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ACADEMIC BURNOUT, STRESS AND COPING STRATEGIES AMONG HEALTHCARE STUDENT

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Abstract

Background: *Health profession education is highly demanding and challenging, provide students to deal with complex learning environment, which can cause problems associated with stress and has a negative impact on both academic and extracurricular productivity. Health care students want to cope the academic stress and burnout through different coping strategies.*

Objective: *This study was aimed to determine the academic burnout, stress and coping strategies among healthcare students and to determine the relationship between burnout and stress.*

Design of study: *Descriptive Cross-sectional.*

Place & Duration*: Peoples university of medical and health sciences for women (PUMHSW) Nawabshah, Shaheed Benazirabad, from 1st January to 30 May 2023.*

Materials and Methods: *This Descriptive cross-sectional study was implemented on healthcare students of Peoples university of medical and health sciences for women Nawabshah, Shaheed Benazirabad from 1stJanuary to 30 May 2023. A sample of 400 healthcare students from 3rd year to final year of different disciplines (MBBS, DPT,PHARM-D,NURSING) were selected through convenient sampling technique. The data collection instrument consisted of a section on demographic information, Maslach burnout inventory (MBI), Perceived Stress Scale (PSS), Brief-COPE. The analysis of data was done through SPSS 21.0, Data scrutiny involved in the use of descriptive statistics. Moreover Spearman's rank correlation coefficient and Pearson correlation coefficient test was used.*

Results: *Personal accomplishment revealed high levels of burnout where emotional exhaustion revealed low levels of burnout, emotional focused coping strategies were most commonly used.*

Conclusions: *Academic burnout and stress was present in undergraduate healthcare students of PUMHSW, and implementation of different coping strategies would relieve their stress and burnout.*

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INTRODUCTION:

Health profession education is highly demanding and challenging, provide students to deal with complex learning environment. Health care education can be a stressful experience for some individuals, and may negatively affect emotional well-being and academic performance of the students. Studies suggest that high levels of stress and psychological morbidity occur in health care profession students.(1) In health professionals stress related to work and burnout syndrome both are co-existing.

Burnout is a "psycho-physical state of mental, emotional, and physical tiredness manifested in diminished motivation and performance, and callousness in social relationships"(2). Burnout syndrome is explained and evaluated through three elements including emotional exhaustion, depersonalization and the reduction of personal accomplishment. Emotional exhaustion is the chronic state of physical and emotional depletion that results from excessive job, personal demands or continuous stress. Depersonalization is type of dissociative disorder in which person shows detachment within the self and he/she feels that outside world is unreal (i.e. cynicism) and a low sense of personal accomplishment. Burnout syndrome may also be associated with several disorders and negative consequences such as depression, anxiety, sleep disorders, fatigue, cardiovascular diseases, work-home conflict, substance abuse and suicidal ideation. The prevalence rate of burnout among medical students in USA was about 49% and 28-61% in Australia(3). Prevalence rate of burnout among medical students in Egypt was conducted in 2018, about (79.9%)(4).

Stress is generally a situation where the demands exceed the capacity of an individual to respond and can potentially have negative physical and psychological consequences. Stress has been identified as a 20th century disease and has been viewed as complex and dynamic transaction between individuals and their environment(5). Academic stress produces a feeling of competition and stimulation or inspiration however sometimes, this tension results in anxiety and a sense of powerlessness, which can cause problems associated with stress and had a negative impact on both academic and extracurricular productivity. When stress assist learning is called Eustress but when stress abolish learning is called distress. However, chronic stress is associated with increased chances of depression, relationship difficulties, anxiety and suicide. Academic factors comprise course requirements such as excessive content, long theoretical and clinical hours in stressful and changing environments, continual assignments and exams, and fear of failing or underachievement. The literature identifies three main groups of stress causes: academic sources of stress, clinical sources of stress and personal/social sources of stress(6).

The prevalence of mild to severe depression, anxiety, and stress among nursing students in Hong Kong, was 35.8%, 37.3%, and 41.1% respectively. Stress, anxiety, and depression were prevalent in Malaysia at 3.6%, 54.5% and 1.9% respectively. The prevalence of stress was found to be 61.4% in a study of Thai medical students. Belgrade medical students' stress prevalence rates were 16.8%. According to a recent study from Lahore, Pakistan, stress is common among medical students and is substantially correlated with unsatisfactory academic performance (20.8% of them)(7).

Burnout and stress are directly associated with each other where stress causes the burnout. Burnout and stress are symptomatically similar, with burnout attributed specifically to occupational stressors. McManus and colleagues proposed that there is a cyclical relationship between stress and emotional exhaustion, suggesting that heightened levels of stress and poor coping strategies may be key contributors in the development of burnout. It has been found that one in five nurses want to quit their job and 40% nurses experience considerable burnout due to academic and workplace stress. Consequently, burnout is the leading cause of stress among nursing students(8).

