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SOURCES OF STRESS AND PSYCHOLOGICAL MORBIDITY AMONG UNDERGRADUATE PHYSICAL THERAPY STUDENTS

Original Research

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ABSTRACT

Background: Academic stress is a pervasive issue among healthcare students and has been shown to significantly affect mental well-being. Physiotherapy education, with its evolving curriculum and increasing clinical demands, exposes students to various stressors, particularly academic pressures. The consequences of prolonged stress can lead to psychological morbidity, including anxiety and depression, which may negatively impact students' academic performance and long-term professional competence. This study aimed to identify major stressors and evaluate their association with psychological morbidity among undergraduate physiotherapy students.

Objective: To determine the sources of stress and assess their correlation with psychological morbidity among fourth and final-year physiotherapy undergraduates.

Methods: A cross-sectional study was conducted over six months at three academic institutions in Lahore. A total of 190 fourth and final-year physiotherapy students were recruited using non-probability convenience sampling. Data were collected through the General Health Questionnaire-12 (GHQ-12) and the Undergraduate Sources of Stress (USOS) questionnaire. GHQ-12 assessed psychological morbidity, while USOS identified stress sources across academic, personal, and financial domains. Data were analyzed using IBM SPSS Statistics v20. Pearson's correlation and linear regression were used to determine associations, with significance set at $p<0.05$.

Results: Out of 190 participants, 74.2% were female. Academic stress emerged as the most prominent source, with 40.5% reporting high stress regarding the amount of material to be learned, and 38.9% citing high stress due to intellectual demands. GHQ-12 scores showed 54.7% of students had high psychological morbidity and 26.3% had severe morbidity. A strong positive correlation was found between academic stressors and psychological morbidity ($r = 0.789$, $p < 0.01$).

Conclusion: Academic stress significantly contributes to psychological morbidity among physiotherapy undergraduates. Targeted interventions and institutional support are essential to safeguard students' mental well-being.

Keywords: Academic Stress, Mental Health, Physiotherapy Students, Psychological Morbidity, Self-Reported Questionnaires, Undergraduate Education, Workload.

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INTRODUCTION

Medical education is universally acknowledged as one of the most intellectually and emotionally demanding fields, with numerous studies highlighting the psychological burden it imposes on undergraduate students. The intensity of the academic curriculum, constant exposure to high-stakes evaluations, and the pressure to achieve clinical excellence often contribute to stress, anxiety, and depression among students (1). Stress, in psychological terms, is defined as a particular relationship between the individual and their environment that is perceived as taxing or exceeding their coping resources, thereby threatening their well-being (2). While a minimal level of stress may serve as a motivating force, excessive or prolonged exposure to stress can impair a student's cognitive and emotional functions, ultimately affecting academic performance and long-term health outcomes (3). Among the most cited sources of stress in medical training are academic overload, competitive environments, time constraints, financial concerns, and personal issues such as family expectations or peer relationships (4). Medical students are often perceived as high achievers, expected to maintain excellence not only in theoretical knowledge but also in their clinical acumen. This unrealistic expectation, coupled with personal perfectionism, creates a mental environment ripe for psychological strain (5). Stress, if left unmanaged, manifests in various psychological and physiological symptoms—ranging from insomnia, mood swings, and emotional detachment to elevated heart rate, hypertension, and impaired communication skills with patients (6). Notably, students may isolate themselves, lose motivation, or engage in maladaptive coping mechanisms such as substance misuse or withdrawal from academic responsibilities.

