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Psychological Distress Among Medical Students of Conflict Zones: A Cross-Sectional Study From The Kashmir Valley.

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Abstract

Background: Training at medical schools is rigorous and demanding which results in considerable psychological distress among medical students. Furthermore, studies have shown that people living in conflict zones are at a high risk of psychological morbidity. Kashmir valley is subjected to conflict from decades. Consequently, the population in general has alarming levels of psychological morbidity and mental disorders. Medical students of the valley have an additionally potential psychological burden to deal with. We conducted this study to estimate the prevalence of psychological distress and to explore the effects of conflict on psychological wellbeing of medical students of Sher-i-Kashmir Institute of Medical Sciences (SKIMS) Medical College, Srinagar.

Methods: This was a cross-sectional study using Depression, Anxiety and Stress Scale (DASS-21). A second questionnaire was used to investigate the effects of ongoing turmoil on the lives of these medical students.

Results: 220 students participated. Prevalence of depression, anxiety and stress was 56.8%, 64.5% and 38.2% respectively. Anxiety was significantly more in the students belonging to Jammu division of the erstwhile state.

Conclusion: We conclude that medical students of Kashmir suffer from high levels of psychological distress. There is a genuine and pressing need to acknowledge, understand and address this issue. We could not find a direct relationship between effects of ongoing turmoil and level of psychological distress using our questionnaire. Nonetheless, psychological impact of conflict on medical students cannot be ruled out. Moreover, these students have probably learned to cope with the conflict.

Further research to explore various predictors and outcomes of poor psychological health of medical students needs to be done.

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Introduction

Effective healthcare delivery system requires well-trained clinicians. The training is tough, demanding and continuous which leads to substantial levels of psychological distress among medical students,[1,2,3] with negative personal and professional consequences. Psychological distress can lead to substance abuse, broken relationships, suicide and attrition from profession; students' relationship with patients and faculty gets adversely affected ultimately damaging the culture of medical profession[4].

Depression displays a myriad of symptoms including low mood, inability to feel pleasure, reduced energy, thoughts of worthlessness/hopelessness, disturbed sleep and appetite and decreased concentration[5]. Anxiety is characterized by feeling of tension, worried thoughts and physical changes like increased blood pressure, sweating, trembling, dizziness or a rapid heart beat[6]. Stress becomes abnormal when it interferes with the normal life, causing fatigue, inability to concentrate or irritability[7].

Original Article

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Key words
Medical students, Kashmir, DASS-21, psychological distress

The valley of Kashmir has been subjected to political intrigue from a long time which took the present day form since 1989. Decades of conflict has taken a toll on the psychological wellbeing of the people[8]. Many studies have reported that the populations living in conflict zones have a high risk of psychological morbidity[9, 10] and people living in Kashmir are no exception. Conflict exposes people to traumatic experiences, economic slowdown and loss of social support mechanisms which increases the risk of mental health related issues[11, 12, 13]. The Institute of Mental Health and Neurosciences (IMHANS) has recorded an increase in outpatient consultations for mental health illnesses from an average of 100 per week in 1980 to between 200 and 300 per day in 2013[14]. The number of suicide attempts increased by more than 250% between 1994 and 2012[15]. Furthermore, many studies have observed a high prevalence of mental disorders due to various traumatic experiences associated with the turmoil [15, 16.] Therefore, the ongoing conflict is an additional potential threat to the psychological health of our medical students. This study was aimed to estimate the prevalence of psychological distress and to investigate the risk of the ongoing conflict on the medical students of Sher-i-Kashmir Institute of Medical Sciences (SKIMS) Medical College, Srinagar. SKIMS Medical College admits students from all the three divisions of the erstwhile state, namely, Jammu, Kashmir valley and Ladakh. To the best of our knowledge, this study is the first of its kind from the valley.

Materials and Methods

Study Design

This is a cross-sectional study of prevalence and predicting factors of psychological distress among medical students conducted in March, 2019.

