RJNMSR
Review Journal of Neurological & Medical Sciences Review

Volume 3, Issue 7, 2025

FREQUENCY OF BURNOUT SYNDROME AMONG PHYSIOTHERAPISTS AND HOUSE OFFICERS IN KARACHI. A CROSS SECTIONAL SURVEY

Maheen Nasir[*1], Misbah Qazi[2], Fakhra Asghar[3], Swaleha Qadeer[4], Muhammad Mehran Haider[5]

[*1,2,3,4,5]*Institute of Physical Medicine and Rehabilitation, Dow University of Health Sciences, Karachi, Pakistan*

[*1]maheenkz0786@gmail.com

Corresponding Author: *
Maheen Nasir

DOI:https://doi.org/10.5281/zenodo.17532572

Received	Accepted	Published
14 September 2025	24 October 2025	05 November 2025

ABSTRACT

Background: *Burnout is a syndrome of psychological conditions that occur whenprofessionals feel exhausted and unable to perform their regular jobrequirements efficiently. A state of physical or mental collapse characterized by emotional exhaustion, depersonalization, and low level of professionalachievements. Burnout syndrome is now a standard reason for medical excuses from work and could impact the quality of work.*

Objective:

To determine the frequency of burnout syndrome (BOS) among physiotherapists (PT) and physiotherapy house officers (HO) in Karachi.

Material & methods:

The study included 108 participants, comprising physiotherapists and physiotherapy house officers of both genders (aged 23-50) in Karachi. The cross-sectional study utilized a self-designed questionnaire and MBI questionnaire to assess Burnout Syndrome. Data was collected from Sindh Institute of Physical Medicine and Rehabilitation, Dow University of Health and Sciences, Jinnah Post Graduate Medical Center, Liaquat National Hospital, Ziauddin University, Rabia Moon, and Al-Khidmat Hospital. Descriptive statistics and Chi-square tests ($P < 0.05$) were employed for analysis using SPSS version 26.

Results:

A total of 108 participants, including house officers and physical therapists, participated in the study using the MBI questionnaire to assess burnout syndrome stages. House officers showed higher percentages in burnout stages compared to physical therapists. The correlation between working hours and burnout stages was statistically significant (p-value 0.009), indicating a relationship between working hours and burnout stages.

Conclusion:

The study revealed that Burnout Syndrome developed at different stages in physiotherapists and house officers, with house officers experiencing higher levels. Significant links were found between working hours and work-related stress, suggesting targeted preventive measures for high-risk groups, particularly house officers.

Keywords: *Behavior symptoms, career burnout, occupational stress,psychological stressor, workplace stress.*

INTRODUCTION

Burnout is a syndrome of psychological conditions that occur when professionals feel exhausted and unable to fulfill their regular job requirements efficiently, in consequences of

persistent work-associated stress[1-2]. Burnout had been marked by emotional exhaustion, depersonalization and low level of professional achievements were the three negative characteristics that had longterm effect due to high amount of work-related stress, which directly affected the mental and physical health of an individual and decreased dedication and concern towards the work [1-4]

Burnout prevalence in African medical lab scientists: emotional exhaustion 33.85%, depersonalization 14.83%, personal accomplishment 21.77%. Nurses: emotional exhaustion 30.8%, depersonalization 12.80%, personal achievement 27.81%. Doctors: emotional exhaustion 25.47%, depersonalization 9.87%, personal achievement 31.64%. Radiographers: emotional exhaustion 16.8%, depersonalization 7.6%, personal achievement 36.2%. Physiotherapists: emotional exhaustion 8.67%, depersonalization 4.33%, personal achievement 37.68% [10]. In Italy, 5% physiotherapists were showed moderate to low level emotional exhaustion, 90% were showed moderate to high depersonalization, and 80% physiotherapists had moderate to low personal achievement [4]. In China 26.7% Showed emotional exhaustion, 12.8%medium depersonalization and 19.8% low personal achievement [5]. In Peshawar, overall combination of emotional exhaustion, depersonalization and personal achievement had high level of burnout reported in 35.6[6]. Physiotherapists, 26.7% moderate level and 37.6% low level in Physiotherapists [6].