Although stress among medical students has been well-documented globally, evidence suggests that similar stressors exist within physiotherapy education. With the profession evolving to meet changing healthcare demands, physiotherapy students are now subject to rigorous academic and clinical requirements. These include curriculum reforms, intense practical training, and expectations for evidence-based practice, which add to their psychological load (7). Some manage these challenges positively through structured coping strategies such as physical activity, social engagement, or mindfulness techniques. However, others struggle silently, which may culminate in psychological morbidity, defined as the coexistence of anxiety and depression (8). The recent COVID-19 pandemic further intensified the mental health burden among students across all healthcare disciplines. Lockdowns, the abrupt shift to virtual learning, fear of infection, and the inability to attend clinical placements resulted in heightened levels of isolation, anxiety, and academic uncertainty (9). This disruption was particularly distressing for students in their early and final years of study—the former due to unfamiliarity with medical education systems, and the latter due to the anxiety surrounding graduation and clinical responsibility in a post-pandemic healthcare landscape (10). A parallel concern is that healthcare students, including those in physiotherapy, often do not seek timely psychological support, mirroring the reluctance observed in practicing clinicians (11). As a result, psychological morbidity may go undiagnosed and untreated, leading to long-term professional and personal consequences.

Although substantial literature is available regarding the prevalence and sources of stress among MBBS students, relatively limited data exist on physiotherapy undergraduates, particularly in low- and middle-income countries like Pakistan. Cultural factors, socioeconomic stressors, and the unique challenges associated with physiotherapy education remain underexplored. Furthermore, there is a scarcity of localized research examining the association between stressors and psychological morbidity in this population. Studies conducted in countries such as India, Malaysia, and Nepal have indicated that academic pressure, financial hardship, and relocation are major stressors among physiotherapy students, while female students often report higher levels of psychological distress than their male counterparts (12–15). Given these considerations, this study aims to bridge a significant gap in existing literature by identifying the primary sources of stress and assessing the presence of psychological morbidity among fourth and final year physiotherapy students in Pakistan. By doing so, it seeks to provide evidence-based insights that can guide institutional interventions and inform policy decisions aimed at promoting the mental well-being of future healthcare professionals. Therefore, the objective of the current research is to determine the sources of stress and their association with psychological morbidity among undergraduate physiotherapy students, to better inform mental health support services and academic policy reform.

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METHODS

This study employed a cross-sectional survey design to assess the sources of stress and psychological morbidity among undergraduate physiotherapy students. The research was conducted over a duration of six months across three academic institutions: Allama Iqbal Medical College, School of Allied Health Sciences, Riphah Institute of Rehabilitation Sciences Lahore, and the University of Lahore. The target population consisted of fourth and final year Doctor of Physical Therapy (DPT) students enrolled in these institutions. Participants were selected using a non-probability convenience sampling technique, which, although pragmatic for time-limited studies, may limit the generalizability of findings due to potential selection bias. The calculated sample size was 190 students, determined using a sample size estimation formula with a power of 90%, a 95% confidence level, and an anticipated population proportion of 0.231 based on previous literature (16). Inclusion criteria comprised all willing fourth and final year DPT students currently enrolled at the selected institutions. Students who declined to participate were excluded from the study. Each participant provided informed written consent prior to data collection, and ethical approval for the study was sought from the relevant institutional review board (IRB).

Data collection was carried out through two standardized self-administered questionnaires. The General Health Questionnaire-12 (GHQ-12) was used to assess psychological morbidity (17). This validated tool has demonstrated good reliability in previous studies, with a reported Cronbach's alpha of 0.78. The GHQ-12 consists of 12 items scored on a four-point Likert scale, ranging from 0 (not at all) to 3 (much more than usual). The cumulative score ranges from 0 to 36, with higher scores indicating poorer psychological well-being. Students scoring between 0–12 were classified as low risk, 13–24 as high risk, and 25–36 as severe risk for psychological morbidity (18). To evaluate stressors, the Undergraduate Sources of Stress (USOS) questionnaire was employed (19). This instrument includes 18 stress-related items categorized under academic, personal, and financial domains. Responses were recorded using a five-point Likert scale (0–4), with higher scores reflecting greater perceived stress in each domain. Both instruments have been widely used in similar populations, enhancing the methodological robustness of the current study.

