

## Burnout among Critical Care Nurses in King Saud Medical City (KSMC)

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### Abstract

**Background:** Burnout has been defined as an occupation stress, result of continues and long-term stress exposure, particularly related to King Saud Medical City (KSMC) in Saudi Arabia. Of burnout among critical care nurses at King Saud Medical City (KSMC) in Saudi Arabia has not been explored in previous research. Psychosocial factor at work. Burnout has significant effect on patient care and nursing performance.

**Objective:** This study aims to explore level of burnout among critical care nurses at King Saud Medical City (KSMC) in Saudi Arabia-Riyadh

**Methods:** A descriptive cross sectional design was utilized using a self-reporting questionnaire two sections contain demographic and Maslach burnout inventory (MBI) tool, obtain information from ICU nurses about level of burnout by measuring emotional exhaustion, personal accomplishment and depersonalization. The questionnaire was distributed to 300 nurses employed in King Saud Medical City (KSMC), which is one of the biggest tertiary hospitals in Riyadh, Saudi Arabia. 270 nurses responded to the questionnaire (90% response rate).

**Results and conclusion:** The results showed sever level prevalence 65.9% of burnout among critical care nurses at King Saud Medical City (KSMC) in Saudi Arabia-Riyadh. Simple random method from four critical care department T1A1, T1A2, T1B1 and TRCU. The majority of the nurses were females, where (97%), median age 30.9-year, majority of staff (82.2%) their age range 25 yr -34 yr, around 60% married, 81.5% bachelor degree. Most of sample were staff nurse 78.5%, staff selected in 68.5% of sample experience less 5 yr in hospital and their total ICU experience 48.5%. More than 5 year and less than 10 yr. 85.9% of them don't have any medical illness. 56.3% of sample they are not satisfy about their salaries most of them complain from non-financial reason. 67% of them satisfy about 12 h duty most Of them less than 5 year experience in KSMC but nurses more than 5yr they prefer return to 8 hrs. Shift they bind this with ICU workload.

**Keywords:** Burnout; Burnout Maslach inventory (BMI); Intensive care unit; Surgical intensive care; Emotional exhaustion (EE); Depersonalization (DP); Personal accomplishment (PA)

### Introduction

Burnout has been defined as an occupation stress, result of continuous and long term stress exposure, particularly related to psychosocial factor at work [1]. Burnout has been described as an inability to cope with emotional stress at work [2] or as excessive use of energy and resources leading to feelings of failure and exhaustion [3]. Although depression affects nearly every aspect of the person's life, symptoms of burnout occur only at work; however, BOS also decreases overall well-being [4]. Maslach and Jackson developed the Maslach Burnout Inventory (MBI) for detecting and measuring the severity of BOS. The scale evaluates three domains, namely, emotional exhaustion, depersonalization (negative or cynical attitudes toward patients), and loss of a feeling of personal accomplishment at work [1]. Clinical symptoms of BOS are nonspecific and include tiredness, headaches, eating problems, insomnia, irritability, emotional instability, and rigidity in relationships with other people.

ICU nurses generally considered at high risk of work related stress and less satisfy with their jobs comparing with nurses working another unit [5]. Intensive care unit icu nurses employees one of the most likely

to report High levels of occupation stress [6,7]. ICU nursing is highly stressful specialty of nursing [8-10].

ICU nurse's burnout can be related to a high frequency of bed closure due to direct nursing care work and nursing staff shortage [11,12]. Multiple factors have been identified as causes of stress including high patient mortality, the nature of death in ICU, young people dying as a ICU area are liable to staff turnover and Shortages [13], and yet some nurses are succeeding in the ICU environment and maintain their enthusiasm for their work even with the stresses. On the other hand, others become severely distressed, resulting in high sickness, absence, and poor staff retention [14]. Control of the working environment and adequate sleep are decisive and protective factors in dealing with situations of occupational stress [15]. In 1960s Menzies was first assessed work stress in nursing identified four sources of anxiety among nurses; patient care, decision making, taking responsibility and change [16]. ICU nurses are working for 12 h more valuable stress than 8 h [17]. Cynicism was strongly related to job satisfaction, organizational commitment, and turnover intentions [18]. Reducing burnout in registered nurses is a promising strategy to help control infections in acute care facilities [19].