Coping strategies are the behaviors, thoughts, and emotions that you use to adjust to the changes that occur in your life. Lazarus and Folkman (1987) described three coping styles. Problem- focused coping is strategic behavior

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aimed at controlling or altering the environment that is causing the stress. Emotion-focused coping is stress management that attempts to reduce negative emotional responses associated with stress. Avoidance coping involves trying to avoid stressors rather than dealing with them(2). Health care students want to cope the academic stress and burnout through different coping strategies through which they would be able to fight with their mental combat as anxiety, depression and academic stress affects their quality of life(1). Study on academic stress is conducted in Pakistan but studies on burnout and coping strategies are non-existent. Academic stress and burnout affects overall performance, quality of life and may alter the mental as well as physical health of students. The huge amount of stress in healthcare education may lead to many adverse effects such as diminished attention and concentration, increased incidence of errors, negligence, absenteeism, self-medication, and cheating during examinations. Healthcare education has been reported as one of the most stressful curricula throughout the world as it causes many negative consequences on the mental and physical health of students(4). Aim of our study is to determine the academic burnout, stress and coping strategies among healthcare students and to determine the relationship between burnout and stress.

MATERIALS AND METHODS:

The Descriptive cross-sectional study was implemented on healthcare students of Peoples university of medical and health sciences for women Nawabshah, Shaheed Benazirabad. Duration of the study was started from 1st January to 30 May 2023. A sample of 400 healthcare students was selected through convenient sampling technique according to delineated inclusion and exclusion criteria. Participants fulfilling the following criteria: Undergraduate female medical students, pharmacy students, physiotherapy students, nursing students from 3rd year to final year, aged between 18-25 years. Male students, 1st year and 2nd year healthcare students and those participants who had already diagnosed case of any recent fracture, psychological disorder (i.e. post-traumatic stress disorder (PTSD), eating disorder, anxiety disorder) and pregnant or lactating female students were excluded. Data collection took place after getting Ethical approval from the (IRB) Institutional Review board of institute of Physical therapy and Rehabilitation sciences (IPRS) of Peoples University of medical and health sciences for women, Nawabshah. Permission was conducted from respective heads of all departments and students were approached in their respective classrooms for data collection. Self administered questionnaires were distributed to them and took approximately 30 minutes. Questionnaires included 22 item MBI,10 item PSS, 28 item Brief cope and were completed in the presence of researchers. Most of the completed questionnaires were collected immediately while those, who were unable to finish the questionnaires in given time were collected on next day. Data were kept confidential, and anonymous. Following were study instruments were used during data collection.

Maslach burnout inventory (MBI) was used to measure the Academic burnout, consuming 22 item, 7 points likert scale ranging from 0 to 6 (i.e. “never” to “everyday”). Maslach and Jackson in 1981 developed this scale to measure the burnout which is divided into 3 subscales including emotional exhaustion (7 items),depersonalization (7 items) and loss of personal accomplishment (8 items). Sum up the responses of each subscale, for emotional exhaustion total score lie within these categories if total score was 17 or less represented low- level burnout ,if between 18 and 29 inclusive represented moderate burnout, if over 30 represented high-level burnout, for depersonalization total 5 or less represented low-level burnout, total between 6 and 11 inclusive represented moderate burnout ,total of 12 and greater represented high-level burnout. For personal accomplishment total 33 or less represented high- level burnout ,total between 34 and 39 inclusive represented moderate burnout and total greater than 40 represented low-level burnout (9).

The Perceived Stress Scale(PSS) was the most

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widely used psychological instrument for measuring the perception of stress that was developed by Cohen, consuming 10 items,5 points likert scale ranging from (0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often) PSS scores were obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items (10).

The Brief-COPE is a 28 item self-reported questionnaire designed to measure effective and ineffective ways to cope with a stressful life event. It was developed by Carver, C. S. (1989). Scores on the following three sub scale: Problem-Focused Coping, Emotion-Focused Coping, and Avoidant Coping. Scoring protocol was presented as average scores (sum of item scores divided by number of items), indicating the degree to which the respondent has been engaging in that coping style. 1. = I haven't been doing this at all, 2. = A little bit, 3= A medium amount, 4. = I've been doing this a lot (11).

Statistical Analysis:

Data was analyzed by using SPSS version 21. Descriptive statistics was used to analyze the data. Continuous variables were expressed in mean ±S.D and categorical variables were expressed in percentage and frequency. Spearman's test was used to determine the association between academic burnout domains and stress and Pearson's test was used to determine the association between burnout and stress.