The collected data were analyzed using IBM SPSS Statistics version 20. Descriptive statistics, including mean and standard deviation, were used for quantitative variables, while frequencies and percentages were reported for categorical variables. Inferential analysis included Pearson's correlation to examine the relationship between sources of stress and psychological morbidity, and linear regression analysis to explore the predictive value of stressors on psychological morbidity. A p-value of less than 0.05 was considered statistically significant. All participants were assured of strict confidentiality and anonymity. Participation was voluntary, and students retained the right to withdraw at any point without any academic or institutional penalty.

RESULTS

A total of 190 students participated in the study, of which 74.2% were female (n=141) and 25.8% were male (n=49). In terms of financial stress, particularly related to university fees, 31.6% of students reported experiencing extreme stress, 16.3% reported high stress, 22.1% moderate stress, 20.0% little stress, while 10.0% reported no stress. Regarding academic burden, 38.9% of participants indicated high levels of stress concerning the intellectual demands of the course, while 27.4% reported extreme stress, 23.2% moderate, 6.3% little, and 4.2% no stress. Stress related to uncertainty about course expectations was also notable: 40.0% reported high stress, 28.9% moderate, 20.0% extreme, 8.9% little, and only 2.1% reported no stress. The amount of material to be learned in the course was a significant stressor, with 40.5% of students reporting high stress, 28.9% extreme stress, 23.7% moderate, 4.2% little, and 2.6% no stress. Overall, when asked about their general stress levels, 32.6% of students identified as having moderate stress, 29.5% high stress, 28.4% extreme stress, 7.4% little stress, and 2.1% reported no stress at all.

Assessment of psychological morbidity using the GHQ-12 revealed that 54.7% of students fell into the high-risk category, 26.3% were in the severe risk category, and 18.9% were categorized as normal. When asked specifically about feelings of constant strain, 36.3% reported experiencing strain more than usual, 25.8% much more than usual, 25.8% no more than usual, and 12.1% not at all. Correlation analysis showed a strong positive relationship between the amount of material to be learned and psychological morbidity ($r = 0.789$, $p < 0.01$), as well as between the intellectual demands of the course and psychological morbidity ($r = 0.620$, $p < 0.01$). Conversely, there was no significant correlation between students' self-reported physical health and psychological morbidity ($r = -0.039$, $p = 0.596$).

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Table 1: Distribution of Gender and Stress Levels Related to University Fee and Intellectual Demands Among Undergraduate Physiotherapy Students

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	141	74.2
	Male	49	25.8
	Total	190	100.0
Stress Due to University Fee	No Stress	19	10.0
	Little Stress	38	20.0
	Moderate Stress	42	22.1
	High Stress	31	16.3
	Extreme Stress	60	31.6
	Total	190	100.0
Stress Due to Intellectual Demands	No Stress	8	4.2
	Little Stress	12	6.3
	Moderate Stress	44	23.2
	High Stress	74	38.9
	Extreme Stress	52	27.4
	Total	190	100.0

Table 2: Distribution of Academic Stressors, Overall Stress Levels, Constant Strain, and Psychological Morbidity Among Undergraduate Physiotherapy Students

Variable	Category	Frequency (n)	Percentage (%)
Uncertainty About Course Expectations	No Stress	4	2.1
	Little Stress	17	8.9
	Moderate Stress	55	28.9
	High Stress	76	40.0
	Extreme Stress	38	20.0
	Total	190	100.0
Amount of Material to be Learned	No Stress	5	2.6
	Little Stress	8	4.2
	Moderate Stress	45	23.7
	High Stress	77	40.5
	Extreme Stress	55	28.9
	Total	190	100.0
Overall Stress Level	No Stress	4	2.1
	Little Stress	14	7.4
	Moderate Stress	62	32.6
	High Stress	56	29.5
	Extreme Stress	54	28.4
	Total	190	100.0
Feeling of Constant Strain	Not at All	23	12.1
	No More Than Usual	49	25.8
	More Than Usual	69	36.3
	Much More Than Usual	49	25.8
	Total	190	100.0
Psychological Morbidity	Normal	36	18.9
	High	104	54.7
	Severe	50	26.3
	Total	190	100.0