Thus, this study aimed at finding out [1] the degree burnout among the ICU staff nurses and [2] various determinants, which have an impact on it so that strategies to improve their personal and professional quality of life can be planned out in the long run.

Research was conducted in a tertiary care hospital with 1500 bed capacity in Riyadh, Kingdom of Saudi Arabia. The intensive care unit (ICU) in this hospital has 120 bed capacities divided to seven departments T1A1, T1A2, T1B1, TRCU, maternity, isolation cases and burn. Around 500 ICU nurses provide care for different categories of critical ill patients who need comprehensive care.

## Methodology

This study was a cross sectional study was held in critical care department in KSMC (King Saud Medical City–Riyadh–KSA). A total 300 questionnaires distributed in random sample method to critical care nurses in four intensive care departments; -T1A1, T1B1, T1A2 and TRCU over two months October and November.

The collection data questionnaire was divided to two sections first one demographic data consist of 10 questions and section contain Maslach burnout inventory (MBI) consist 22 questions which is designed to assess the three components of the burnout syndrome: emotional exhaustion EE, depersonalization DP, and reduced personal Accomplishment PA. MBI consist of 22 items that measures burnout, and it is divided into three subscales.

The items are written in the form of statement about personal feeling or attitude. The MBI comprises three subscales: emotional exhaustion EE (9 items), depersonalization DP (5 items), and personal accomplishment (8 items). High scores of emotional exhaustion and depersonalization and low score of personal accomplishment result in high score of burnout. Each item is scored from 0 (never) to 6 (every day). e. In contrast to the other two subscales, lower mean scores on this subscale correspond to higher degree of experienced.

The score for each subscale are considered separately and are not combined into a single total score. Burnout is defined as high score of emotional exhaustion and depersonalization and low score on personal accomplishment. The MBI has become the gold standard for identifying burnout in the medical research literature which is found to be reliable and valid.

The questionnaires were distributed to critical care nurses. All working nurse staffs were asked to fill the self-administered questionnaire. The survey was anonymous, and all collected data was kept confidential and the data was manually checked for completeness. SPSS program was used to enter and process the raw data and MS Excel professional plus 2013 was used to produce the tables and graphs (Table 1 and Figures 1 and 2). Confidence interval limits (95%) and P-Values ( $\alpha=0.05$ ) were considered to indicate statistical significance.

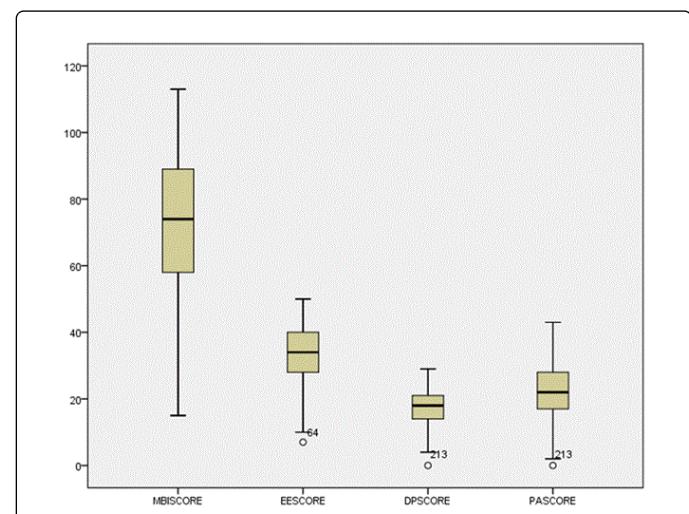
## Statistical analysis

IBM SPSS 21 was utilized for the data analysis and the results were presented as Descriptive statistics-frequency, rang, percentage, mean, median, standard error and the inferential statistics- $\chi^2$ , ANOVA correlation with 5% error and 95% accuracy test, T TEST CI 95%, and P-Values ( $\alpha=0.05$ ) were considered to indicate statistical significance.