Signs and symptoms of burnout syndrome were fatigue, somnolence, eating disorders, headache [2]. Emotional exhaustion involves feelings of failure, self-doubt, tiredness, irritability. Depersonalization is marked by emotional detachment, loneliness, loss of motivation, increased cynicism. Reduced professional achievement includes decreased satisfaction and sense of accomplishment at work [9]. Physiotherapists could leave practices or profession in clinics and hospital entirely in reaction being feel burnout, resulting in a scarcity of experienced clinicians to treat the lots of patients and train new clinicians. Such attrition places a strain on healthcare system's ability to deliver care [13].

Several risk factors contribute to burnout in physiotherapists, including perfectionism and job-character incongruity. Patient interactions, requiring high levels of personal and emotional contact, can impact burnout. Manifestations of burnout include elevated emotional exhaustion, low personal fulfillment, and lack of support from management. Factors such as a lack of recognition at work and insufficient awareness of physiotherapeutic work also contribute to burnout [7-8].

Burnout syndrome develops gradually with unrecognized triggers. Psychologically, it manifests as difficulty in social interaction, mood swings, anxiety, and irritability, leading to decreased productivity and workplace issues [11]. Assessment tools like Burnout Questionnaire (BQ), Job Content Questionnaire (JCQ), and Short Form 36 (SF-36) can be used to determine burnout syndrome. This research utilized the Maslach Burnout Inventory (MBI), which has three versions: MBI-Human Service Survey (MBI-HSS) for professionals in people-centered services, MBI-Educator Survey (MBI-ED) for educators, and MBI-General Survey (MBI-GS) for unspecified populations, based on professional designation [1].

MBI consisted of 22 items that were divided into three subscales that were correspond on reaction applicable to that time for exploring the burnout elements that were emotional exhaustion, depersonalization, and personal achievement. Each question of MBI Questionnaire was use for scoring on a 0- 6 point Likert ranging scale from (never to everyday)[1-3,7]. Responses were scored on a five-category ordinal scale: 0 = "no job-related stress," 1 = (28-38) "occasionally low stress," 2 = (38-50) "mild stress, not burned out," 3 = (51-70) "moderate stress, fair chance of burnout," 4 = (71-90) "high stress, begun burnout," and 5 = (91 and up) "dangerous stress, advanced burnout stage."[12].

Physiotherapists' health is compromised by stress and workload, impacting daily performance. Burnout syndrome hinders duties, so researchers assessed mental health, educated on burnout hazards, and advocated for balanced working hours and leisure activities to prevent exhaustion.

The aim of this research was to determine the frequency of burnout syndrome among physiotherapists and house officers in Karachi.

