

ASSESSMENT OF FACTORS ASSOCIATED WITH BURNOUT LEVELS AMONG NURSING STAFF IN TERTIARY CARE HOSPITAL. A CROSS-SECTIONAL STUDY

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Abstract

Background: There is a global trend of occupational burnout among clinical nurses, which is negatively impacting on their retention, mental health and the quality of patient care. Acute care nurses in developing nations like Pakistan are given increased workloads due to the lack of resources in the health care system.

Objectives: The purpose of this study was to evaluate the prevalence and important organizational factors of Burnout, Job Satisfaction and turnover among the nursing personnel of a semi-government tertiary care hospital Karachi, Pakistan.

Methods: A descriptive, cross-sectional study method was used involving 175 active bedside nurses, purposively sampled. A structured questionnaire was used to gather the data on the demographic and occupational factors, burnout indicators, aspects of job satisfaction and job turn-over history. SPSS version 26 software was used for both descriptive and inferential statistics.

Results: The respondents were mostly females (60.6%), single (84.6%), BSN educated (85.1), working in acute care units (77.1). The most common signs of burnout were physical depletion (48.6%), general fatigue (45.1%), awareness of becoming more susceptible to illness (41.7%) and emotional depletion (36.6%). There was a strong dissatisfaction amongst the respondents towards salary (51.0%), career growth (46.0%) and work atmosphere (42.0%), while 68.0% were satisfied with the working/peer relationships. Importantly, 71.1% said that a lack of staffing had a negative effect on their mental health and 53.9% said they had given up nursing jobs because of burnout.

Conclusion: Overall, the causes of nurse burnout and attrition in this context are mainly structural issues of the workplace, including unsafe staffing, low pay, and lack of career advancement opportunities. While peer support is an important social lubricant, it can't compensate for organizational stressors. Structural changes to ensure nurse-to-patient staffing ratios, to promote competitive nurse compensation packages and to create promotion pathways are critical to protect clinician health and to foster workforce stability at the health system level.

Introduction

Burnout is a long-term reaction to persistent emotional and interpersonal pressures at work. The three characteristics of burnout are fatigue, cynicism, and inefficacy (1). Examining the reasons of job burnout is essential to preventing the syndrome and its aftereffects, which include decreased productivity, job performance, and well-being (2). Physical consequences such as hypercholesterolemia, type 2 diabetes, coronary heart disease, and hospitalization for cardiovascular disease, musculoskeletal pain, changes in pain experiences, prolonged fatigue, headaches, gastrointestinal problems, respiratory issues, severe injuries, and mortality before the age of 45 were all significantly predicted by burnout. The psychological impacts included symptoms of psychological illness, hospitalization for mental illnesses, usage of psychotropic and antidepressant drugs, sleeplessness, and depressive symptoms. Professional outcomes included job unhappiness, presentism, job expectations, job resources, absenteeism, and a new disability pension (3). Nurses have been found to be particularly vulnerable to burnout (4). Given the critical role nurses play in protecting public health, government agencies and society must place a greater emphasis on them occupational health. Burnout is a severe issue that affects nurses globally. It poses a significant risk to nurses' occupational health, because it can lead to emotional weariness, depersonalization, and a lack of personal accomplishment (5).

Burnout is a common occupational hazard in the healthcare industry due to high workloads, emotional strain from patient care, and insufficient organizational support. Nurses' wellbeing and the general standard of healthcare delivery are both adversely affected by burnout. Higher levels of medical errors, lower patient satisfaction, and a higher likelihood of nurses quitting their jobs completely have all been associated with it. A multifaceted strategy is needed to address burnout, including workload management techniques, organized mental health support services, and professional development programs that assist nurses in developing resilience against stressors at work (6). Notably, the probability of burnout is influenced by

both organizational and individual factors. Excessive caseloads, a lack of control over policies and processes, injustice, a lack of support from peers and supervisors, and insufficient training are examples of organizational factors. Individually, helpful professionals are more likely to experience burnout due to personality qualities such being reserved, unassuming, and submissive. People with low self-esteem and self-doubt, need to control and trouble in managing and controlling.