Participants

The study was approved by the Institutional Ethics Committee (IEC); students from 1st, 2nd and 6th semester (I MBBS and III MBBS Part I) of SKIMS MCH were enrolled for the study. Informed consent was obtained from each of the participants and anonymity was assured.

The questionnaire

The Depression, Anxiety and Stress Scale-21 Items (DASS-21) [17] was used to measure emotional states of depression, anxiety and depression- each scale has 7 items. The questions are about the symptoms (of depression, anxiety and stress) that the subject has experienced over the past week. Each question has four-point (0-3) answer scale.

Score of each subscale (ranging from 0 to 42) is equal to sum of seven corresponding items which is multiplied by 2 to calculate the final score to match DASS-42[17]. DASS-21 is less time consuming and better than full scale version[18]. Cut-off scores for various severity states (mild, moderate, severe, extremely severe)are shown as under[17]:

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10 -13	8 -9	15 -18
Moderate	14 -20	10 -14	19 -25
Severe	21 -27	15 -19	26 -33
Extremely severe	28+	20+	34+

The second questionnaire used in the study was aimed to look for the factors associated with psychological distress of the students. This questionnaire was structured by reviewing similar studies and examining the questionnaires used thereof[19]. It asked the subject about demographic traits (gender, year of study, division of the state that one belonged to, residence state), financial status (family income, personal income) and questions about the influence of the ongoing conflict in the valley on their personal lives and previous examinations.

Statistical analysis

Demographic characteristics of the study sample were depicted by frequencies and percentages. DASS-21 scores were displayed as means and standard deviations and categorized as 'normal' 'mild', 'moderate', 'severe' and 'extremely severe'[17]. Participants belonging to these categories were shown as frequencies and percentages.

Statistical package for Social Sciences version 21 was used for statistical analysis. Statistical significance was tested with Chi-square test and $P < 0.05$ was considered significant.

Results

Characteristics of participants

A total number of 220 students gave their written consent and participated in the study. Table 1 contains demographic traits of the participants. The study sample had 103 boys (46.8%) and 117 girls (53.2%); 160 students (72.7%) were from

I MBBS (1st and 2nd semester) and 60 were from III MBBS (Part I; 6th semester). Majority of the students were from Kashmir (64.5%); single (86.8%); stayed with family at home (48.2%); and were non-smokers (81.1%). 32 (14.0%) participants had to change their residence and 26 (11.8%) suffered from physical/ financial damage to self or first degree relative due to the ongoing conflict in the region. Family income of the students varied widely with 87 (39.5%) belonging to 30 K to 60 K per month category. About half (55%) of the students perceived their personal income as sufficient.

Prevalence of psychological distress

The overall mean of the depression subscale scores was 12.56 and standard deviation was 9.24; mean of stress subscale scores was 13.47 and its standard deviation was 8.14. Both of these subscales scores ranged from 0 to 42. Anxiety subscale scores had lower values of mean and standard deviation (11.92 and 8.16 respectively) and ranged from 0 to 40. The medians, interquartile range and outliers of the DASS-21 subscale scores are represented in fig. 1

Categorization of students based on DASS-21 subscale scores is shown in Table 2. Most prevalent type of psychological distress among the participants was anxiety with 64.5% of them showing mild, moderate, severe or extremely severe anxiety; second most common was depression (56.8%) followed by stress (38.2%).

Association of various variables with psychological distress

In our study, depression and anxiety was more common in females than in males (59.8% vs 40.2% and 66.7% vs 33.3%, respectively) but stress was more common in males (39.8% vs 36.8%) than in females. Likelihood of psychological morbidity was more in students of 6th semester in comparison to 1st/2nd semester students (depression: 60.0% vs 55.6%; anxiety: 68.35 vs 63.1%; stress: 43.3% vs 36.3%, respectively).

Division of state (Jammu, Kashmir, Ladakh) was the only variable that was significantly associated with prevalence of anxiety in the students (table 3). Students belonging to Jammu region had significantly more anxiety than those of Kashmir valley/ Ladakh region (p=0.01).

Discussion

Medical students face a great deal of psychological distress in medical schools which has a negative effect on their learning, health, personal and professional lives. In addition, the quality of care delivered in medical centers is compromised. The contribution of various personal and environmental factors to this high level of distress needs to be identified and addressed.