Methodology

This was a cross sectional study. The data was collected from sample of 108 physiotherapists and house officers age ranging from 23 to 50 both male and female. For study setting this data was collected from different universities of Karachi which included Sindh institute of Physical Medicine and Rehabilitation (SIPM&R), Dow University of Health and Sciences (D.U.H.S) Karachi, Jinnah Sindh medical university (JSMU), Ziauddin University, Liaquat National Hospital (LNH), Jinnah Postgraduate Medical Center (JPMC), Al-Khidmat Hospital, Rabia Moon Trust. Sampling technique of this study was non-probability purposive sampling. The sample size was 108 Estimated Through Open External Program Interface Software (EPI). Calculated by 7.6% physiotherapists affected by burnout [4], along with 95% confidence interval, 5%margin of error through open EPI. Data was collected from physiotherapists and physical therapy house officers who met the inclusive criteria. The consent form was given to those who met the inclusion criteria. The duration of study was 6 months (January 2022 to June 2022) after the approval of synopsis. The inclusion criteria of this study was physiotherapists houseofficer safter graduation, experienced physiotherapists (both academic and clinics), age between (23-50),Both gender (male, female), working hours should be greater than 4 hours and exclusion criteria of this study was physiotherapists and house officers had any psychological issues, any musculoskeletal related disorder,any neurological issues (stroke, Parkinson's disease etc) during last 6 months, physical therapists and house officers taken any psychological medicines, anti- depressants, sleeping pills etc, had any psychological therapies during last 6 months, physiotherapists and house officers experienced any recent trauma, surgical history during last 6 months, physiotherapists and house officers were on sick leaves and maternal leaves, physiotherapists and house officers had insomnia disorder during last 6 months. The study variables included in which independent variables were age, gender (male, female) and dependent variables were number of working hours per day and week, types of working day (consecutive, split shifts), number of patients treated per day (<20,>20), type of practice (clinical, academic, both). According to the ethical consideration, physiotherapists' and house officers' records kept secured in a locked file only the researchers of this study could have access to the records. Physiotherapists and house officers included without any biasness. The questionnaire design, was Self-administered questionnaire had given to the participants which consist of two parts that was demographic details and Maslach burnout inventory (MBI) scale. MBI scale developed by sirigatti and stefanile extracted from the article "burnout syndrome among Italian physiotherapists".[4] The MBI questionnaire consist of 22 items, which were further divided into 3 components: 1. Emotional exhaustion- EE (9items), 2. Depersonalization- DP (5 items), and 3.Personal accomplishment- PA (8items). The items given in the form could answer in term of frequency with which participants experienced the feelings, on a 7-point scale. The objective of this questionnaire was to access the participants having low, moderate, and high risk of developing burnout.[4] Data was analyzed by using statistical package of social sciences (SPSS)version 26. Descriptive statistics used to evaluate the frequency of burnout syndrome. The significant P value was less than 0.05. Correlation test (chi- square) for categorical variables such as designation, year of experience, working hours, age in year of the physiotherapists and house officers.

Result :

The frequencies and percentages of basic characteristics of the participants given in table 1.

GENDER	N (%)
Male	51(47.2%)
Female	57 (52.8%)
DESIGNATION	
House officer	47 (43.5%)

Physiotherapists	61 (56.5%)
PT STATUS	
Clinical	88 (81.5%)
Academic	1 (0.9%)
Both	19 (17.6%)
MARITAL STATUS	
Unmarried	60 (55.6%)
Married	48 (44.4%)
AGE	
25-30	70 (64.8%)
31-35	14 (13.0%)
36-40	13 (12.0%)
41-45	1 (9%)
46-50	10 (9.3%)
YEARS OF EXPERIENCE	
1-5	34 (31.5%)
6-10	48 (44.4%)
11-15	12 (11.1%)
16-20	5 (4.6%)
21-25	5 (4.6%)
26-30	4 (3.7%)
WORKING HOURS	
less than 4 hours	37(34.3%)
4-8 hours	49(45.4%)
9-13 hours	22(20.4%)

This table presents participant demographics: females (52.8%) outnumber males (47.2%), physiotherapists (56.5%) exceed house officers (43.5%), clinical roles (81.5%) are more common than those combining academic and clinical (17.6%). Unmarried participants (55.6%) surpass married ones (44.4%). Age-wise, (25-30) years represent the majority (64.8%), while (41-45) years account for a lesser percentage (9.0%). Experience is predominantly in the (6-10) years range, with only (3.7%) in the (26-30) years category. Working hours are distributed as follows: (45.4%) work 4-8 hours, (34.3%) work less than 4 hours, and (20.4%) work 9-13 hours.

Table 2

Variables		Burnout stages						p- values	Chi- Square values
		<28 (Verylow)	28-38 (low)	39-50 (mild)	51-70 (moderate)	71-90 (high)	>90 (Very high)		
AgeIn years	25-30	4(5.7%)	18(25.7%)	15(21.4%)	19(27.1%)	12(17.1%)	2(2.9%)	.587	18.002[a]
	31-35	0(0.0%)	2(14.3%)	1(7.1%)	9(64.3%)	2(14.3%)	0(0.0%)		