Many coping strategies are used by nurses to avoid burnout (7) and establishing boundaries is one of these strategies that is vulnerable. Interventions in the organization or coping strategies at the individual level. Peer support, counseling and stress management seminars were also determined as a coping mechanism to which nurses did attend, In addition to exercises, mindfulness and relaxation techniques, helped them to feel less burnt out. Stress Workloads that are adjusted, attention to more flexible schedules and mental health tools, all help to improve employee satisfaction and reduce levels. Reduced nurse turnover and better health care outcomes were the results of organizations that incorporated burnout prevention programs, gave their executives resilience training, and made wellness investments (8). This study was aimed to assess the burnout levels among nursing staff in a semi-government tertiary care hospital in Karachi; Pakistan.

Literature Study

Burnout is a condition marked by physical, emotional, and mental fatigue that arises from prolonged engagement in emotionally challenging work environments. Research has indicated that a number of physical and mental health issues are significantly influenced by stress and burnout. Although human service workers are the subject of a large portion of the literature on stress and burnout. Three main elements of burnout have been discovered by researchers: depersonalization, emotional exhaustion, and a diminished sense of personal accomplishment (9). The World Health Organization (WHO) classified burnout as an "occupational phenomenon" in the 11th revision of the International Classification of

Diseases (ICD-11), describing it as a syndrome caused by “chronic workplace stress that has not been successfully managed.” Burnout impacts both the physical and mental health of nurses, as well as the work environment, the quality of nursing care, and patient outcomes and recovery. On a personal level, it leads to physical issues such as fatigue, anxiety, sleep disturbances, headaches, insomnia, and frequent illnesses, while also impairing concentration and memory. As a result, burnout leads to various forms of job disengagement, including absenteeism, the intention to leave, and actual turnover. Worryingly, the WHO (2016) projected a global shortage of around 7.6 million nurses by 2030 (10).

Nurses are essential in safeguarding health and promoting positive health behaviors. It is crucial to address and manage burnout among nursing staff, particularly in developing countries like Pakistan, to enhance patient care and prevent adverse health effects in nurses. Similar to other developing nations, Pakistan faces a significant shortage of qualified nurses and must focus on maintaining and improving the wellbeing of its current nursing workforce. Neglecting this issue could adversely affect both the quality of patient care and the health of the nurses (11). Low/inadequate nurse staffing levels, 12-hour shifts, low schedule flexibility, time pressure, high job and psychological demands, low task variety, role conflict, low autonomy, poor supervisor/leader support, poor leadership, negative team relationship, and job insecurity were also identified as predictors of burnout in the nursing literature. Reduced job performance, inadequate care, poor patient safety, adverse events, unpleasant patient experiences, medication errors, infections, patient falls, and intention to leave were among the consequences of burnout that was identified (12). Policymakers, managers, and clinicians must move quickly to address the serious negative effects of turnover, job discontent, and burnout on the nursing workforce (13). As nursing is the backbone of healthcare services, according to modern nursing literature. For the patients to recover as quickly as possible, special attention is paid to improving the nurses' psychological health

(14). The results highlight the need for systemic interventions, including improved shift scheduling, emotional resilience training, and supportive institutional structures. The organizational pressures in the hospital can be addressed to reduce nurse burnout and a healthy work environment (15). Strategies to prevent burnout can be directed at a personal, individual, or organizational level. The goal of person-directed treatments is to enhance coping, social support and relaxation. Stress reduction, such as organization directed solutions like work reorganization and better employee participation, are aimed at stress reduction. Prolonged poor mental health experienced by employees is likely if there is not enough prevention in place (4).

Burnout is relatively simple to understand because when nurses do not have support and explanation of how their work in both their professional and personal roles are not recognized, they feel physically and emotionally exhausted (16). Despite the wealth of literature available from the UK and the western countries addressing the issue of "burnout" amongst nurses, there is a lack of local studies exploring the concept of "burnout" amongst nurses in Pakistani health care institutions and in particular in the Military health care institutions like PNS Shifa. Many studies have been conducted in the home or overseas environments and these may not have been conducted in a setting representative of the unique organizational structure, pressures and patient care dynamics of a military hospital. The ability to provide focused interventions is hampered by this gap. Therefore, it is crucial to conduct a localized evaluation of burnout among nursing staff of a semi government tertiary care hospital at Karachi in order to better understand its effects on staff wellbeing and to improve patient outcomes through better care delivery.