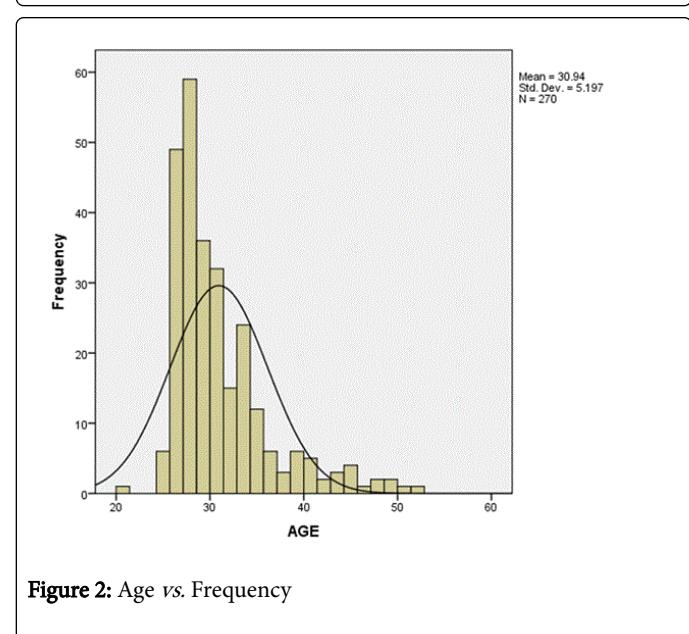
MBI Subscale	Low	Average	High
Emotional exhaustion	$\leq 18$	19-26	$\geq 27$
Depersonalization	$\leq 5$	06-Sep	$\geq 10$

Personal accomplishment	$\geq 40$	39-34	$\leq 33$
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**Table 1:** Categorization of MBI score.



**Figure 1:** MBI subscales



**Figure 2:** Age vs. Frequency

## Result

Three hundred questionnaires distributed and 270 questionnaires completed anonymously were retained back the response rate was (90%). Simple random method from four critical care department T1A1, T1A2, T1B1 and TRCU. The majority of the nurses were females, where (97%), median age 30.9-year, majority of staff (82.2%) their age range 25 yr -34 yr, around 60% married, 81.5% bachelor degree. Most of sample were staff nurse78.5%, staff selected in 68.5% of sample experience less 5 yr in hospital and their total ICU experience 48.5% more than 5 year and less than 10 yr 85.9% of them don't have any medical illness 56.3% of sample they are not satisfy about their salaries most of them complain from non-financial reason (Table 2).

67% of them satisfy about 12 h duty most Of them less than 5 year experience in KSMC but nurses more than 5 year they prefer return to 8 h shift they bind this with ICU workload. Burnout BMI define as combination of high Emotional excursion (EE), high Depersonalization (DP), and low personal accomplishment (PA), presence of nurse's burnout was calculated according to this base. Burnout prevalence for critical care nurses in KSMC was 65.9% which is high and significant (Table 3).

According to data analysis (Table 3) Age have significant effect on burnout especially nurses 25-34 year, 66% from them they have burnout also burnout decrease with nursing experience in KSMC more than 5 year. Marital status has significant effect on burnout  $p (0.015) \chi^2 (0.0904)$ . Nurse job has a significant effect on nursing burnout  $p (0.006), \chi^2 (7.506)$ , charge nurse is more vulnerable for burnout more than staff nurses. Most of participant 14.1% with medical Illness has significant effect on burnout  $p (0.021) \chi^2 (7.702)$ .

Demographic variables		Frequency	Percent
Age	<25	5	1.9
	25- 34	222	82.2
	35-44	32	11.9
	>45	11	4.1
Gender	Female	262	97
	Male	8	3
Marital status	Single	107	39.6
	Married	163	60.4
Education	Diploma	42	15.6
	Bachelor	220	81.5
	Postgraduate	8	3
Experience in Present Hospital (years)	<5	185	68.5
	05-Oct	64	23.7
	Oct-15	18	6.7
	<15	3	1.1
Total experience (years)	<5	69	25.6
	05-Oct	131	48.5
	Oct-15	41	15.2
Job	<15	29	10.7
	Charge nurse	58	21.5
Work Area	Staff nurse	212	78.5
	T1A1	65	24.1
	T1A2	51	18.9
	T1B1	62	23
	TRICU	92	34.1
Illness	Nil	232	85.9

