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A CROSS-SECTIONAL COMPARATIVE ANALYSIS OF DEPRESSION LEVELS AMONG FINAL-YEAR MBBS STUDENTS VS FINAL-YEAR DPT STUDENTS

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Abstract

Background: *Psychological distress, including depression, anxiety, and stress, is a significant concern among healthcare students. Academic workload, clinical responsibilities, examination pressure, and uncertainty about future careers may affect students' psychological well-being, particularly during their final year of professional education.*

Objective: *To compare the levels of depression, anxiety, and stress among final-year Bachelor of Medicine and Bachelor of Surgery (MBBS) students and final-year Doctor of Physical Therapy (DPT) students in Quetta, Pakistan.*

Methods: *A quantitative cross-sectional comparative study was conducted among 120 final-year students, comprising 60 MBBS and 60 DPT students. Participants were recruited through non-probability purposive sampling from selected educational institutions in Quetta. Data were collected using the Depression, Anxiety and Stress Scale-21 (DASS-21). Statistical analysis was performed using SPSS version 26. Independent-samples t-tests were used to compare the reported group values, with statistical significance set at $p<0.05$.*

Results: *DPT students demonstrated higher reported mean values for depression (2.72±1.37) than MBBS students (1.98±1.26), with a statistically significant difference ($t=-3.06$, $p=0.003$, $d=0.56$). Similarly, the reported anxiety value was higher among DPT students (3.13±1.65) than MBBS students (2.55±1.53; $t=-2.01$, $p=0.047$, $d=0.37$). Stress values were also higher among DPT students (2.58±1.53) compared with MBBS students (1.87±1.24; $t=-2.82$, $p=0.006$, $d=0.51$).*

Conclusion: *The study found higher reported levels of depression, anxiety, and stress among final-year DPT students compared with final-year MBBS students. These findings highlight the importance of accessible psychological support, counselling, and stress-management initiatives in healthcare educational institutions.*

Introduction

Psychological distress, including depression, anxiety and stress has become a concern in higher education particularly among students enrolled in healthcare-related academic programs.(1) Depression is when someone feels sad all the time loses interest in things feels less motivated and has trouble focusing. Anxiety is

when someone worries much and feels scared all the time. Stress happens when someone feels overwhelmed by situations. These emotional problems can affect how well someone does in school how they get along with others how well they. How they feel about life in general. The Depression Anxiety Stress Scales created by Lovibond and Lovibond give a way to check these three issues.(2) The shorter DASS-21 version has also been helpful in checking distress in people who are not, in need of clinical help.(3)

Medical education is widely recognized as both emotionally demanding. Students are expected to handle amounts of theoretical material take frequent exams perform clinical duties and meet high professional standards. Dyrbye et al. Found that many medical students in North America experience psychological distress. Their research highlighted depression, anxiety and other mental health challenges as concerns, within medical education.(4) Similarly systematic evidence shows that depressive symptoms are common among university students making student mental health a public-health concern.(5) Research conducted outside North America has also shown that medical students face difficulties, in various educational and cultural settings.(6)

A systematic review and meta-analysis by Rotenstein et al. Showed that medical students around the world face a burden of depressive symptoms and suicidal ideation.(7) Puthran et al. Also found a rate of depression among medical students in their meta-analysis.(8) Anxiety is another issue as Quek et al. Reported a wide global prevalence of anxiety among medical students.(1) The World Mental Health International College Student Project also confirmed that mental disorders are a concern, across university populations.(9)

In Pakistan medical students deal with challenges when it comes to academic competition, stress from exams, money problems, pressure from family and not knowing what their future careers will look like. A detailed review done by Azim and others found that many medical students in some medical schools have a lot of mental health issues. They found that the heavy schoolwork and stress from exams are reasons, for this problem.(10)

Doctor of Physical Therapy (DPT) students must meet demanding clinical obligations. The education of Doctor of Physical Therapy (DPT) students combines subjects, hands-on training, patient assessment, mandatory rehabilitation procedures and extended clinical interaction. These responsibilities can lead to exhaustion and psychological distress especially in the final academic year.

