



## Original Research Article

# ASSESSMENT OF OCCUPATIONAL BURN OUT AMONG INTENSIVE CARE UNIT STAFF IN A TERTIARY CARE HOSPITAL

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**ABSTRACT**

**Background:** Occupational burnout is a psychological syndrome characterised by emotional exhaustion, depersonalization, and reduced personal accomplishment resulting from chronic workplace stress. Healthcare professionals working in Intensive Care Units experience high workload, complex clinical decision-making, and frequent exposure to critically ill patients, which increases the risk of burnout. Limited data are available regarding burnout among intensive care healthcare professionals in the Indian healthcare setting. This study aimed to assess the prevalence and degree of occupational burnout among doctors and nurses working in the Intensive Care Unit of a tertiary care teaching hospital.

**Materials and Methods:** This cross-sectional questionnaire-based study was conducted over a 6-month period after obtaining institutional ethical approval. A total of 52 intensive care healthcare professionals, including 12 doctors and 40 nurses, were enrolled using convenience sampling. Burnout was assessed using the Maslach Burnout Inventory–Human Services Survey, which evaluates three domains: emotional exhaustion, depersonalization, and personal accomplishment. Data were collected through an online survey and analysed using Statistical Package for the Social Sciences version 21.

**Results:** Among the participants, 51.9% were male and 48.1% were female, with the majority belonging to the 31–40 years age group. Most participants demonstrated moderate levels of burnout. Moderate emotional exhaustion was observed in 76.9% of participants, while 75.1% exhibited moderate depersonalization. Regarding personal accomplishment, 52% had moderate scores and 44.2% reported low levels. Among doctors, the majority demonstrated moderate emotional exhaustion and depersonalization, whereas nurses showed comparatively lower personal accomplishment scores. Overall, moderate to high emotional exhaustion was observed in 82.6% of participants, and moderate to high depersonalization in 77%.

**Conclusion:** The findings indicate a moderate degree of occupational burnout among intensive care healthcare professionals, with emotional exhaustion being the most prominent dimension. Regular assessment, early identification, and implementation of preventive strategies such as psychological support, counselling services, and optimised work schedules are essential to reduce burnout and improve professional well-being in intensive care settings.

**Keywords:** Occupational burnout, Intensive Care Unit (ICU), Healthcare professionals, Emotional exhaustion, Depersonalization, Maslach Burnout Inventory (MBI).

## INTRODUCTION

Profession of a person may give a sense of happiness, but sometimes it can be a source of stress and anxiety leading to depression and emotional difficulties.<sup>[1]</sup> Work related burden has increased many times for last few decades. The increased burden can reduce efficacy as well as may have negative impact on the health, thereby leading to professional burnout.<sup>[2,3]</sup> The Intensive care unit (ICU) is a specialized section of a tertiary care hospital that provides treatment and round the clock monitoring to acutely sick patients. Health care providers working in the ICU are constantly exposed to stressful work environment which is not only demanding but also challenging. This exerts enormous pressure along with high expectations on performance and understanding. In an ICU, some days are filled with a feeling of accomplishment and satisfaction whereas at other times it may be frustrating and emotionally and physically draining. ICU staff both doctors and nursing staff is involved in making certain difficult decisions regarding the patient, breaking bad news to the relatives and bearing the emotional burst out of the relatives. All this contributes to a lot of stress and burnout among the healthcare personnel working in the ICU

Stress is a feeling of emotional or physical tension and burnout is a mixture of exhaustion, cynicism, and perceived inefficacy arising from long-term job stress.<sup>[4]</sup> Burnout was described by Herbert Freudenberger as a set of symptoms including fatigue, frustration, malaise, and inefficacy.<sup>4,5</sup> Burnout is defined as high levels of emotional exhaustion and depersonalization or low level of personal accomplishment. Stress can result in disturbed sleep, irritability and sometimes depression among healthcare workers which in turn can have a detrimental effect on personal life as well as professional care that they are providing to their patients.

Stress over a long period of time can result in substance abuse, alcohol dependence, health compromise, medical problems like hypertension etc. Which can result in cardiovascular disease, increased incidence of errors and unprofessionalism. Occupational burnout is one of the leading causes of not only increased psychological morbidity,<sup>[6]</sup> but also shorter life expectancy in healthcare providers. The predisposing factors leading to burnout are age, job status, experience level, job stressors – workload, role ambiguity, difficult decisions etc. personality, relations between professionals, poor support services. Three core dimensions of burnout are: Emotional Exhaustion, Reduced Personal Accomplishment and Depersonalization.

