



BURNOUT SYNDROME AMONG PHYSICAL THERAPIST PROFESSIONALS WORKING IN KARACHI: A CROSS-SECTIONAL STUDY

Noor Ul Huda Shakeel¹, Dr. Paras Ayaz², Dr Okasha Anjum³

¹DPT Indus University, Department of Allied Health Sciences

Email: dr.noorulhuda.pt11@gmail.com

²Assistant Professor, Department of Allied Health Sciences, Indus University, Karachi, Email: paraskhalid14@gmail.com

³Head of Department, Department of Allied Health Sciences, Indus University, Karachi, Email: okashaanjum86@hotmail.com

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Corresponding Author: Noor Ul Huda Shakeel, DPT Indus University, Department of Allied Health Sciences

Email:

dr.noorulhuda.pt11@gmail.com

ABSTRACT

Introduction: The prevailing issue in the global healthcare sector is burnout syndrome, characterized by depersonalization, personal accomplishment, and emotional tiredness. Because their work is so demanding, physical therapists are prone to burnout. There is a dearth of studies on burnout among physical therapists in Karachi, Pakistan, even though it negatively impacts both professional and patient treatment.

Methodology: A validated instrument for measuring burnout, the Maslach Burnout Inventory (MBI), will be employed to measure personal accomplishment, depersonalization, and emotional exhaustion. A structured survey form will be used to gather data on perceived organizational support, job-related variables, and demographic traits. Descriptive statistics and sophisticated regression techniques will be used in conjunction with data analysis to uncover burnout drivers and investigate potential moderating factors.

Result: 281 physiotherapists were evaluated with the Maslach Burnout Inventory-Human Services Survey, and high levels of burnout components, were found: emotional exhaustion(44.1%),depersonalization (35.2%), and lower personal accomplishment (34.5%). Chi-square analysis provided evidence of significant correlations between prevalence of burnout, employment sector, professional experience, and type of employment ($p < 0.01$), with full-time professionals and workers in public hospitals showing significantly higher burnout. In particular, full-time working

	<p>physiotherapists had 2.15 times greater chances of reporting high emotional exhaustion than part-time working ones (OR = 2.15; 95% CI: 1.21–3.83). Correlation was found between positive relationships of high scores on emotional exhaustion items ($r=0.80$) and between depersonalization indicators ($r=0.76$), indicating uniform patterns of occupational stress. Neither gender nor age was found significantly related to overall burnout rates ($p>0.05$). The results emphasize that organizational context and workload are substantial predictors of burnout among Karachi physiotherapists.</p> <p>Conclusion: A large number of physiotherapists in Karachi are suffering from severe emotional and psychological stress due to the prevalence of burnout syndrome. To prevent burnout, the study emphasizes the necessity of strong support networks, efficient task management, and ongoing professional development. Also conduct more research, especially longitudinal studies, to investigate causal linkages and create focused solutions.</p>
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INTRODUCTION:

Numerous studies on burnout syndrome (BOS) have focused on working groups, among which healthcare workers are the most commonly studied. These workers are presumed to be the most affected by BOS, along with educators. Medical practitioners often spend long hours dealing with their patients' issues and concerns. The healthcare industry is becoming increasingly competitive, which puts health professionals in challenging conditions that they must constantly adapt to. As a result, these experts' physical and psychological well-being may be compromised by any of the aforementioned circumstances [1]

Various studies show that BOS occurs in a variety of professions. The health sector is the focus of several of this research. Despite being among the most vulnerable groups, there is a lack of studies demonstrating the prevalence of this vulnerability among physiotherapists. Physical therapists may also be impacted by Burnout syndrome, according to Wolfe³, who conducted the initial research on the subject. [1]

