaviour (Table-2). As gender was a dichotomous variable, therefore a dummy variable was created where male was given 0 and female was given 1. Females were 8 points lower in suicidal behaviour. However, the difference was significant ($p < 0.05$) at the first step only, and was insignificant ($p > 0.05$) when coping strategies were entered at the second step. Hierarchical regression was also applied on other demographic factors, like monthly income (Table-2).

Table-2: Hierarchical Regression analysis on coping strategies for identifying predictors of suicidal ideation.

	Model 1		Model 2	
	B	B	B	B
Constant	29.41***		2.75***	
Age	0.10	0.11	0.06	0.05
Monthly income of family	-0.02	-0.04	-0.01	-0.02
Gender	-8.85*	-0.15	-1.86	0.03
Self distraction			-0.61*	-0.12
Active coping			-3.02***	-0.45
Denial			1.09***	0.37
Substance use			0.78**	0.26
Use of emotional support			-1.77*	-0.14
Use of instrumental support			-0.53**	-0.06
Behavioral disengagement			0.25**	0.08
Venting			0.06	0.05
Positive reframing			-0.79***	-0.16
Planning			-0.99**	-0.74
Humor			-0.20	-0.47
Acceptance			-0.54**	-0.12
Religion			-0.47**	-0.098
Self blame			0.19***	0.057
R ²	0.20		0.79	
F	40.18***		101.09***	
ΔR ²	0.18		0.74	

*p< .05, **p< .001, ***p< .0001

Discussion

The study identified self-distraction, active coping, use of emotional support, use of instrumental support, positive reframing, planning and religion as negative and protective coping mechanisms of suicidal ideation among medical students. In other words, the use of these coping strategies reduces the risk of suicidal behaviour among the students. Recent studies showed that attempt to gain sympathy, care and affection as well as financial assistance, services from others to handle the stressful situation significantly reduce the tension and increase the probability of adaptability.²¹ In simple words the use of active coping, emotional and tangible support, positive reframing, planning and religion are inversely associated with suicidal behaviour of medical students. The results are in line with the findings of a previous research.^{15,22,23}

Positive reframing is another powerful coping strategy in which the students restructure their feelings and thoughts in a positive and pro-social way. The findings of the present study have identified positive reframing as a strong protective coping mechanism of suicidal behaviours among medical students. Positive reframing,

active coping and planning were found to be associated with adaptability and good outcomes. These results are in line with the previous findings where planning and problem-solving were found to be associated with less stress compared to avoid coping which was related to high level of distress.²² Similarly, the use of positive reframing, humour and acceptance play significant roles in reducing daily life stress. Even students with high perfectionism who used reframing, reported high level of satisfaction.¹⁵ The results of the present study are also comparable with the previous study on military veterans which concluded that those participants showed higher levels of depression and generalised anxiety disorders who use denying and avoidant coping strategies such as behavioural disengagement to deal with their daily life stressful situation. However, participants who were using problem-solving coping techniques and had social support reported lower level of depression and anxiety.⁹

On the other hand, behavioural disengagement, venting, self-blame and denial appeared to be ineffective and positive predictors of suicidal thoughts among the medical students in this study. Similar results were reported by recent studies.¹⁵⁻²⁰ The results are also consistent with a recent study which found that highly stressed students used behavioural disengagement and venting compared to the participants with low stress who reported to use positive reframing, instrumental support and active coping mechanisms.¹⁴

The good effects of positive reframing, planning, use of instrumental and emotional support and acceptance may be due to the problem-solving nature of these methods. It is evident that a person who opts for these strategies tries to understand and restructure the problem in order to solve it whereas venting, behavioural disengagement, denial and self-blame are negative coping strategies which do not help their users to look in to the problem in-depth. Venting and behavioural disengagement may give relief to the person for a short time but in the long run these strategies are very ineffective to deal with stress.

Age and monthly income are not significant predictors of suicidal behaviour. This means that coping strategies play strong roles in suicidal behaviours of medical students regardless of age and monthly income. However, monthly income emerged as a negative predictor of suicidal ideation whereas age appeared as a positive predictor. The results are consistent with the

findings of previous research which reported higher level of stress among the medical students of low socio-economic status as well as it showed that their stress increased with age.¹⁴ A plausible explanation is that medical education is expensive and students from families with middle or low income may feel stress.

Though gender appeared a weak and insignificant predictor of suicidal ideation, the results of the present study indicated that males scored higher on suicidal behaviour compared to females. The results are supported by the findings of a previous study.²⁴ Males in our culture play the roles of bread-earners and perform all of the major responsibilities of their families, therefore they bear more social pressure compared to females. This pressure may lead them towards stress and suicidal ideation.

On the basis of its findings the current study recommends the inclusion of a psycho-educational programme to be implemented through counsellors on medical students which can help them to opt for appropriate coping mechanisms according to their stressful situation. Suicidal behaviour is a wide-ranging problem with underlying causes of different nature which could be social, economic and psychological. Therefore, further studies should be conducted to explore the prevalence and factors of suicidal ideation on a larger scale among medical students as well as professionals so that an effective preventive programme may be designed.

Conclusion

Positive reframing, planning, active coping and acceptance can reduce the risk of suicidal ideation while venting, behavioural disengagement and denial are negative coping mechanisms which increase the risk of suicidal ideation.

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