Material and Methods

Study design

This descriptive cross-sectional study was conducted at a semi-government tertiary care hospital aims to assess the burnout level among nursing staff.

Study setting

Study was conducted in a tertiary care hospital in Karachi a single center study approach. The duration of this study was about 3–4 months. The sample size was calculated using OpenEpi Version 3.01 (17). With a total population of 260 individuals, a 95% confidence level, 5% margin of error, and an assumed prevalence of 50%, the required sample size was calculated to be 155 participants. After accounting for a 10% attrition rate, the final sample size was increased to 175 participants. A non-probability purposive sampling was employed. Nurses were selected from different hospital settings. The eligible nursing staff was approached during duty time and informed consent was obtained.

Inclusion and exclusion criteria:

During this study, active nursing staff with more than six months of work experience and were willing to participate and currently working in high burnout units were included while, nursing students, interns, administrative nurses, nursing faculty and nurses with a history of long-term medical or psychological conditions and those on leave, and individuals unwilling to participate were excluded from the study.

Data Collection

Data were collected through structured and self-administered questionnaire adopted from validate tools, like Maslach burnout inventory and job satisfaction scale. The questionnaire was distributed in two ways to reduce participation bias: online (via Google Forms) and on paper for individuals with limited computer or email access. Additionally, facilitated access was made available, such as helping participants fill out the online form during working hours if necessary. Both methods made for an inclusive approach and high response rates throughout all staff. To maximize the response rate, non-respondents were sent recurring reminder e-mails (at least two follow-up reminders one week apart). In addition, ward visits were conducted to facilitate the participation of people who may not have been able to complete the online questionnaire. Data quality was ensured by

providing a unique email identification or unique code for each person, thus eliminating duplicate submissions, which were not analyzed and excluded from the data set; and by limiting the number of responses received to one per person to ensure data quality. By taking these steps, participation bias was minimized and the reliability of the data gathered was improved. The data collection tool used was a Likert scale questionnaire which consisted of two types of questions, namely demographic questions and CBI-19 items. Data were analyzed with SPSS 26 and internal consistency of results for each of the subscales was evaluated using Cronbach's Alpha ($C\alpha$) to ensure consistency of results (16).

Data Analysis

Data was analyzed using SPSS version 26 software, focusing on descriptive statistics to summarize demographic and occupational characteristics of the participants. Categorical variables such as gender, marital status, and educational levels were presented as frequencies and percentages. Continuous variables were expressed as mean and standard deviation. Burnout levels were assessed using the Copenhagen Burnout Inventory (CBI 19). Score for personal burnout work related burnout and client-related burnout domains were calculated according to the instrument guidelines. The overall burnout levels were categorized into low, moderate and high base on cutoff values. The internal consistency and reliability of the CBI 19 questionnaire and its subscale were assessed using the Cronbach's alpha coefficient, a value of ≥ 0.70 considered acceptable. Inferential statistics were applied to determine the association between burnout level and selected demographic and occupational variables. The chi-square test was appropriate was used. Independent t test and one-way ANOVA were used to compare mean burnout scores across two or more groups (18, 19).

The validity of this study in Pakistan was demonstrated by its successful application in recent research involving healthcare professionals in Pakistan, including a specific study on nurses in a tertiary care hospital in Lahore (20). Moreover, it was found to be

reliable in challenging environment of the Pakistani health care system as Cronbach's alpha of 0.697 was obtained from the study conducted with postgraduate residents of a tertiary care hospital in Lahore (21). The internal consistency for each subscale was calculated for the present sample using Cronbach's alpha.

Results

Demographic characteristics of participants

The majority of the 175 who answered were female (60.6%) and unmarried (84.6%). Nursing diploma (12.6%) and post-RN degree

(2.3%) were the next most common qualifications, but a BSN degree was the dominant one (85.1%). Most of the participants were assigned to General Wards (39.4%) and Intensive Care Units (24.6%), while the Emergency Room (13.1%), Cardiac Center (12.0%) and Operating Theater (10.9%) had fewer participants. The majority of nurses worked the morning shift (84.6%), with evening (7.4%), night (6.3%) and rotating (1.7%) shifts being the other types of shifts. Demographic details are summarized completely in Table 1.

