SHORT REPORT

Prevalence of anxiety and depression in medical students of a public sector medical college in Islamabad and coping mechanisms adopted

Rizwan Zafar[1], Muhammad Raheel[2], Muhammad Ahmed Mujtaba[3], Rabia Mahmood[4], Muhammad Umair Nawaz[5], Bhavesh Kumar[6]

Abstract

The objectives of this study were to find out the frequency of anxiety and depression in medical students and various coping mechanisms adopted by them to identify the coping trends and to stress the need of equipping these students with positive coping tools to deal with anxiety and depression. A cross-sectional, questionnaire-based observational study was conducted on a population of 500 medical students of Federal Medical and Dental College, Islamabad. The duration of the study was three months. By using the WHO sample size calculator, taking the confidence level 95%, anticipated population proportion 70% and absolute precision required 7%, the sample size was calculated at 165. The samples were collected by non-probability consecutive sampling via a questionnaire. In the study, two instruments were used: 1) Aga Khan University Anxiety and Depression Scale (AKUADS), and 2) Brief Cope Inventory. Self-administered questionnaires were filled by the students and the data collected from these questionnaires was analysed on SPSS version 19. Out of the sample size of 165 (98 female, 67 male) students, excluding 12 students with previous history of mental and physical illness, the prevalence of depressed students found after calculating their scores according to the Aga Khan Anxiety and Depression Scale (AKUADS score ≥19) was 95 (57.57%). The most used positive coping mechanisms by these students were religion (5.55±1.91), acceptance (5.28±1.56), planning (5.27±1.58) and active coping (4.85±1.45). The most used negative coping mechanisms were self-blame (5.52±1.83), self-distraction (5.29±1.56), and venting (4.67±1.49). The high presence of negative coping mechanisms indicates the urgency of the need for proper counselling and guidance of medical students about dealing correctly with anxiety and depression.

Keywords: Anxiety, Depression, Medical students, Coping mechanisms

[1]Department of Psychiatry, Pakistan Institute of Medical Sciences (PIMS), Islamabad, Pakistan; [2]Rural Dispensary Jangal, Attock, Pakistan; [3]Department of General Medicine, PAF Hospital Mushaf, Sargodha, Pakistan; [4]Department of Community Medicine, Federal Medical College, Islamabad, Pakistan; [5]Hazrat Bari Sarkar Hospital, Islamabad, Pakistan, [6]General Dispensary Goongio, Tharparker, Pakistan.

Correspondence: Rizwan Zafar. e-mail: rizwanzafar205@gmail.com

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Introduction

Anxiety can be described as an emotion depicting the feelings of worried thoughts, tension, and physical changes, such as increased heart rate and blood pressure, etc. People suffering from anxiety disorders usually experience recurring intrusive thoughts or concerns. They may also experience physical symptoms such as sweating, dizziness, trembling or a rapid heartbeat.[1] According to DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, 5th Edition),[2] presence of primary symptoms of depressed mode or anhedonia for at least two weeks along with other secondary symptoms such as weight changes, difficulty in sleeping, fatigue or loss of energy, feelings of worthlessness or excessive guilt, decreased ability to think or concentrate, psychomotor agitation or retardation and suicidality lead to the diagnosis of depression.

According to WHO statistics, about 264 million people suffer from various forms of depression worldwide.[3] Anxiety and depression are the leading causes of disability.[4] Depression can cause the affected person to suffer, and his performance at work, school and in the family is greatly disturbed. The worst possible effect of depression is that it can lead to suicide. According to the National Institute of Mental Health (NIMH), depression is one of the most common mental health disorders in the United States.[5] Similar studies have been conducted by various Pakistani researchers. A community based cross-sectional survey in Karachi noted the prevalence of anxiety and depression among the general population to be 27.4%.[6]

Although a lot of studies have already been conducted about the prevalence of anxiety and depression among medical students, none of these tried to find out the different coping mechanisms used by the medical students. In the current study, Brief Cope Inventory was used to recognise both the positive and negative coping mechanisms used by these medical students. The prevalence of high maladaptive coping strategies stresses the need of counselling and educating medical students about the different positive coping mechanisms to deal with anxiety and depression effectively.