The term "burnout syndrome" lacks a clear-cut, agreed meaning. It therefore refers to instances in which a worker's performance is not compatible with the role that they hold, a circumstance that gives rise to an aberrant psychophysiological symptomatology that includes depressed traits [2] Freudenberger, defined burnout as a feeling of exhaustion and failure brought on by excessive demands on one's resources or energy. This definition helped to clarify the unpleasant feelings that arise from burnout in a professional environment. [2]

Frustration, anguish, tearfulness, insomnia, melancholy, and a fear of inadequacy are some signs of burnout. In the end, these symptoms may lead to decreased productivity and subpar patient care on the part of medical staff. Although it is well known that burnout is bad for one's health, it may also have a severe

influence on the workplace and clients since stress and anger might outweigh a person's capacity for patience and coping mechanisms. The impacted healthcare professionals experienced mood fluctuations, restless nights, and difficulty focusing. Mental anxiety was accompanied by physical ailments like back pain or gastrointestinal troubles.[3]

Female doctors, nurses, and other healthcare professionals experience burnout at greater rates than male counterparts, according to several research conducted overseas. Though there are variations between demographic categories and among certain occupations, the risk variables influencing women's exhaustion rate are comparable. These determinants include the lack of appropriate mentorship, the difficulties of juggling two careers at once, motherhood, pay inequality, and missed opportunities for advancement, in males.[4]

Scientific findings suggest that physiotherapists may experience burnout more than other health professionals. Results from 172 physiotherapists in the public and private sectors were analyzed in a nationwide survey; the findings indicated that Of those working in the public sector, 57% agreed that their jobs were stressful, compared to 40% of those in the private sector. [5]

Within the scope of physiotherapy, the capacity of the practitioner to interact with and comprehend the patient, building a therapeutic connection based on trust, is crucial to delivering person-centered care. if the physiotherapist is experiencing burnout syndrome, this might be impacted. A person experiencing burnout may experience depersonalization (DP), emotional fatigue (EE), and a decrease in personal achievement (PA) as a result of working in an atmosphere where stress levels are high and there is a perceived lack of resources and support. It results in emotional detachment and reduced attention to the patient's demands; moreover, it may weaken the therapeutic alliance and reduce treatment effectiveness. [6]

Physiotherapists' levels of burnout and the relationship between burnout and related factors like workload were determined by observational research conducted in Saudi Arabia in 2014. The study involved 119 physiotherapists who gave their consent and filled out questionnaires, including the Fields of Professional Life Study and the Maslach Burnout Inventory (MBI). Researchers found that physical therapists reported moderate levels of burnout, and that workload and related organizational factors were correlated with burnout. [7]

A study on burnout syndrome among physiotherapists was carried out in 2014. The relationship between the study's indicated research factors and demographics was explained in depth. Data was gathered using the MBI scale and a questionnaire that described sociodemographic and occupational factors. The findings demonstrated a statistically significant increase in emotional tiredness among hospital-based physiotherapists. It was shown that certain demographic and organizational characteristics were substantially correlated with indicators of burnout among physical therapists. [8]

According to research done in 2023, the primary factors contributing to elevated job stress were social contact, deficiency of incentives, and inadequate support at work. The results suggest that there is indeed a high likelihood of burnout on the job. and occupational stress for healthcare workers, especially physiotherapists.[9]

Due to their crucial role in the rehabilitation process, which necessitates close client engagement, physiotherapists are susceptible to the beginning of burnout. There is a barely adequate study on burnout in physical therapists. Reviewing several research, it was found that physiotherapists had mild burnout in a 2002 study performed in Japan and high levels of professional tiredness in a 2006 study conducted in Italy, relative to nurses and doctors. [10] Additionally, there isn't much research that has been conducted in Pakistan using a representative sample and acceptable methodology. [6,10]

The Significance of Research:

An individual's lifestyle may be significantly impacted by burnout, which is defined as a feeling of failure or fatigue. To improve the overall well-being of physical therapists working in Karachi, it is imperative to determine the frequency of burnout syndrome among them. By doing this, we may also contribute to filling the literature gap by taking up the subject of physiotherapists' occurrence of burnout syndrome

The Rationale of Research:

The purpose of this research is to ascertain the incidence of burnout syndrome among physical therapists employed by various hospitals in Karachi, Pakistan. Given the dearth of research on burnout syndrome among Karachi's physical therapists, we looked at the syndrome's traits and level of pathological involvement.