		36-40	0(0.0%)	2(15.4 %)	3(23.1%)	5(38.5%)	2(15.4%)	1(7.7 %)		
		41-45	0(0.0%)	0(0.0%)	1(100.0%)	0(0.0%)	0(0.0%)	0(0.0 %)		
		46-50	1(10.0%)	1(10.0 %)	1(10.0%)	3(30.0%)	3(30.0%)	1(10.0 %)		
Designation		HO	2(4.3%)	13(27.7 %)	8(17.0%)	13(27.7%)	9(19.1%)	2(4.3 %)	.724	2.845[a]
		PT	3(4.9%)	10(16.4 %)	13(21.3%)	23(37.7%)	10(16.4%)	2(3.3 %)		
year of experience		1-5	1(2.9%)	10(29.4 %)	5(14.7%)	9(26.5%)	8(23.5%)	1(2.9 %)	.366	26.808[a]
		6-10	3(6.3%)	10(20.8 %)	11(22.9%)	17(35.4%)	6(12.5%)	1(2.1 %)		
		11-15	0(0.0%)	1(8.3%)	2(16.7%)	6(50.0%)	2(16.7%)	1(8.3 %)		
		16-20	0(0.0%)	1(20.0 %)	3(60.0%)	1(20.0%)	0(0.0%)	0(0.0 %)		
		21-25	0(0.0%)	1(20.0 %)	0(0.0%)	2(40.0%)	2(40.0%)	0(0.0 %)		
		26-30	1(25.0%)	0(0.0%)	0(0.0%)	1(25.0%)	1(25.0%)	1(25.0 %)		
Working hours	less than 4hours	2(5.4 %)	13(35.1 %)	8(21.6%)		13(35.1%)	1(2.7%)	0(0.0 %)	.009	23.411[a]
	4-8 hours	1(2.0 %)	8(16.3 %)	7(14.3%)		14(28.6%)	16(32.7 %)	3(6.1 %)		
	9-13 hours	2(9.1%)	2(9.1%)	6(27.3%)		9(40.9%)	2(9.1%)	1(4.5 %)		

The analysis of burnout characteristics among participants revealed significant findings when examining working hours. The chi-square test yielded a statistically significant result (p=0.009), with a chi-square value of 23.411. Notably, the highest scores were observed in low and moderate stages (35.1%) for less than 4 hours, high stages (32.7%) for 4-8 hours, and moderate stages (40.9%) for 9-13 hours.Regarding age, the chi-square test indicated a non-significant result (p=0.587) with a chi-square value of 18.002. In the younger age group (25-30), the highest score was in the moderate stage (27.1%), while for the older age group (46-50), the first high score was in moderate and high stages (30.0%).Designation showed a non-significant result (p=0.724) with a chi-square value of 2.845. House Officers (HOs) exhibited the first high score in low and moderate stages (27.7%), while Physiotherapists (PTs) had the first high score in the moderate stage (37.7%).Year of experience also yielded a non-significant result (p=0.366) with a chi-square value of 26.808. For those with 1-5 years of experience, the first high score was in the low stage (29.4%), and for those with 26-30 years, 25.0% showed varied burnout stage categories.

Discussion:

the study predominantly comprises physiotherapists engaged in clinical roles, with the majority of both physiotherapists (PTs) and house officers (HOs) working an average of 5.58 hours per day. Notably, the highest percentage of physiotherapists falls within stage 3 of Burnout Syndrome (BOS), indicating a moderate amount of job stress. Following this,