Table 1: Described the participants demographics characteristics

Variables	Category	Frequency	Percentage
Gender	Male	69	39.42%
	Female	106	60.57%
Marital status	Single married	148	84.57%
		27	15.42%
Qualification	BSN	149	85.10%
	Post RN	4	2.30%
	Diploma	22	12.60%
Working place	ICU	43	24.57%
	Gen ward	69	39.42%
	ER	23	13.14%
	OT	19	10.85%
	Cardiac center	21	12%
Working Shift	Morning	148	84.57%
	Evening	13	7.42%
	Night	11	6.28%
	Rotation	3	1.71%

The analysis of the burnout markers showed that the most common indicators of burnout were physical symptoms and constitutional symptoms. Almost half of the nurses (48.6%) said they sometimes felt physically exhausted, 41.7% sometimes felt susceptible to illness, and 45.1% of nurses felt generally tired. As for stress on the emotional and professional level, 36.6% of the respondents

reported being sometimes emotionally exhausted, 34.9% reported feeling exhausted overall and 36.0% reported being exhausted at the end of the day. In addition, almost one-third of the respondents (32.6%) reported sometimes thinking, "I can't take it anymore. Complete frequencies for burnout indicators are presented in Table 2.

Table 2: The burnout indicators and responses

Burn out indicator	Responses	Percentage
How often are you physically exhausted	Sometimes	48.60%
How often do you feel tired?	Sometimes	45.10%
How often are you emotionally exhausted	Sometimes	36.60%
How often do you think: "I can't take it anymore	Sometimes	32.60%
How often do you feel worn out?	Sometimes	34.90%

How often do you feel weak and susceptible to illness	Sometimes	41.70%
Do you feel worn out at the end of the working day	Sometimes	36%

The scores from the items of job satisfaction among the participating nurses ($N = 175$) showed that organization and financial aspects were highly unsatisfactory while interpersonal aspects were satisfactory. More than half of respondents were dissatisfied with salary and paybacks (51.0%),

dissatisfaction with opportunities to grow in their profession followed (46.0%) and the work atmosphere was next dissatisfaction (42.0%). However, a majority of participants indicated satisfaction with their relationships with colleagues (68.0%). Complete job satisfaction responses are detailed in Table 3.

Table 3: Job Satisfaction Data Collected from Nurses ($n = 175$)

Job Satisfaction Aspect	Satisfaction Level	Percentage (%)
Professional growth prospects	Dissatisfied	46%
Work atmosphere	Dissatisfied	42%
Salary and paybacks	Dissatisfied	51%
Relationship with colleagues	Satisfied	68%

Among the participating nurses ($N = 175$), the evaluation of the impact of burnout and the intention to leave the organization revealed a significant organizational and personal impact. Of those that indicated their mental health was impacted by staffing, a substantial proportion (71.1%) said it was a direct impact. In addition, over half of the

participants (53.9%) indicated that they had left a nursing role because of burnout. Table 4 displays comprehensive survey findings regarding the influence of burnout on employee turnover intentions. This data illustrates the connection between experienced burnout and the intention to leave the organization.

Table 4: The burnout impact and intentions

Variable	Response	Percentage
Staffing affects mental health	Yes	71.1%
Resigned from job due to burnout	Yes	53.9%

Discussion

Based on the results of this study ($N = 175$) an extensive overview of the multifaceted interplay between was given. Among the bedside nurses, dimensions and clinical turn over behavior were assessed. The overall results are alarming, though, and indicate that the nursing profession is, as a whole, physically and institutionally stressed, young and well educated. The demographic profile indicates that it is a population that is mainly baccalaureate trained: 85.1% (22) and work in high-acuity acute care settings: General (51%) and Psychiatric (33%). Wards (39.4%) (23), Intensive Care Units (24.6%) (24), and Emergency Departments (13.1%) (25). Early

career nurses are more susceptible to early nurse fatigue in acute care environments. Where reality shock and workload are likely to be high and could be common experience in the clinical setting, through literature if there are not enough mechanisms in place to support them in the institution. In this sample, physical and constitutional experiences of burnout were the primary ways of experiencing burnout. Almost half of respondents said they sometimes were physically exhausted. (48.6%) (26), persistent fatigue (45.1%), and increased susceptibility to illness (41.7%) (27). In addition, Nearly half (46.8%) stating that they experienced emotional exhaustion (36.6%) and post-shift depletion (36.0%) (28).