Research Objective:

To comprehend its influence on their general well-being, job satisfaction, and mental health, the study set out to determine whether burnout syndrome is prevalent among physical therapists employed in Karachi and to look at variations in burnout across demographic groups.

METHODOLOGY:

The population of interest:

The interested population of this research was graduated Professionals in physical therapy who are currently employed in hospitals, clinics, rehabilitation facilities, and private practices in Karachi, Pakistan.

Study setting:

The study will encompass both the public and private sectors in its scope;

- 1) National Institute of Cardiovascular Disease (NICVD)
- 2) National Institute of Child Health (NICH)
- 3) Agha Khan Hospital
- 4) Liaquat National Hospital (LNH)
- 5) Jinnah Postgraduate Medical Center (JPMC)
- 6) National Medical Center (NMC)
- 7) Ziauddin hospital
- 8) A.O. Hospital
- 9) Imaam clinic

Study design:

Observational cross-sectional study.

Study duration:

The study will be conducted for six months after the approval of IRB.

Sampling technique:

Non-probability consecutive sampling.

Sampling selection:

Samples from a wide range of healthcare organizations were collected for the study, ensuring fair participation and inclusivity. Incomplete responses were removed to maintain the accuracy and reliability of the research.

Sample size:

We employed the W.H.O. sample size calculator to determine the necessary sample size, considering a moderate level of burnout in personal accomplishments among physical therapists (24.8%) [3], with a statistical margin of error of 5% and a confidence level of 95%. The calculation involved the following formula:

$$n = \frac{z_{1-\alpha}^2 P(1 - P)}{d^2}$$

The minimum sample size for the study is **281**.

Inclusion criteria:

Physical therapists who are in their active working years, aged 20 to 65.

Exclusion criteria:

Physical therapists who are out of work or unemployed.

Data collection plan:

The data collection plan involved recruiting participants, obtaining informed consent, and using a structured questionnaire distributed to private and public clinics and hospitals. The questionnaire was also distributed digitally through emails. Moral guidelines were followed, informed consent was obtained from each participant, and participation was entirely optional.

Data analysis plan:

Spreadsheet formulas (SPSS) version 29.0 was used for computation and scientific techniques. Analytical tests were applied including descriptive and inferential methods with an emphasis on the frequency of burnout syndrome in physical therapists.

RESULT:

Introduction:

This chapter discusses the results of statistical applications on dependent variables, independent variables, and their mutual relations. It reviews two aspects of data analysis i.e. (i) Data dissection and its visualization aiming to provide a research glimpse briefly to a general audience and (ii) Statistical descriptions including descriptive statistics, correlation & chi-square analysis, and diagnostic analysis.

Data visualization:

Chart 1: Professional experience of respondents after identification of High-risk of burnout: Showing break-up of population after identification of High-risk of burnout w.r.t. professional experience of respondents.