There are very few Indian studies providing data of burnout among healthcare workers. Knowledge of burn out among healthcare workers can help in determining the causative factors and thus the necessary corrective measures. Thus, we aimed to

find the burnout among the healthcare providers in the ICU of our tertiary care centre.

## MATERIALS AND METHODS

The present study was conducted in the ICU of a tertiary care centre and teaching institute over a period of 6 months after obtaining clearance from institutional ethical committee. It was a questionnaire-based survey used to assess burnout in intensive care health care workers including doctors and nursing staff working in the main ICU. Using convenience sampling, 52 intensive care health care workers from main ICU were taken up for the study. The healthcare workers who were already diagnosed having stress or other psychological problems and those who didn't give consent to participate were excluded from the study. The study included demographic data of the participants and the validated Maslach Burnout Inventory-Human Services Survey (MBI-HSS) questionnaire. This is a psychological assessment instrument comprising 22 symptom items pertaining to occupational burnout. It was developed by Christina Maslach and Susan E Jackson. The 9 item Emotional Exhaustion (EE) scale measures feelings of being overextended and over exhausted by one's work. The 5 item Depersonalisation (DP) scale measures an unfeeling and impersonal response toward recipients of one's service. The 8 item Personal Accomplishment (PA) scale measures feelings of competence and successful achievement in one's work. The 5 item cynicism scale measures an attitude of indifference towards one's work. The 6 item Professional Efficacy scale measures feelings of competence and successful achievement. All MBI items are scored using a 7 level frequency ratings from 'never' to 'daily'. Each scale measures its own unique dimension of burnout. There are score ranges that define low, moderate and high levels of each scale based on the 0-6 scoring.<sup>[7]</sup> The higher mean scores on the EE and DP subscales and a lower mean score on the PA subscale are consistent with burnout.<sup>[8]</sup>

A google form was created containing all the required information and was shared as an online survey link via email and whatsapp to all the participants who could fill it after accepting the consent form. Demographic information included age, gender, education level, marital status, credentials, work schedule, hours worked/week and years of experience as an ICU health care professional was collected. The participating nurses were asked to finish the questionnaire within 15 days and they could complete the questionnaire either at home or in their workplace.

### Statistical analysis

Statistical analysis was performed using Microsoft Excel and SPSS 21 statistical package.

01 - I feel emotionally exhausted because of my work	0	1	2	3	4	5	6
02 - I feel worn out at the end of a working day							
03 - I feel tired as soon as I get up in the morning and see a new working day stretched out in front of me							
04 - I can easily understand the actions of my colleagues/supervisors							
05 - I get the feeling that I treat some clients/colleagues impersonally, as if they were objects							
06 - Working with people the whole day is stressful for me							
07 - I deal with other people's problems successfully							
08 - I feel burned out because of my work							
09 - I feel that I influence other people positively through my work							
10 - I have become more callous to people since I have started doing this job							
11 - I'm afraid that my work makes me emotionally harder							
12 - I feel full of energy							
13 - I feel frustrated by my work							
14 - I get the feeling that I work too hard							
15 - I'm not really interested in what is going on with many of my colleagues							
16 - Being in direct contact with people at work is too stressful							
17 - I find it easy to build a relaxed atmosphere in my working environment							
18 - I feel stimulated when I have worked closely with my colleagues							
19 - I have achieved many rewarding objectives in my work							
20 - I feel as if I'm at my wit's end							
21 - In my work I am very relaxed when dealing with emotional problems							
22 - I have the feeling that my colleagues blame me for some of their problems							

0 = Never  
1 = At least a few times a year  
2 = At least once a month  
3 = Several times a month  
4 = Once a week  
5 = Several times a week  
6 = Every day

**Overall score for occupational exhaustion (EE)**  
Add together the answers to questions 01, 02, 03, 06, 08, 13, 14, 16, 20

Occupational exhaustion	EE < 17	EE 18 - 29	EE > 30
	Low degree	Moderate degree	High degree

**Overall score for depersonalisation / loss of empathy (DP)**  
Add together the answers to questions 05, 10, 11, 15, 22

Depersonalisation	DP < 5	DP 6 - 11	DP > 12
	Low degree	Moderate degree	High degree

**Overall score personal accomplishment assessment (PA)**  
Add together the answers to questions 04, 07, 09, 12, 17, 18, 19, 21

Personal accomplishment assessment	PA < 33	PA 34 - 39	PA > 40
	Low degree	Moderate degree	High degree

**Degree of burnout**

Beware if the totals of your EE and DP answers are both in the red area, and above all if your personal accomplishment assessment is also in the red!!!