RESULTS:

Concerning the socio demographic characteristics of the studied students; the present study showed that the mean age of participants was 22.88±0.825 years, from 22-25. Study hours in a day 7.43±2.799 hours. Time spend during clinical activities per week was 10.80±2.4 hours. Total number of healthcare students was 400 that were distributed in four categories (MBBS, DPT, BS-NURSING, PHARM-D) from third year to final year (n=166, 109, 75, 50). Academic year represented 47.5% from 3rdyear, 32.0% from 4th year, 20.5% from final year (Table#1).

Regarding the frequency of stress and burnout subscales among healthcare students; the present study revealed that scores of the Emotional exhaustion subscale of MBI were on average 16.47±8.140,with the distributionin low ,moderate and high frequency 58.3%,35.5%,6.3% respectively. Values on the subscale depersonalization were on average 14.09±8.506, and with low, moderate and high frequency level of 17.5%,24.5%,58% respectively. An average value of Personal accomplishment score was 29.39±11.8 and with low, moderate and high frequency level of 60.5%,20.0%,19.5% respectively. Personal accomplishment revealed high levels of burnout where emotional exhaustion revealed low levels of burnout (Table#2).

Average score of perceived stress of PSS was 19.38±4.960,with low ,moderate and high frequency level of 10.3%,81.8%,8% respectively (TABLE#3).

There was a correlation between burnout and stress, so relation of stress with MBI and its domains revealed that Spearman's test was used to find association of stress with domains of MBI along with categories. Emotional exhaustion showed r=0.287, p value=0.000, showed significance while other domains of MBI showed non-significant p value. Pearson's correlation coefficient test was used to find association between MBI and PSS where r=0.139,p value=0.005,revealed significant p value.(Table#4)

Coping strategies among healthcare students were analyzed by Brief-cope, including problem focused coping strategies, emotional focused coping strategies, avoidance coping strategies. Emotion focused coping strategies showed highest average score 29.081±9.981,while problem focused showed 20.964±6.506 and avoidant focused showed lowest average score 14.522±6.636 (Table#5).

Healthcare students demographics:(Table 1)

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VARIABLE	MEAN	S.D
AGE	22.88	0.825
How many hours do you study in a day?	7.43	2.799
How much time you spend practicing in your clinical activities per week?	10.80	2.448
Department	N	%
MBBS	166	41.5
DPT	109	27.3
BS-N	75	18.8
PHARM-D	50	12.5
Academic year	N	%
3rd	190	47.5
4th	128	32
Final	82	20.5

Burnout among healthcare students, MBI with its domains (Table 2)

Domain	Low n (%)	Moderate n (%)	High n (%)
Emotional exhaustion	233 (58.3)	142 (35.5)	25 (6.3)
Depersonalisation	70 (17.5)	98 (24.5)	232 (58.0)
Loss of personal accomplishment	78 (19.5)	80 (20.0)	242 (60.5)

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Stress among healthca re students (Table 3)

Domain	Low n (%)	Moderate n (%)	High n (%)
Stress	41 (10.3)	327 (81.8)	32 (8.0)

Correlation between burnout and stress (Table 4)

	PERCEIVED STRESS SCALE	
	r	p value
MBI	0.139	0.005
Emotional exhaustion	0.287	0.000
Depersonalization	-0.006	0.906
Loss of personal accomplishment	-0.005	0.926

Coping strategies among healthcare students based onbrief-COPE (Table 5)

COPING STRATEGIES	Mean	Std-Deviation
PROBLEM FOCUSSED COPING	20.964	6.506
Active coping	5.382	1.645
Informational Use	4.742	1.610
Positive reframing	5.420	1.640
Planning	5.420	1.611
EMOTIONAL FOCUSSED COPING	29.081	9.981
Emotional support	4.790	1.564
Venting	4.460	1.601
	4.352	1.871
Acceptance	5.210	1.584

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Religion	5.932	1.772
Self-blame	4.337	1.589
AVOIDANT FOCUSSED COPING	14.522	6.636
Self-distraction	4.902	1.638
Denial	4.560	1.586
Substance use	3.420	1.772
Behavioral-disengaged	1.640	1.640

Discussion:

The present study aimed to assess the frequency of stress and burnout among healthcare students, as well as their coping strategies. The results of the study showed that the mean age of participants was 22.88±0.825 years and the study hours per day were 7.43±2.799, and the time spent during clinical activities per week was 10.80±2.448. The total number of healthcare students was 400, distributed among four categories (MBBS, DPT, BS-NURSING, PHARM-D) from third year to final year (n=166, 109, 75, 50). Academic year represented 47.5% from 3rd year, 32.0% from 4th year, 20.5% from the final year.