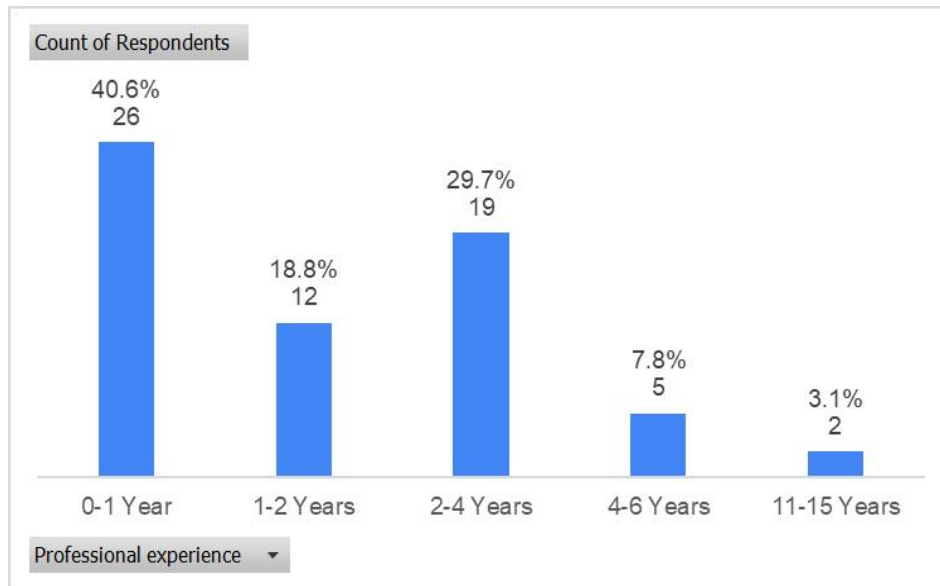


Chart-1 showed that sixty-four (64) respondents have identified as at high risk of burn-out syndrome consisting of five (05) year brackets based on their professional experience after identification of high risk of burnout i.e., 26 respondents (40.6% of the population) having experience of 0-1 year, 12 respondents (18.8% of population) having experience of 1-2 years, 19 respondents (29.7% of population) having experience of 2-4 years, 05 respondents (7.8% of population) having experience of 4-6 years and 02 respondents (3.1% of population) having experience of 11-15 years.

Chart 2: Employment sector of respondents after identification of High-risk of burnout: Showing break-up of population after identification of High-risk of burnout w.r.t. Employment sector of respondents.

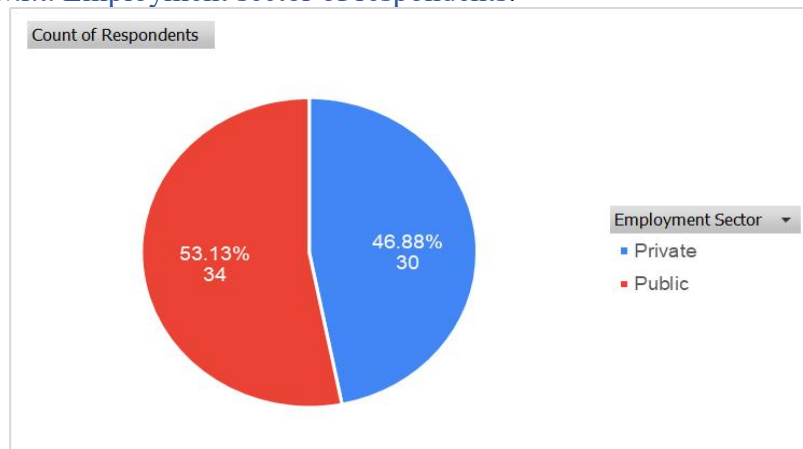


Chart-2 showed that sixty-four (64) respondents have identified as on high risk of burn-out syndrome consist with two (02) categories after identification of High-risk of burnout i.e., 30 respondents (46.88% of population) are engaged in private sector whereas 34 respondents (53.13% of population) are engaged in public sector.

Chart 3: Count of respondents after identification of risk of burnout w.r.t. sub-scales of MBI-HSS: Showing break-up of population after identification of High-risk of burnout w.r.t. sub-scales of MBI-HSS among all 281 respondents.