the second-highest number of physiotherapists is in stage 2 of BOS, reflecting a low amount of job-related stress.In contrast, the highest percentage of house officers is situated in stage 1, signifying almost no job stress, and stage 3 of BOS, indicating a moderate amount of job stress. The second-highest number of house officers is in stage 4 of BOS, representing a high amount of job-related stress leading to total burnout.The study identifies a significant relationship between working hours and BOS, alongside other potential factors contributing to Burnout Syndrome. Similarly, a study conducted by Castro Sanchez in 2017 aligns with these findings[14] among physiotherapists from a health service in Andalucía did not find any significant statistical relation betweenBOS and the number of working hours. On comparing this study with the international studies focusing on burnout, there were many studies that indicated if working hours were associated or not with the incidence of BOS. In a study conducted by Kristi Link (2021), it was stated that continuous physical therapy practice and burnout did not have positive or negative relationship[15]. The study also discussed that risk of BOS was higher in physiotherapists who worked for both (public and private). In a study carried out by Z. Chemali, et al. in 2019[16] the authors showed a strong correlation between working hours and BOS in medical residents working over more than 80 hours per week as compared to those who worked for less than 8o hours a week. Another study by Ro Ting Lin et.al. In 2021 [17] showed that almost 75%of physiotherapists who suffered from BOS worked for more than seven hours Some previous researches on BOS showed negative relation between age and incidence of burnout. Comparing results of this study with those obtained by Kristi link, et al. (2021)[15] it was observed that there was non-significant relation between BOS and age of the therapist. Also, in research done by Bruno Corrado in 2019[4] , about BOS with respect to the other variables, the study had greater number of the younger population and it was concluded that PTs and HOs had burnout syndrome, mainly affecting younger individuals and there was decrease in incidence of syndrome in older adults that went in favour of this studies. Similarly, on comparing these present recognized resultsof the study, which stated about burnout incidence with year of experience it was seen that people having greater work experience were least likely to be affected by BOS. As by A. Marchand[21] it was discussed that burnout symptoms differ with life stages of working men and women. Older and experienced physical therapist were least likely to be affected by BOS as they understood to cope up with the work-related stress and the research showed no significant statistical relationship between year of working experience and burnout. According to Belayneh Mengist in 2021, Occupational stress affects younger health care employees more than older health care workers. The fact that young health-care personnel were generally beginners and they found it difficult to cope up with the new challenges of the health care system. They might have trouble adjusting to the health-care system in comparison to old and experienced workers who learned to manage the work load stress with per day. There were also, some other factors like age, gender, marital status, designation, and year of experience that may or may not be the cause of emerging BOS among physiotherapists[18]. In spite of the fact that this study had greater female population, the males in this study were seemed to be experienced burnout slightly higher thanfemales. Despite of gender equality in some of previous studies different results were stated, unlike of results a study by Kim Templiton in 2019[19], higher values of burnout were recognized in males as compared to females. Studies showed lack of clarity of BOS in variables such as marital status and was not an easy task to drew conclusion about it but some literature showed that single people either unmarried or divorced were more prone to get professional burnout as compared to married ones. Furthermore, results obtained by Guillermo A Canadas et al. in 2018[20], concluded that males who were single either married or divorced or have no children or who never been married were more susceptible to get burnout.

Limitation :

In this study MBI questionnaire was used which was lengthy due to this reasons some participants refused to enrolled in this study. In

some institutes they did not allowed researchers to met with their employees

Strength of the study:
This was multicentered cross-sectional study. In this study many variables compared with BOS.In this study gold standard questionnaire was used.

Weakness of study:
This cross-sectional study had small sample sizes. All participants of this study were not at the same stage of BOS this could impact the result when compared variables with BOS.

Conclusion:
This cross-sectional study revealed that 3.7% of the participants, with a breakdown of 4.3% for House Officers (HOs) and 3.3% for Physiotherapists (PTs), were affected by Burnout Syndrome (BOS) at stage 5. Additionally, 17.6% of the study sample, on average, had a high risk of developing burnout syndrome at stage 4. The largest portion of the total population, accounting for 33.3% on average, fell into stage 3 of BOS. The study highlighted a significant relationship between working hours and work-related stress, identifying various other factors associated with burnout incidence. In concluding the research analysis, it is noted that house officers, particularly male and young individuals with fewer years of working experience, were slightly more susceptible to Burnout Syndrome. This underscores that, similar to other healthcare professions, physiotherapists are also vulnerable to the impact of Burnout Syndrome.

Recommendation:
For future research, it is advisable to investigate burnout syndrome across various healthcare professionals, including physical therapists, physicians, nurses, occupational therapists, using the Maslach Burnout Inventory-Human Service Survey (MBI-HSS). Additionally, exploring the association of different variables with burnout syndrome within targeted populations is recommended, ensuring that individuals in the study share the same stage of Burnout Syndrome (BOS).

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