Material and Method

A cross-sectional study based on a questionnaire was conducted on a population of 500 medical students of Federal Medical and Dental College, Islamabad. The sample size was calculated using the WHO sample size calculator.[7] By considering the confidence level 95%, anticipated population proportion 70%, and absolute precision required 7%, our sample size was 165. We collected the samples by using the technique of non-probability consecutive sampling via the Google Form online questionnaire. Online google forms were sent to all 500 medical students. All students who had spent more than six months in the medical college were included in the study, while those with a previous history of mental and physical illness were excluded. About 186 medical students submitted their responses. Out of the 186 submissions, 165 student-response forms were selected for inclusion in the statistical analysis after discarding the incompletely filled ones. A written well-informed consent was taken from all the participants on assurance of confidentiality.

In our study, two instruments were used:

1) Aga Khan University Anxiety and Depression Scale (AKUADS)[8]

2) Brief Cope Scale[9,10]

The students were asked to provide the socio-demographic variables of age, gender, year of study, residence (boarders/non-boarders) and the variables required in the AKUADS (Aga Khan University Anxiety and Depression Scale) and the Brief Cope Scale on the questionnaire that was approved by the Ethical Review Board. The AKUADS scores were calculated to assess the prevalence of anxiety and depression among the participants of the study. The entered data was analysed by the computer software SPSS version 20. The significance of different socio-demographic factors was also calculated. The mean values from the submitted responses of Brief Cope Inventory were used to detect the most used positive and negative coping mechanisms. Finally, the results were presented in both verbal values and non-verbal tables and graph representation.

Results

The medical students of Federal Medical and Dental College, Islamabad, were asked to fill the anxiety, depression, and coping mechanism questionnaires. Out of the sample size of 165 (98 female, 67 male) students, excluding 12 students with previous history of mental and physical illness, the prevalence of depressed students found after calculating their scores according to the Aga Khan Anxiety and Depression Scale (AKUADS score ≥19) was 95 (57.57%). Different socio-demographic factors such as age, gender, year of study, boarder/non-boarder and previous or family history of depression were evaluated and their 'significance' with the depression scale results were calculated (Table 1). After calculating the 'significance' of these factors with 'depression scale results' using chi square test, it was observed that anxiety and depression were more prevalent among females (p=0.015) and students who had a family history of depression (p=0.02).

The Brief Cope Scale (Brief Cope-28) was used to evaluate different coping strategies used by the medical students suffering from anxiety and depression. The scores of each

Table-1: Anxiety and Depression Results.

No.	Variable	*f*	n (%)	*p*-value
1.	**Gender**			
	Male	36	67 (53.7	0.015
	Female	70	98 (71.4)	
2.	**Mean Age** (years) Mean±SD			
	19±1	37	54 (68.5)	0.396
	22±1	66	104 (63.5)	
	25±1	3	7 (42.9	
3.	**Residence Boarder**	69	104 (66.3)	0.64
	Day Scholar	34	55 (61.8)	
	Rented Home/Flat	3	6 (50)	
4.	**Study year**			
	1st year	13	19 (68.4)	0.83
	2nd year	21	30 (70)	
	3rd year	29	44 (65.9)	
	4th year	26	42 (61.9)	
	5th year	17	30 (56.7)	
5.	**Exam System Annual**	96	148 (64.9)	0.40
	Annual + Modular	10	17 (58.8)	
6.	**Previous History** Mental	6	6 (100)	0.17
	Physical	3	4 (75)	
	Both	2	2 (100)	
	No	95	153 (62.1)	
7.	**Family History** Yes	20	24 (83.3)	0.02
	No	86	141 (61)	

Table-2: Coping style scores (Brief Cope-28) in the depressed students.