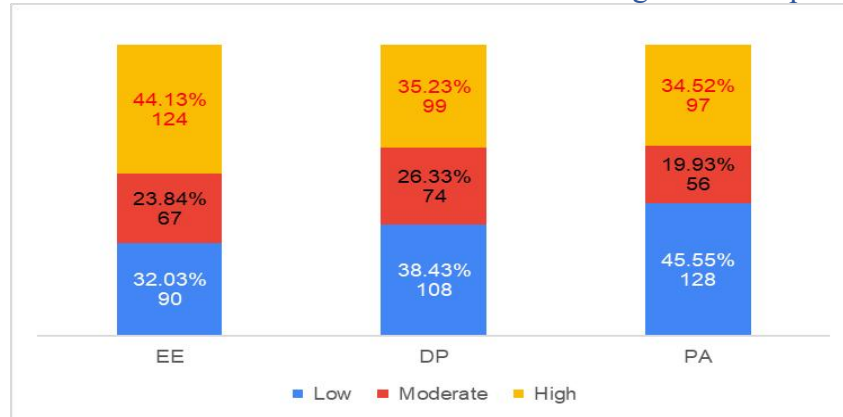


Chart-3 showed that break-up of two-hundred and eighty-one (281) respondents have categorized in to three (03) sub-scales of MBI-HSS while assessment of burn-out syndrome and occupational stress. Emotional exhaustion has been found and categorized among respondents as 90 respondents (32.03% of population) have low-level EE, 67 respondents (23.84% of population) have moderate-level EE and 124 respondents (44.13% of population) have high-level EE.

Depersonalization has been found and categorized among respondents as 108 respondents (38.43% of population) have low-level DP, 74 respondents (26.33% of population) have moderate-level DP and 99 respondents (35.23% of population) have high-level DP.

Personal Accomplishment has been found and categorized among respondents as 128 respondents (45.55% of population) have low-level PA, 56 respondents (19.93% of population) have moderate-level PA and 97 respondents (34.52% of population) have high-level PA.

Descriptive statistics:

Table 1: Descriptive Analysis of sub-scales of MBI-HSS:

MBI-HSS Components	N	Range	Minimum	Maximum	Mean	SD	Varian ce	%
Prevalence of EE	281	2	1	3	2.12	0.87	0.75	70.7 %
Prevalence of DP	281	2	1	3	1.97	0.86	0.74	65.6 %
Prevalence of PA	281	2	1	3	1.89	0.89	0.79	63.0 %

The above table shows a descriptive analysis of questions related to measuring the MBI-HSS Components. The mean of each element showed how frequently respondents made assertive answers against these questions. MBI-HSS is the parameter to show the overall involvement of respondents in burnout and occupational stress activities here and in the rest of the documents as well; showing that 70.75% of respondents have the highest response for EE prevalence.

Rest results w.r.t. of response show that 65.6% of respondents have been involved in DPs and only 63.0% of respondents have been involved in PAs.

Correlation matrix:

Correlation is a statistical technique that ascertains whether and how strongly set of variables are related. In this research, the correlation coefficient computed from the sample data measures the strength and direction (positive or negative) of a linear relationship between dependent and independent variables.

Table 2: Correlation Analysis of MBI-HSS Data Sets:

MBI-HSS Components	Prevalence of EE	Prevalence of DP	Prevalence of PA
Prevalence of EE	1	.250	0.059
Prevalence of DP	.250	1.000	-0.075
Prevalence of PA	0.059	-0.075	1
Correlation is significant at the 0.01 level (2-tailed).			

The above table showed the correlations between variables of our research data. Directions of the relation among all variables are correlated positively for EE and negatively for DP. The positive inter-relative variable i.e. EE is observed as 5.9% to PA and DP to PA is observed as -7.5%.

Chi-square:

It is a statistical measure that compares the actual and expected results leading to accept or reject the null hypothesis. We reject the null hypothesis if the chi-square value is greater than the critical value. Rejection of null hypothesis, conclude that your data are significantly different from what you expected. Here we assume one (01) null hypothesis are as under to assess:

- HO₁: There is a no significant prevalence of burnout syndromes in the group of physiotherapists who are employed in Karachi
- HA₁: There is a significant prevalence of burnout syndromes in the group of physiotherapists who are employed in Karachi.