	Related to occupation	18	6.7
	Not related to occupation	20	7.4
Income satisfaction	Satisfied	118	43.7
	Not satisfied due to financial reason	68	25.2
	Not satisfied due to non-financial reason	84	31.1
12 h duty satisfaction	No	89	33
	Yes	181	67

**Table 2:** Socio-Demographic characteristics of the participants.

NO	92	34.10%
YES	178	65.90%
TOTAL	270	100%

**Table 3:** Burnout among critical care nurses in KSMC.

## Discussion

According to this study majority of intensive care nurses (65.9%) were having burnout so they are working in stressful environment [2,6,7,14,17]. This can be related to many factors they mention comment as work overload [6], nursing staff shortage [11], compensation, financial causes and non-financial. Also, high nursing turnover rate [13] in KSMC ICU is an important indicator to have high burnout prevalence. However, it is likely that burnout has several causes and job satisfaction, ICU nurses job stress, and vulnerable personality may be important factors in burnout [14,20]. There are a lot of literatures reviewers which indicate that levels of burnout may vary among intensive care nurses [5,8].

Age have significant effect on burnout [8] young nurses were more vulnerable to have burnout than older [21-23]. Nurse job has a significant effect on nursing burnout [13], charge nurse is more vulnerable for burnout more than staff nurses. Most of participant 85.9% with free medical Illness has significant effect on burnout [17].

After analysis significance between BMI (and it is component) with income dissatisfaction [23] have significant effect  $p (0.019)$ , Even though ICU nurses who experience burnout in three dimensions of burnout (DP, EE and PA), emotional exhaustion EE have significant  $p (0.003)$  has been used as the main hallmark [21]. Comparison with burnout scores in other ICU studies is difficult because different versions of the MBI were used [3,5,8]. To compare our results with Poncet study [8] Bandar [22] we found sever burnout, there are no statistical differences in having high burnout based on age, gender differences, education, experience, work area, income satisfaction or 12 h duty satisfaction. We have reason to believe burnout among ICU nurses may affect their performance and quality of patient care [19]. Several factors like autonomy and workload may be associated with burnout syndrome among critical care Working hours, number of

nightshifts, nurse-to-bed ratio, pullout from department to other and relation to the unit leader may be different [20]. However, this study is unable to explain the differences in mean of BMI score between ICU departments (T1A1, T1A2, T1B1, TRCU).

Even though this study found in analysis there is significant effect between high EE, DP and PA [1] as predictor of burnout, causality is difficult to prove in this cross-sectional study we need more investigations.

Demographic Variables		No	Yes	(P-value)
Age	<25	2	3	
	25-34	75	147	0.48
	35-44	12	20	-0.923
	>45	3	8	
Gender	Female	88	174	0.931
	Male	4	4	-0.335
Marital status	Single	36	71	0.015
	Married	56	107	-0.904
Education	Diploma	13	29	0.246
	Bachelor	76	144	-0.884
	Postgraduate	3	5	
Experience in Present Hospital (years)	<5	65	120	
	05-Oct	22	42	1.222
	Oct-15	4	14	-0.748
	<15	1	2	
Total experience (years)	<5	25	44	
	05-Oct	46	85	1.166
	Oct-15	11	30	-0.761
	<15	10	19	
Job	Charge nurse	11	47	7.506
	Staff nurse	81	131	(0.006)*
Work Area	T1A1	16	49	
	T1A2	16	35	5.364
	T1B1	27	35	-0.147
	TRICU	33	59	
Illness	Nil	77	155	
	Related to occupation	11	7	7.702
	Not related to occupation	4	16	(0.021)*
Income satisfaction	Satisfied	44	74	

	Not satisfied due to financial reason	26	42	3.391
	Not satisfied due to non-financial reason	22	62	-0.184
12 hour duty satisfaction	No	25	64	2.116
	Yes	67	114	-0.146

**Table 4:** Association between Demographic variables and Burnout.

## Conclusions

This study gives an excellent explanation of high turnover among critical care nurses in KSMC especially young nurses they need stress management and preventive strategies to burnout. Interventional research is recommended.

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