Prevalence

Our data depicts high levels of psychological distress in the participants. Anxiety was the most prevalent with 64.5% of the students being affected followed by depression with a prevalence of 56.8%; 38.2% of students suffered from stress. High levels of psychological distress has also been reported in Syrian medical students with a prevalence of 60.0%, 52.6% and 35.1% for depression, stress and anxiety respectively[19].

High anxiety levels have been reported from other developing countries (Lebanon: 69%[20], Saudi Arabia: 47% to 63%[21], Pakistan: 47.7%[22]). But these countries have lower level of depression among their medical students (Lebanon: 27.63%[20], Saudi Arabia: 30%to 43%[21], Pakistan: 35.1%[22], Brazil: 38.2%[23]). Similarly, developed nations reveal lower level of depression (US: 49%[24], UK: 16.4%[25], Sweden: 12.9%[26]); however, the scales used for assessing depression and anxiety vary in different studies. High levels of depression is of concern because the development of depression has been linked to risk of suicide and future depressive episodes and morbidity[27].

Effects of various variables

In our study, even though there was no significant difference regarding psychological distress among the two genders, depression and anxiety was more common in females and stress more common in males. This is contrary to the studies that have shown higher levels of depression, anxiety and stress in the female gender[8,9,26,28,29]. A study from Bangladesh shows high level of distress in males[30]. Similarly, the year of study had no statistical significance regarding the level of psychological distress. This is again in contrast to the studies that suggest that the early years of medical school are more stressful[23,27]. Relationship status, residence state, smoking status and financial condition had no laden distress.

We found a significant association between the division of state (the student belonged to) and level of distress. Students belonging to Jammu region had higher anxiety than those of their Kashmiri/Ladakhi counterparts. These students are away from home and family/relatives, staying in hostels (on

Table 1 Demographic characteristics of study sample

Characteristic	N (%)
Gender:	
Male	103 (46.8%)
Female	117 (53.2%)
Year of study:	
1st MBBS	160 (72.7%)
2nd MBBS	60 (27.3%)
Division of State:	
Jammu	70 (31.8%)
Kashmir	141 (64.1%)
Ladakh	7 (3.2%)
Residence Status:	
Home	104 (47.3%)
Rented apartment	7 (3.2%)
Off - campus hostel	31 (14.1%)
On -campus hostel	76 (34.5%)
Change in Residence:	
Yes	32 (14.5%)
No	186 (84.5%)
Physical/financial damage to self or first degree relative:	
Yes	23 (10.5%)
No	194 (88. 2%)
Monthly family income:	
Less than 30 K INR	49 (22.3%)
30 K to 60 K INR	81 (36.9%)
60 K to 90 K INR	46 (20.9%)
More than 90 K INR	35 (15.9%)
Personal income:	
Enough	118 (53.6%)
Intermediate	64 (29.1%)
Not enough	33 (15.0%)
Late/ missed an exam due to conflict:	
Yes	89 (40. 5%)
No	107 (48.6%)
Postponement of exam due to conflict:	
Yes	100 (45.5%)
No	94 (42.7%)

campus/off campus) and experience climatic differences in Kashmir. Shifting to a conflict zone and concerns about safety might contribute to anxiety levels in students coming from Jammu region.

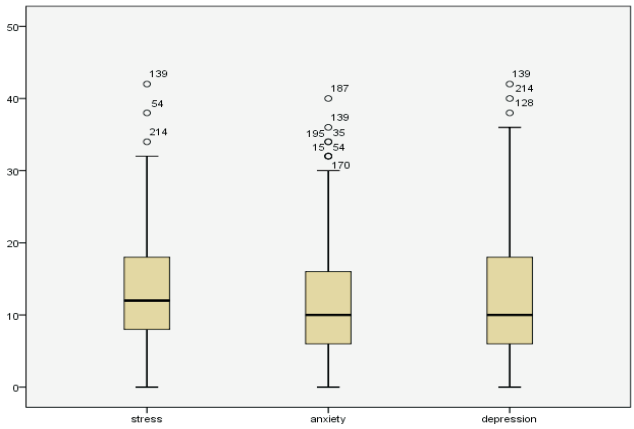

Fig. 1 Medians, intetquartile ranges and outliers of the participants' DASS-21 sub scales scores