Table 3: Chi-Square Tests:

Test Element	Pearson Chi-Square	p-value	Result
Age Bracket Prevalence of EE	12.713	.122	Null hypothesis rejected
Age Bracket Prevalence of DP	6.368	.606	Null hypothesis rejected
Age Bracket Prevalence of PA	7.419	.492	Null hypothesis rejected
Gender Prevalence of EE	3.646	.162	Null hypothesis rejected
Gender Prevalence of DP	10.333	.006	Null hypothesis rejected
Gender Prevalence of PA	3.987	.136	Null hypothesis rejected
Marital Status Prevalence of EE	4.731	.094	Null hypothesis rejected

Marital Status Prevalence of DP	2.419	.298	Null hypothesis rejected
Marital Status Prevalence of PA	1.993	.369	Null hypothesis rejected
Professional experience Prevalence of EE	12.973	.371	Null hypothesis rejected
Professional experience Prevalence of DP	14.103	.294	Null hypothesis rejected
Professional experience Prevalence of PA	26.21	.010	Null hypothesis rejected
Employment Sector Prevalence of EE	3.653	.161	Null hypothesis rejected
Employment Sector Prevalence of DP	2.493	.288	Null hypothesis rejected
Employment Sector Prevalence of PA	25.08	.000	Null hypothesis rejected
Type of Employment Prevalence of EE	3.604	.165	Null hypothesis rejected
Type of Employment Prevalence of DP	1.452	.484	Null hypothesis rejected
Type of Employment Prevalence of PA	6.166	.046	Null hypothesis rejected

The above table showed that each element has a greater chi-square value than of p-value; resulting in each HO rejecting and concluded the assertiveness of all alternative hypothesis and stated that age bracket, gender, marital status, professional experience and employment sector have significant impact on Prevalence of burnout syndrome and occupational stress.

Diagnostic analysis

Diagnostic analyses in research are to be performed to check that all conditions for the application of statistical analysis have been verified or not with a substantial degree of accuracy. In this research, we have checked (i) reliability and (ii) multicollinearity of all independent variables.

I. Reliability:

The reliability of a questionnaire as a survey instrument ensures the accuracy of measures by assessing its internal consistency. As we used SPSS, Cronbach alpha was used to assess reliability. Cronbach's alpha is a measure of internal consistency, which describes how closely related a set of items are as a group. It is a measure of scale reliability having a statistical standard that Cronbach's alpha of 0.70 and up 0.79 has acceptable internal consistency, 0.80 and up to 0.89 is good and 0.90 and above considered as excellent internal consistency. It was concluded that Cronbach's Alpha of nine (09) elements of this EE questionnaire was 0.93, five (05) elements of DP questionnaire was 0.85 and Cronbach's Alpha of eight (08) elements of this questionnaire was 0.93 which showed excellent reliability of a questionnaire to use it in this research.

II. Multicollinearity:

In statistical research, Multicollinearity is known as a situation in which two or more explanatory variables in a model are highly linearly related. Multicollinearity is denoted by the variance inflation factor (VIF). If VIF is

greater than ten, there is severe collinearity in that specific variable, and research results would perturb. In contrast, If VIF is less than 10, there is no collinearity and data is acceptable for performing the statistical analyses. It was concluded that VIF of all six (06) components in the questionnaire was <10 which showed there was no collinearity and data was acceptable for performing the statistical analyses.