Brief COPE coping style	Mean±SD	Range
Religion	5.55±1.91	2-8
Self Blame	5.52±1.83	2-8
Self Distraction	5.29±1.56	2-8
Acceptance	5.28±1.56	2-8
Planning	5.27±1.53	2-8
Active coping	4.85±1.45	2-8
Positive Reframing	4.78±1.67	2-8
Venting	4.67±1.49	2-8
Emotional Support	4.58±1.83	2-8
Humour	4.43±2.13	2-8
Instrumental Support	4.34±1.67	2-8
Behavioural Disengagement	4.14±1.34	2-8
Denial	3.79±1.63	2-8
Substance Use	2.40±1.11	2-8

coping mechanism (ranging from 2 to 8) and their means were calculated using SPSS (Table 2). Based on the Brief Cope Inventory, out of 14 coping mechanisms, the ones most used by the depressed students were: religion (5.55±1.91), self-blame (5.52±1.83), self-distraction (5.29±1.56), acceptance (5.28±1.56), planning (5.27±1.58) and active coping (4.85±1.45). Denial (3.79±1.63) and substance abuse (2.40±1.11) were the least used coping strategies.

Discussion

Literature review revealed that medical students suffer a lot from anxiety and depression during their stay in medical college. Our study noted the prevalence of anxiety and depression among medical students to be 57.57% using the AKUAD scale. The high prevalence of anxiety and depression among medical students is consistent with the higher frequencies worldwide.[11,12] Furthermore, the finding that anxiety and depression were more prevalent among females (p=0.015) (table 1) is also consistent with the previous studies.[11]

In our study, we also evaluated various coping styles used by the students to deal with anxiety and depression. It was interesting to note that religion, self-blame, self-distraction, acceptance and planning were the most used coping tools out of which religion lay at the top of the list (5.55±1.91). Inclination towards religion relates with the feelings of acceptance and increased ability to cope effectively. But self-blame (5.52±1.83) being the second most used tool, indicates the need to instil awareness in students regarding harms of negative coping tools and encouragement to opt for positive coping mechanisms for their positive effects. The 14 variables of Brief Cope Scale are further categorised into maladaptive coping mechanisms and adaptive coping mechanisms as shown in Figures1 and 2. The coping mechanisms of self-distraction, self-blame and venting had a higher mean value in our study, which meant that these maladaptive coping mechanisms were more commonly practiced by depressed students. The use of these maladaptive coping mechanisms can be reduced by setting proper counselling and psychological guidance set ups in the medical colleges to reduce the dismay of medical students.

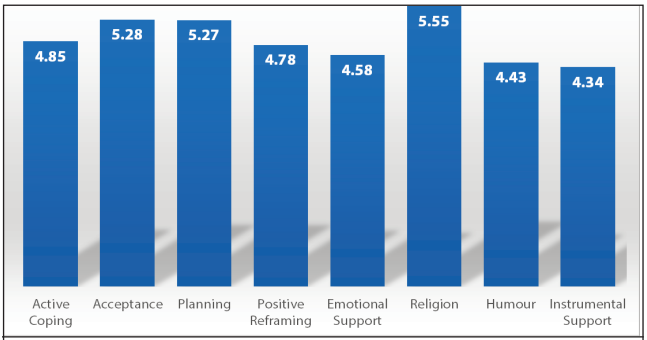

Figure-1: Adaptive Coping Strategies.

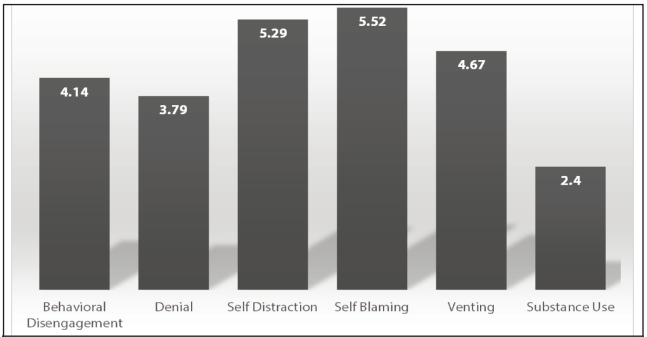

Figure-2: Maladaptive Coping Strategies.

Conclusion

The study revealed that 57.57% medical students of FMDC suffered from anxiety and depression. Religion and self-blame were the topmost commonly used coping mechanisms by these students. The high incidence of negative coping mechanisms like self-blame, self-distraction and venting warrants the need of properly educating and facilitating medical students about using positive coping mechanisms to deal with anxiety and depression.

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Conflict of Interest: None.

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