The findings also revealed that the scores of the Emotional exhaustion subscale of MBI were on average 16.47±8.140, with the distribution in low, moderate, and high frequency of 58.3%, 35.5%, and 6.3%, respectively. The values on the subscale depersonalization were on average 14.09±8.506, and with low, moderate, and high frequency level of 17.5%, 24.5%, and 58%, respectively. An average value of Personal accomplishment score was 29.39±11.8 and with low, moderate, and high frequency level of 60.5%, 20.0%, and 19.5%, respectively. The average

score of perceived stress of PSS was 19.38±4.960, with low, moderate, and high frequency level of 10.3%, 81.8%, and 8%, respectively.

The findings of the study indicate that healthcare students are susceptible to stress and burnout, with a significant number of students reporting moderate to high levels of emotional exhaustion and depersonalization. These findings are consistent with previous studies that the prevalence of burnout was 54.5% among medical students at Jazan university Saudi Arabia. Another study found high prevalence of burnout among medical students in a university from Saudi Arabia (55.5%)(12). Predictors of burnout among Belgrade healthcare students found the prevalence of burnout was 43.3%. High scores on depersonalization and emotional exhaustion scales of MBI were found among 79.4% and 45.0% students, respectively; low personal accomplishment was reported by 50.5% students. The study also found a significant correlation between stress and burnout, indicating that high levels of stress can contribute to burnout among healthcare students. A study among United States and Canadian medical students found that medical students who reported high levels of stress were more likely to experience burnout. Additionally, another study found that dental students who reported high levels of stress were more likely to experience burnout (13). The relation of stress with MBI and its domains revealed that Emotional exhaustion showed a significant association, while other domains of MBI showed a non-significant association. Same relation found in previous studies in which high levels of emotional exhaustion caused stress (standardised regression coefficient, b=0.189) and high levels of stress caused emotional exhaustion (b=0.175) stated as Emotional exhaustion is

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probably the key precursor of stress. Another study also prove the relation of stress with MBI and its domains revealed that Emotional exhaustion showed a significant association, while other domains of MBI showed a non-significant association. Furthermore, Pearson's test was used to find an association between MBI and PSS, where it revealed a significant p-value. These findings are consistent with previous research on burnout and stress among healthcare students conducted in United States (13). Another study on medical students prove mentioned relation. This finding matched previous studies that have shown a strong association between stress and burnout among healthcare professionals. It highlights the importance of addressing stress and providing effective coping strategies to prevent burnout among healthcare students.

This study also investigated the coping strategies among healthcare students, and the findings revealed that emotion-focused coping strategies showed the highest average score of 29.081±9.981, while problem-focused coping strategies showed 20.964±6.506, and avoidant focused coping strategies showed the lowest average score of 14.522±6.636. In terms of coping strategies, the present study found that healthcare students primarily used emotion-focused coping strategies, such as seeking emotional support and venting their emotions. These findings are consistent with the previous studies on coping strategies among nursing students (14). Another among undergraduate healthcare students found that Students experiencing psychological distress were applying emotion-focused coping behaviors (venting, acceptance, self-blame, substance use, religion) and avoidant coping behaviors (self-distraction, behavioral disengagement, denial (15).

The study also found that problem-focused coping strategies were less commonly used than emotion-focused coping strategies. Problem-focused coping involves actively addressing the source of stress and taking steps to solve the problem. This finding is consistent with previous study conducted in Taiwan that have shown healthcare professionals often use emotion-focused coping strategies to manage stress rather than addressing the underlying problem (16). This highlights the need for interventions that encourage problem-focused coping strategies among healthcare students to promote their resilience and prevent burnout.

This study found that emotion-focused coping strategies were the most commonly used by healthcare students. While common strategies utilized by healthcare students include problem-focused strategies such as planning, problem-solving and active coping. The difference in our study is due to our population only include female gender. Female students uses more emotion- focused coping strategies while men uses problem-focused coping strategies (17). Found that more women than men seek counseling for emotional issues. Another article prove this study. Long-term research revealed that women suffer significantly higher levels of depression, anxiety, and loneliness than men. This is considered to be related to gender traits. Women themselves attach more importance to their inner experiences and self-perceptions, their emotions are more fragile and sensitive, and they are more vulnerable to depression, anxiety and loneliness (18).

Limitations:

The present study had some limitations that should be mentioned. Firstly,the study related to cross-sectional design,which did not allow for establishment of causal effect. Secondly, the study used self-report questionnaires, which might be subject to response bias. Thirdly, the study was conducted in a single institution, and from one city Nawabshah limiting its generalizability of the results.

Conclusion and recommendations:

In conclusion, the present study provided valuable insights into the frequency of stress and burnout among healthcare students and their coping strategies. The findings of the study revealed that a significant number of healthcare students experience emotional exhaustion and depersonalization, indicating the presence of burnout. Moreover, a considerable proportion of

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students reported moderate to high levels of perceived stress. The study also found that students used various coping strategies, emotion-focused coping being the most commonly used strategy.Future studies should include multiple institutions and both gender.

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