III. Normality test:

Normality Test determines whether a sample data has been drawn from a normally distributed population. I used the Shapiro-Wilk Test to assess the normality. It was concluded that each dimension of results was derived from a normally distributed population for assessment of the prevalence of burnout and occupational stress as the value of the Shapiro-Wilk test was greater than 0.05 for all elements of assessments

IV. Homogeneity test

In the test of homogeneity, we select random samples from each subgroup or population separately and collect data on a single categorical variable. It was concluded that of population of all elements for assessment of the prevalence of emotional exhaustion had a p-value was more than 0.05; hence homogeneity assumption of the variance was met; have a mean that the spread of data within each combination of factors should be roughly the same. Similarly, the population of gender and marital status group for assessment of the prevalence of depersonalization had a p-value was less than 0.05; hence homogeneity assumption of the variance was not met which means our data sample was not homogenous and fit for analysis. Whereas the population of age bracket, professional experience, employment sector, and type of employment for assessment of the prevalence of depersonalization had a p-value was more than 0.05; hence homogeneity assumption of the variance was met had a mean that the spread of data within each combination of factors should be roughly the same.

DISCUSSION:

The significant issue of burnout syndrome among Pakistani physiotherapists in Karachi is the subject of this study. Emotional weariness, depersonalization, and decreased personal accomplishment are the hallmarks of this syndrome, which has a negative impact on physiotherapists' well-being as well as the standard of patient care.

The result confirms earlier international research showing that burnout is more common among female physiotherapists in Karachi than among males. Cultural conventions, having two jobs, and having few prospects for professional growth are all contributing issues. Improving work satisfaction and gender equity requires addressing these gender-specific pressures.

The high rate of burnout among physiotherapists in Karachi is in line with worldwide patterns in healthcare. Overwhelming workloads and organizational difficulties in the public and private sectors are major factors. To address these particular stressors and raise job satisfaction, targeted treatments are required. Physiotherapists who are burned out become less empathetic and more emotionally detached, which has a negative effect on patient care. Depersonalization undermines therapeutic connections and the success of

rehabilitation by encouraging a cynical attitude toward patients. To continue providing patients with high-quality care, effective practices are necessary. Workload and organizational support are common stressors, but cultural quirks and the unique characteristics of Karachi's healthcare system affect how burnout manifests and is managed. For these local disparities to be properly addressed, tailored techniques are required.

According to the report, healthcare facilities in Karachi should implement evidence-based practices to control workloads, create positive work environments, and offer psychological support. In the end, these actions improve the dedication and job satisfaction of physiotherapists, improving patient outcomes and encouraging long-term healthcare practices.

Analyses conducted in comparison with Spanish studies reveal similar burnout tendencies, including high levels of emotional weariness and low levels of personal success. Extensive statistical relationships among burnout components highlight the necessity of all-encompassing approaches. According to data, a sizable percentage of female and young physiotherapists (18–34 years old) are at high risk of burnout. Furthermore, burnout is common among people with little to no work experience, which suggests that early in a career, focused support is necessary.

It is accepted that there may be self-reporting biases, sample size limitations, and a cross-sectional approach to the study. Future studies should look at specific stresses in Karachi's physiotherapy practice, assess the effectiveness of interventions, and investigate longitudinal burnout tendencies.

The study provides a broad sample from the public and private healthcare sectors in Karachi, improving comprehension in a range of work environments. By concentrating on physiotherapists who are frequently disregarded in studies on burnout—and employing strong statistical analyses to corroborate results, it closes a large research gap.

To reduce physiotherapist burnout, healthcare institutions should provide robust support networks, optimize task management, and offer chances for continuous professional development. These tactics will lessen depersonalization and increase personal achievement.

CONCLUSION:

This study shows that physiotherapists in Karachi, Pakistan, have a high incidence of burnout syndrome. It also shows that many professionals suffer from emotional weariness, depersonalization, and a decrease in their sense of personal success. The results highlight the critical need for focused interventions to reduce burnout and promote the well-being of physiotherapists. Ensuring the long-term sustainability of the healthcare profession and upholding high standards of patient care requires addressing burnout among this vital workforce. By putting the suggested tactics into practice and carrying out more studies on this topic, we can improve physiotherapists' working environments and general quality of life.

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