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Table 3: Correlation between physical health and psychological morbidity

Psychological morbidity	Pearson Correlation	1	-.039
	Sig. (2-tailed)		.596
	N	190	190
Physical health	Pearson Correlation	-.039	1
	Sig. (2-tailed)	.596	
	N	190	190

Table 4: Correlation among amount of material to be learned in the course and psychological morbidity

		Amount of material to be learned in the course	Psychological morbidity
Amount of material to be learned in the course	Pearson Correlation	1	.789**
	Sig. (2-tailed)		.000
	N	190	190
Psychological morbidity	Pearson Correlation	.789**	1
	Sig. (2-tailed)	.000	
	N	190	190

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5: Correlation Between Intellectual Demands of the Course and Psychological Morbidity Among Undergraduate Physiotherapy Students

		Psychological morbidity	Intellectual demands of the course
Psychological morbidity	Pearson Correlation	1	.620**
	Sig. (2-tailed)		.000
	N	190	190
Intellectual demands of the course	Pearson Correlation	.620**	1
	Sig. (2-tailed)	.000	
	N	190	190

**. Correlation is significant at the 0.01 level (2-tailed).

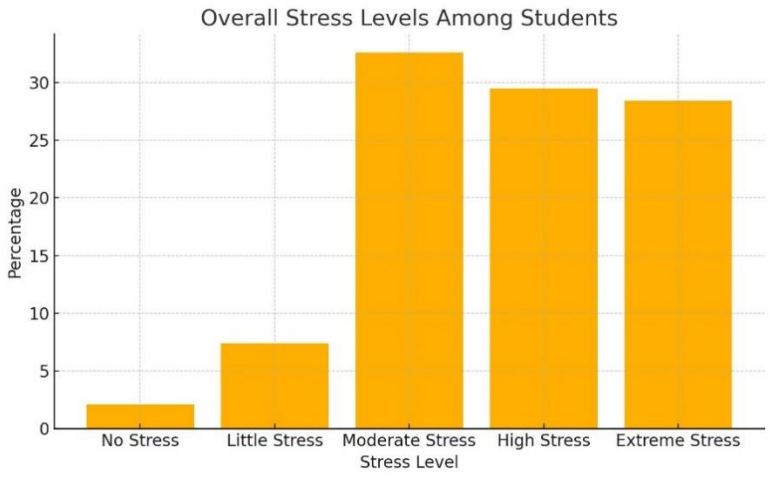


Figure 1 Overall Stress Levels Among Students

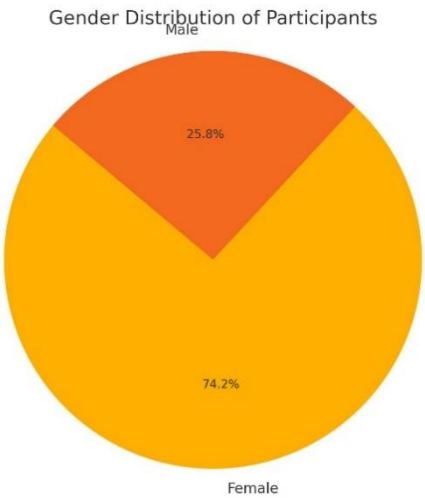
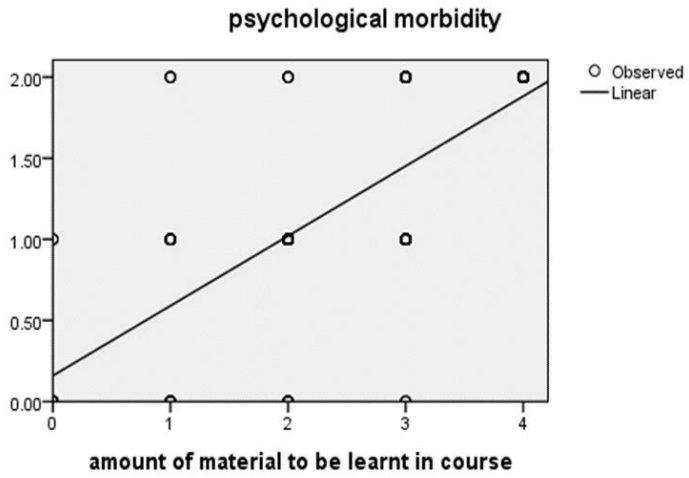