Table 2 Prevalence of depression, anxiety and stress based on DASS-21 subscale scores

	Depression N (%)	Anxiety N (%)	Stress N (%)
Normal	95 (43.2%)	78 (35.5%)	136 (61.8%)
Mild	35 (15.9%)	14 (6.4%)	30 (13.6%)
Moderate	49 (22.3%)	59 (26.8%)	32 (14.5%)
Severe	24 (10.9%)	30 (13.6%)	19 (8.6%)
Extremely severe	17 (7.7%)	39 (17.7%)	3 (1.4%)

Table 3 Factors associated with prevalence of psycho logical distress

Division of state	N (%)
Jammu	48 (67.6%)
Kashmir	93 (65.5%)
Ladakh	1 (14.3%)

Anxiety: (?2= 8.073, *p*-value= 0.018)

Effects of Conflict

In our study, we tried to investigate the effects of the turmoil in the valley on mental wellbeing of our medical students. The questions that we believed would help in this endeavor were included in the questionnaire. Negative effects of conflict were evident in personal lives of the subjects; 32 (14.5%) students were displaced from their homes and 23 (10.5%) reported having suffered physical or financial damages due to the ongoing conflict. Impact of unfavorable circumstances on various examinations that a medical student has to sit in was tried to be assessed by asking questions pertaining to these examinations. 89 (40.5%) students revealed that they have been either late or missed their exams due to various reasons that people living in conflict zones have to face from time to time. 100 (45.5%) students had faced postponement of exams due to turmoil which has been a norm in the valley since 1989 and has damaged the education system at large. Our data did not reveal a significant relationship between these variables and the level of psychological distress among our students. Nonetheless, that does not rule out the negative effects of living in a place ridden by turmoil on psychological health of the students; there might be other potential turmoil-related factors that should be explored. Furthermore, these students are born and brought up in the conflict zone and possibly have learned to cope up with the situation. Increase in resilience and other modes of psychological adjustment in response to chronic conflict will need further investigation.

Limitations

Our sample included students of I and III MBBS (Part I); students of II MBBS were excluded considering them a "vulnerable" group and those from III MBBS Part II being busy in clinical classes were also not included. This convenience sampling method might be a source of sampling bias and, therefore, the external validity of this study may be a matter of personal judgement. Many studies have shown higher levels of stress during initial years of the course[28, 29] and our study sample of total 220 students consisted of 160 (72.2%) from I MBBS. This might contribute to high levels of distress observed in our study. Furthermore, DASS is used to quantify psychological distress and not for diagnosis of psychological disorders[11],a clinical diagnosis of depression, anxiety and stress needs further assessment of these subjects.

Conclusions and recommendations

The essentiality of the Healthcare Services of any nation can hardly be overrated and the critical role of doctors in this machinery cannot be overlooked. The journey of a doctor begins at a medical school and practically never ends. The path is long and tortuous, fraught with huge competition and the expectations from a doctor are infinite. In this background, the psychological health of our medical students is of vital importance. And for those working in conflict zones need further consideration. Parents/relatives and faculty members of medical schools should be aware of the phenomenon; acknowledging and understanding the psychological needs of our students is the least that can be done. Thoughtful and serious changes regarding the curriculum, teaching- learning methods and assessment methods have to be made and implemented. Availability and accessibility of dedicated counselors and mentors should be a reality rather than a formality. Regular assessment, identification of high risk groups and appropriate interventions need be encouraged. Medical students are our cognitive resource and investment in their mental health will strengthen their intellectual, behavioral and emotional aspects. Further investigations to delineate the causes, consequences and remedial measures regarding psychological distress in medical students should be done; and the additional mental burden of those living in conflict zones has to be understood and addressed adequately.

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Competing interests

None declared

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