EE	Occupational exhaustion (burnout) is typically connected to a relationship with work that is perceived as difficult, tiring, stressful... Maslach sees this as different from depression, as it is likely that the symptoms of burnout would be reduced during holidays.
DP	Depersonalisation or loss of empathy is characterised by a loss of regard for others (clients, colleagues...), and by keeping a greater emotional distance, which is expressed through cynical, derogatory remarks, and even callousness.
PA	The personal accomplishment assessment is a feeling that acts as a "safety valve" and contributes to bringing about a balance if occupational exhaustion and depersonalisation occur. It ensures fulfillment in the workplace and a positive view of professional achievements.

## RESULTS

A total of 52 intensive care healthcare workers from the main ICU were taken up for the study.



Figure 2: Distribution of subcategories of MBI inventory

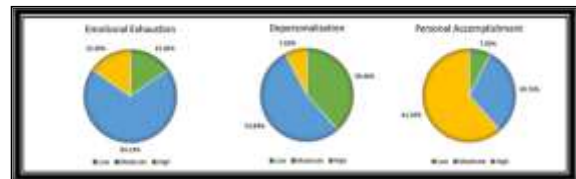


Figure 3: Distribution of subcategories among doctors

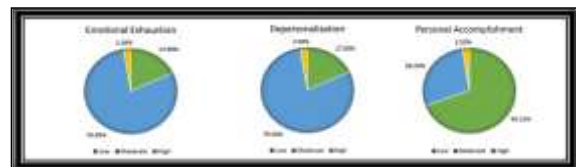


Figure 4: Distribution of subcategories among nurses

Table 1: Demographic Distribution Of Healthcare Workers

	Number	Percentage
GENDER		
Male	27	51.9%
Female	25	48.1%
AGE		
20-30	22	42.3%
31-40	26	50%
>41	6	11.5%
Profession		
Doctor	12	23.1%
Nurse	40	76.9%
Experience		
<5	20	38.5%
5-10	14	26.9%
>10yrs	18	34.6%
Marital Status		
Married	32	38.5%
Unmarried	20	61.5%
TOTAL	52	100

**Table 2: Common Grounds for Litigation Under CPA in Healthcare**

Score	Emotional exhaustion (EE) Number(%)	Depersonalisation (DP) Number(%)	Personal Accomplishment (PA) Number(%)
LOW	9(17.3)	11(21.1)	22 (44.2)
MODERATE	40(76.9)	39 (75.1)	27(52)
HIGH	3(5.7)	2(3.8)	3(5.7)
TOTAL	52(100)	52 (100)	52 (100)

A total of 52 healthcare professionals were enrolled in the study. Out of these, 27 (51.9%) were males and 25 (48.1%) were females.

Age-wise distribution showed that 22 (42.3%) participants belonged to the 20–30 years age group, 26 (50%) were in the 31–40 years age group, and 6 (11.5%) were above 41 years of age.

Regarding professional category, 12 (23.1%) of the healthcare professionals were doctors working in the ICU, while 40 (76.9%) were nurses working in the ICU.

Work experience was categorized into three groups: less than 5 years, 5–10 years, and more than 10 years. A total of 20 (38.5%) participants had less than 5 years of experience, 14 (26.9%) had 5–10 years of experience, and 18 (34.6%) had more than 10 years of experience.

Marital status distribution [Table 1] showed that 20 (38.5%) participants were unmarried and 32 (61.5%) were married.

As shown in [Table 2 and Figure 1], the majority of participants had a moderate degree of occupational burnout.

In the subcategory of emotional exhaustion, 40 (76.9%) participants had a moderate degree, 9 (17.3%) had a low degree, and only 3 (5.7%) had a high degree of emotional exhaustion.

In the subcategory of depersonalization, 39 (75.1%) participants had a moderate degree, 11 (21.1%) had a mild degree, and 2 (3.8%) had a low degree of depersonalization.

In the subcategory of personal accomplishment, 27 (52%) participants had a high score, 22 (44.2%) had a moderate score, and 3 (5.7%) had a low score.

Among doctors, 69.23% had a moderate score, while 15.3% each had low and high scores in emotional exhaustion. In depersonalization, 53.84% had a moderate score, 38.46% had a low score, and 7.69% had a high score. In personal accomplishment, 61.36% had a moderate score, 30.76% had a low score, and 7.60% had a high score [Figure 3].