Figure 2 Gender Distribution of Participants

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DISCUSSION

The present study explored the sources of stress and their association with psychological morbidity among undergraduate physical therapy students, offering valuable insight into a relatively under-researched population. Utilizing the Undergraduate Sources of Stress (USOS) questionnaire, academic stressors emerged as the predominant contributors to overall stress levels, particularly the intellectual demands of the course and the uncertainty surrounding course expectations. These findings are consistent with previously published data, which identified academic-related challenges—such as overwhelming content, high self-expectations, and performance pressure—as central drivers of psychological distress among healthcare students (17). Psychological morbidity, assessed through the GHQ-12, was found to be alarmingly high, with more than half of the respondents (54.8%) falling into the high-risk category. This proportion significantly exceeds prior estimates from local studies, which reported the prevalence of psychological morbidity to be closer to 23.3% (18,19). Such a striking contrast underscores a potential rise in academic pressures or evolving challenges specific to physiotherapy education, such as curriculum reform, increased clinical demands, or inadequate psychological support systems. Notably, the current findings indicated that stressors associated with academics had a strong and significant correlation with psychological morbidity. In contrast, financial and personal stressors did not show a meaningful association, suggesting that academic pressure remains the most influential factor impacting mental health in this cohort (20).

This study contributes to the existing body of literature by focusing specifically on physical therapy undergraduates in Pakistan, a population for which minimal data is available despite the growing demands of the profession (21,22). One of the strengths of the research lies in its use of validated tools like the GHQ-12 and USOS, which facilitated standardized and reliable data collection. Additionally, the study's multi-institutional design enhanced the diversity and representativeness of the sample, strengthening the applicability of the findings within the context of physiotherapy education in similar settings. Nonetheless, the study is not without limitations. The use of GHQ-12, while validated and reliable, is inherently a self-report measure. This opens the possibility of response bias, including underreporting or overreporting symptoms due to social desirability or lack of self-awareness. A more robust diagnostic approach incorporating clinical evaluation or structured interviews could enhance the accuracy of psychological morbidity assessment. Moreover, the cross-sectional design limits the ability to establish causal relationships or evaluate changes in stress and mental health over time. Longitudinal research could better capture the progression of psychological distress and its impact on academic and clinical performance.

Furthermore, while academic stressors were comprehensively analyzed, the study did not extensively explore coping strategies, support systems, or institutional mechanisms that might buffer stress or mitigate psychological morbidity. Including such variables in future research would offer a more holistic understanding of student well-being and inform the development of targeted interventions. Future studies should also consider stratifying data by gender, year of study, and socioeconomic background to uncover potential disparities in stress experiences and mental health outcomes. In conclusion, the findings reflect a clear need for educational institutions to prioritize

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the mental health of physiotherapy students by integrating academic counseling, stress management programs, and accessible psychological support. A shift toward proactive mental health promotion within physiotherapy education could significantly enhance student well-being and professional development, ensuring the production of not only clinically competent but also psychologically resilient healthcare providers.

CONCLUSION

This study concluded that academic stressors are the primary contributors to psychological distress among undergraduate physiotherapy students, with a significant link observed between academic challenges and psychological morbidity. These findings underscore the urgent need for educational institutions and relevant authorities to recognize and address the academic pressures faced by students. Implementing supportive strategies, including academic counseling, curriculum adjustments, and accessible mental health services, could play a critical role in fostering a healthier learning environment and promoting the overall well-being of future healthcare professionals.

AUTHOR CONTRIBUTION

Author	Contribution
Zubia Hassan*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Ammara Abbas	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Maryam Asif Awan	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Sidra Asad	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published

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