Although psychological distress among students has received considerable research attention comparatively fewer studies have directly examined Doctor of Physical Therapy (DPT) students alongside MBBS students within the same educational and cultural environment. A direct comparison may help identify differences, in well-being between Doctor of Physical Therapy (DPT) students and MBBS students.

Therefore this study wanted to look at the levels of depression, anxiety and stress in final-year MBBS students and DPT students, in Quetta, Pakistan. The results could help schools and colleges that want to make students feel better by offering counselling teaching about health and helping with stress.

Methodology:

Following ethical approval of the research proposal, a quantitative cross-sectional comparative study was conducted among final-year MBBS and Doctor of Physical Therapy (DPT) students from the University of Balochistan, Bolan University of Medical and Health Sciences (BUMHS), and Stella Medical College, Quetta. A total of 120 participants (60 MBBS and 60 DPT students) were selected using a non-probability purposive sampling technique. The sample size was determined using Rao software. Students enrolled in the final year who voluntarily agreed to participate and provided written informed consent were included in the study. Students from other academic years, those with previously diagnosed psychiatric disorders, incomplete questionnaires, or those unwilling to participate were excluded from the study.

Data were collected using the validated Depression, Anxiety and Stress Scale (DASS-21), a self-administered questionnaire consisting of 21 items assessing depression, anxiety, and stress. Participants completed the questionnaire during academic hours after receiving

information regarding the purpose of the study. Confidentiality and anonymity were maintained throughout the data collection process. The collected data were enter or analyzed using Statistical Package for Social Sciences (SPSS) version 26.. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated, while independent sample t-tests were performed to compare depression, anxiety, and stress scores between final-year MBBS and DPT students. A p-value of <0.05 was considered statistically significant.

Results:

This study included 120 final-year students, comprising 60 MBBS (50%) and 60 Doctor of Physical Therapy (DPT) (50%) students. The mean age of the participants was 24.68 ± 0.99 years, indicating that most participants belonged to a similar age group. Female students constituted 59.2% of the sample, while 40.8% were males. The demographic characteristics participants are present in Table 1.

Psychological distress was assessed using Depression., Anxiety., Stress scale (DASS-21).. The findings showed that DPT students consistently reported higher levels of psychological distress than MBBS students across all three domains. The mean depression score was 2.72 ± 1.37 among DPT students compared to 1.98 ± 1.26 among MBBS students. Likewise, anxiety scores were higher in DPT students (3.13 ± 1.65) than MBBS students (2.55 ± 1.53). Stress scores also remained higher among DPT students (2.58 ± 1.53) compared with MBBS students (1.87 ± 1.24).

Further statistical analysis demonstrated that these differences were statistically significant. Depression showed the greatest difference between the two groups (p = 0.003), followed by stress (p = 0.006) and anxiety (p = 0.047). The calculated effect sizes indicated small-to-moderate differences, suggesting that final-year DPT students experienced greater psychological distress than final-year MBBS students.

Overall, the findings indicate that depression, anxiety, and stress were more prevalent among DPT students than MBBS students. Although psychological distress was observed in both groups, DPT students consistently demonstrated higher mean scores across all three domains, highlighting the need for targeted mental health support and psychological well-being programs for allied health students.

Table 1: Participant Characteristics (N = 120)

Variable	Category	Frequency / Value
Academic Group	MBBS	60 (50.0%)
	DPT	60 (50.0%)
Age (Years)	Mean ± SD	24.68 ± 0.99
Gender	Male	49 (40.8%)
	Female	71 (59.2%)

Table 2: Comparison of Depression, Anxiety and Stress Between MBBS and DPT Students

Outcome	MBBS (Mean ± SD)	DPT (Mean ± SD)	p-value
Depression	1.98 ± 1.26	2.72 ± 1.37	0.003
Anxiety	2.55 ± 1.53	3.13 ± 1.65	0.047
Stress	1.87 ± 1.24	2.58 ± 1.53	0.006

Discussion:

The present study looked at depression, anxiety and stress in final-year MBBS students and final-year DPT students in Quetta, Pakistan. The results showed that DPT students had levels of depression, anxiety and stress than MBBS students. This means that both MBBS students and DPT students face health challenges while studying for healthcare careers but the challenges are bigger, for DPT students.