One-third (32.6%) said they felt a great deal psychological helplessness ("I can't take it anymore"). The results are in line with classic burn-out theory which positions physical and emotional exhaustion as the key stages of the burn-out process at the center of the theory. Overall, physical illness is prevalent. Physiological effects of uncontrolled emotions are further highlighted by susceptibility (41.7%) (29). Stress to clinician bodies' immunity due to occupation. There was a striking difference between the Participants' ratings on the organizational factors and interpersonal factors. From one side, on the structure, there were a number of hygiene factors which caused a lot of dissatisfaction such as salary and financial incentives, on the other hand, there was discontent with the physical space. Limited professional development opportunities (29.0%), poor working environment (32.0%) and lack of professional development opportunities (29.0%), opportunities (37.0%). A high proportion (68.0%) however, were very satisfied with relationships with fellow workers (30).

In the light of Herzberg's theory of motivation and hygiene, collegial solidarity is seen as a psychological defence mechanism to deal with shift stress, but also as a psychological defence mechanism against systemic institutional factors like low wages and no career progression. An unsettling aspect of this study was the direct linkage between organizational staffing policies and mental health impairment and documented turnover behavior. Most of the nurses (71.1%) believed that inadequate staffing negatively affected their mental health. Importantly, over half of the respondents (53.9%) said that they had previously left a nursing role because of burnout. The empirical evidence reveals that, far from being only a matter of good will, or a theoretical possibility, it is a fact of history: the unsafe nurse-to-patient ratio (31).

Long-term, as staffing shortages get larger, responsibilities are being distributed to more staff which puts them at risk of burnout and in some cases, causes staff turnover, resulting in more initial staffing shortages and the vicious cycle continues for health systems

with a focus on staffing retention. Lastly, the results show that peer support cannot be used as an alternative to the strain of systems. There are specific steps organizations can take to ensure a stable nursing workforce and clinician mental health. Competitive and fair pay should be established, promotion should be clear and patient and there should be a set ratio of patients to staff members with a view to preventing staff turnover caused by burnout (32).

Conclusion

In this study, the evidence is also strong that the organizational system related factors are more influential in nurse burnout and turnover in semi-government tertiary care hospital than individual clinicians' factors. The results indicate that high peer cohesion is an important social protective factor, but not sufficient to counteract the added challenges of pay inequity, low pay and career stagnation. Majority of nurses were physically exhausted, vulnerable to sickness and stress on their mental state. Those who have already experienced burnout, point to a significant revolving door of work turnover and to a disruptive effect on the quality and stability of health care organizations. A shift in how healthcare organizations are managed and resourced to respond to stress - shifting from individual resilience practices to organizational changes. Increased nurse to patient ratios, nurse compensation, clear professional growth opportunities, and access to mental health resources are priorities. These evidence-based, modifiable solutions are crucial for promoting nurse well-being, improving clinical

Ethical consideration

The study was approved by the Institutional Review Board (IRB) of Bahria University Health Sciences Campus Karachi with approval number: BUHS-IRB #198/25.

Consent to participate

Participants read and gave their informed consent online prior to completing the questionnaire. All responses were safely stored in the researcher's password-protected Google account with only the researcher

being able to access it. No one was granted access to the data without authorization and all personally identifiable information was confidential. Responses were only for research and access limited to study team.

Study limitations

The results of this study have to be interpreted with the following limitations in mind. First, the study was conducted in a single semi-government military tertiary care hospital, and its institutional culture, hierarchy, and allocation of resources might differ from civilian and private healthcare settings, which could compromise generalizability of these findings to other settings. Second, the study subjects were only bedside nurses. The absence of other allied health and paramedical professionals meant that there was no wider, interprofessional assessment of the healthcare team's workplace burnout. Third, overall sample size and data collection methods were limited by institutional staffing shortages and the heavy workload associated with operating the institutions. Simple random sampling was used to eliminate systematic error but there is a possibility of selection and non-response error. Lastly, because of the cross-sectional design, the direction of causality for the relationships among organizational determinants identified (e.g., staffing levels, salary satisfaction) and nurse burnout cannot be determined. Longitudinal multi-center studies to validate these relationships and to monitor the course of burnout among various healthcare cadres are recommended.

Author's contribution

All authors contributed equally in the manuscript.

Conflict of interest

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