Among nurses, 79.4% had a moderate score, 17.9% had a low score, and 2.5% had a high score in both emotional exhaustion and depersonalization. In personal accomplishment, 69.23% had a low score, 28.2% had a moderate score, and 2.5% had a high score.

## DISCUSSION

The ICU is a specialized unit of the hospital that requires continuous patient monitoring and intense care. Intensive care unit staff are required to be actively present physically and mentally throughout

their work. Continuous exposure to high burnout situations may lead to alcohol dependence, sleep disturbances, cardiovascular abnormalities, and in extreme cases suicidal attempts. In this study, 82.6% participants suffered from moderate to high emotional exhaustion, 77% suffered from moderate to high depersonalization and 53.8% suffered from low sense of personal accomplishment. The results of our study are consistent with those of the studies that have used MBI-HSS for assessing burnout in the HCPs.

There is scarcity of any data available in the Indian population regarding the work-related stress and burnout in HCPs working in the ICU.

Guntupalli and Fromm first studied burnout among ICU physicians who were members of the section of Internal Medicine of the Society of Critical Care Medicine. The authors indicated that ICU physicians experience high levels of EE, DP and decreased personal achievement. They found 29% of respondents scored high in EE, 20.4% scored high in DP and 59% had low personal achievement scores on the Maslach Burnout Inventory-Human Service Survey (MBI-HSS). Similar findings are reported among French ICU physicians.<sup>[9,10]</sup>

A multicentre study revealed that as many as 16% of the ICU nursing teams showed a high level of burnout in all three dimensions. For each subscale, the highest proportion of high-degree burnout (43.2%) was found in the emotional exhaustion subscale, followed by 41.2% in the personal accomplishment subscale and 26.1% in the depersonalisation subscale.<sup>[11]</sup>

In 2005, a Maslach Burnout Inventory-General Survey-based investigation was conducted in a convenience sample of staff nurses in Henan province in China. In this study the participants were all women, mean age was 29 years with a range from 18 to 60 years and 66% had experience in nursing for 5 years or more. The authors reported that scores for burnout of surgical and medical nurses were statistically significantly higher than those of other nurses. Lower educational status was also associated with higher levels of burnout in young nurses.<sup>[12]</sup>

In a study by Guntupalli KK et al., conducted on ICU professionals, 54% of the staff suffered from moderate to severe EE, 41% suffered from moderate to severe DP and 40% had low personal achievements.<sup>[13]</sup>

The results of our study are different from the other studies. This can be attributed to entirely different working condition in Indian ICUs. In comparison to European or American countries, there is a significant difference in the education and training of doctors and nurses, working environment and

finances. Age and gender have no effect on burnout. Work hours also have no effect. Staff with work experience of more than 5 years have lesser degree of emotional exhaustion and depersonalization and a better sense of personal accomplishment. This suggests that staff and doctors should be adequately trained in the wards or high-dependency units before posting to the ICU. The results point out to the need of recognizing the early warning signs of the burnout syndrome and need for remedies to prevent it. Burnout may lead to severe consequences, mental breakdown and extreme depersonalization. Personal and organizational approaches are to be used viz. psychotherapy, counselling, skill training, social support and encouragement and exercises for relaxation. Such studies support the need to emphasise on providing psychological support for the ICU HCPs and assessing their burnout levels. Regular assessment of HCPs for work related stress and occupational burnout should be considered by all the hospitals/ health care institutions. Periodic assessment of burnout in HCPs and modification of the risk factors will help to improve the professional satisfaction and psychological health. HCPs with high burnout may be provided with psychological counselling that will help in developing skills to cope with stress and necessary lifestyle modifications.

#### **Limitations and Recommendation**

This was a single-centre study that limited our sample size. In this study, we could not assess the impact of individual factors like age, gender, work experience, marital status, etc. on burnout.

In the future, multicentre studies should be conducted in the Indian population to better understand the causative factors and corrective measures like optimal duty timings, optimal night shifts, and need for intermittent breaks while working in the ICUs.

### **CONCLUSION**

The present study indicated a moderate degree of burnout among both ICU nurses and doctors, with a lower degree of depersonalisation with respect to the MBI scale.

The MBI test makes the analysis of burnout possible, as well as the introduction of strategic measures of prevention/intervention. The majority of the HCPs

who work in the ICU experience a high level of burnout, disengagement, and exhaustion.

The major factors that impact burnout are the longer duty hours, lack of clinical experience, and lack of sleep. Importance should be given for periodic assessment of burnout in HCPs working in the ICU, and adequate measures should be taken to reduce the burnout.

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