The higher depression, anxiety and stress that DPT students reported might come from the pressures of learning theory doing mandatory clinical work taking mandatory exams talking to patients and not knowing what jobs will look like in the future. But this study did not measure

those pressures directly so these must be seen as reasons, not proven causes.

A study by Kumar et al. Looked at depression, anxiety and stress in year medical students in Karachi using the DASS-21. The researchers found that many medical students were dealing with psychological distress. Factors like exam pressure, high family expectations and worries about starting their careers were strongly linked to this stress.(11) These results show that MBBS students face mental health challenges during their last year of study.

Other research gives insight into this issue. Syed et al. Studied depression, anxiety and stress among undergraduate physiotherapy students in Pakistan.(12) They found levels of psychological distress in this group too. This supports the idea that mental health concerns important in physiotherapy education. But there is a difference: their study used the full DASS scale instead of the shorter DASS-21. Because of this difference, in tools direct comparisons of numbers should be made carefully.

Raza et al. carried out a -sectional study among medical and allied health sciences students at Sargodha Medical College using the DASS-21. Their results showed that psychological distress was present in both groups. Allied health sciences students had a percentage of depressive symptoms compared to medical students though the difference in average depression scores did not reach statistical significance.(13) This offers a comparison, with the current study, where higher reported values were seen among DPT students.

Malik et al. looked at depression, anxiety and stress in students at Women Medical and Dental College in Abbottabad. They used the DASS-21 tool for their assessment. Their results showed that a large number of students had levels of anxiety, depression and stress.(14) This points to the fact that psychological distresss still a serious concern in medical education. Even when these students are not compared to students in health fields the issue remains significant.

Recently, Asghar et al. Studied the PHQ-9 and DASS-21 tools to understand their reliability and how they measure symptoms. They worked with both non-medical university students in Pakistan. Their results showed that psychological symptoms were not limited to students. They were also found among students, in academic areas. This suggests that mental health challenges are not a medical education problem. They affect students across fields of study. This highlights the need to pay attention to health beyond just medical students.(15)

Taken together these studies show that psychological distress is a problem in allied health education. The present findings bring comparison from Quetta by looking at final-year MBBS and DPT students in the same study. Nevertheless differences in how people were chosen the tools used to measure the schools and the students themselves must be kept in mind when comparing this to studies.

I think the findings show that it is very important to put in place psychological support inside healthcare schools. Confidential counselling, student mentorship, stress-management workshops, peer-support programs and mental-health awareness talks can help students handle the demands of school and clinical work. Future research should also look at things like sleep quality the amount of school work money worries, clinical experience and uncertainty, about career choices.

Despite important findings., this study has several limitations.. The cross-sectional design does not allow causal relationships to be established, and the use of self-administered questionnaires may have introduced response bias. Furthermore, the study was conducted in selected institutions within Quetta, which may limit the generalisability of the findings to other regions. Future multicentre longitudinal studies involving larger samples are recommended to further explore the factors associated with psychological distress among healthcare students and to evaluate the effectiveness of mental health interventions.

Conclusion:

The study concluded that final-year DPT students demonstrated higher levels of depression, anxiety, and stress compared to final-year MBBS students. These findings indicate that DPT students may experience greater psychological burden due to academic demands, clinical responsibilities, and professional challenges. Therefore, implementing structured mental health support

systems, counselling services, and stress management interventions is essential to improve students' psychological well-being and academic performance.

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