Prevalence of burnout among nurses at the Nephrology Center-Benghazi

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■ **Abstract:**

Burnout is a growing problem in the workplace worldwide, particularly in healthcare settings among healthcare professionals. Thus, this study was aimed at determining the prevalence of burnout among nursing staff working in the Nephrology Center and identifying the difference and relationship between burnout degree subscales according to general nurses. The descriptive statistics (frequency and percentage) have been used to determine the levels of job burnout. The sign test or t-test was used to find out the respondents' attitudes, and the chi-square test was used to find out the existence of a relationship between general characteristics. **Result:** The results of this study revealed a high prevalence of burnout and emotional exhaustion and a moderate prevalence of depersonalization, while personal accomplishment was low. There was a significant association between total burnout, gender, and marital status. Regarding the dimensions of burnout, emotional exhaustion was significantly associated with gender and education. Depersonalization was insignificantly associated with nurses' general data. Personal accomplishment was significantly associated with a nurse's experience.

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Conclusion: This study has concluded that there is a high prevalence of burnout syndrome among nurses. Administrative support and improving the workplace environment to reduce burnout were recommended for more attention by policymakers.

● **Keywords:** Burnout, Maslach, Nursing, Nephrology

■ **المستخلص:**

يؤدي الاحتراق الوظيفي في مكان العمل إلى تدني الأداء الوظيفي، مما يعني انخفاض كفاءة العاملين في المجالات المختلفة، لا سيما في المجال الصحي، وخصوصا العاملين بمهنة التمريض ، وبالتالي تهدف هذه الدراسة إلى تحديد مدى انتشار ظاهرة الاحتراق الوظيفي بين طاقم التمريض العاملين بمركز أمراض الكلى بمدينة بنغازي وكذلك التعرف على وجود فروق معنوية حسب محاور مقياس ماسلاك (الاجهاد الانفعالي ، وتبلد المشاعر ، الانجاز الشخصي)، فضلاً عن ذلك التعرف على علاقة بعض الخصائص الشخصية للمبحوثين بمحاور الدراسة. ولقد استخدمت التكرارات والنسب المئوية للتعرف على مدى انتشار الاحتراق الوظيفي بين المبحوثين، وأظهرت النتائج أن ثلثي عينة الدراسة تقريبا يعانون من احتراق وظيفي مرتفع، وباقي عينة الدراسة يعانون من احتراق وظيفي متوسط، وتم استخدام اختبار الإشارة أو ما يعرف باختبار (t) لعينة واحدة، بغية التعرف على مدى وجود فروق معنوية في المتوسطات. وأظهرت النتائج وجود هكذا فروق معنوية لمحاور الدراسة، وتشير قيم الوسط الحسابي التي تزيد عن قيمة الوسط الفرضي للبعد الأول والثاني على وجود احتراق وظيفي ، بينما تشير قيمة الوسط الحسابي للمحور الثالث والتي تقل عن الوسط الفرضي إلى وجود احتراق وظيفي (محور عكسي). ومن جانب آخر تُظهر نتائج الدراسة وجود علاقة ذات دلالة معنوية بين كلٍ من الجنس والحالة الاجتماعية ودرجة الاحتراق الوظيفي بأبعاده الثلاثة، في حين يتضح من أبعاد الاحتراق الآتي: الاجهاد الانفعالي له دلالة معنوية مع الجنس ومستوى التعليم. وتقدم الدراسة توصية لمتخذي القرارات المعنيين بشأن ضرورة توفير بيئة عمل مناسبة للممرضين بهدف تقليل ظاهرة الاحتراق الوظيفي، والذي يمكن أن يتحقق من خلال تحسين ظروف بيئة العمل وتقديم الدعم المادي والمعنوي وبذل الجهود للتعلم والاستفادة من تجارب الدول السابقة في مجال الدعم النفسي للعاملين بمجال التمريض.

● **الكلمات الافتتاحية:** الاحتراق الوظيفي ، التمريض، الإنجاز، Maslach

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■ Introduction:

Burnout is recognized as a serious health issue and an "occupational phenomenon" according to the International Classification of Diseases, 11th revision (ICD-11) in recent WHO declaration [1]. Burnout is a work-related stress syndrome resulting from chronic exposure to job stress. It can occur in any kind of profession [2]. The syndrome is more prevalent in service professions such as teaching, police work, and health care. Among health care professionals, nurses are known to struggle with burnout symptoms the most, and they are a high-risk group that is especially prone to the syndrome's serious consequences for patients, other healthcare professionals, and healthcare professionals, and healthcare organizations [3, 4, 5].

Therefore, burnout among nurses has a negative impact on healthcare providers, patients, and healthcare delivery systems, as well as on the quality of patient care. i.e., has a negative impact on patient care quality [2, 3, 4]. Occupational burnout has attracted the attention of researchers and professionals. Pines and Aronson define occupational burnout as a state of physical, emotional, and mental exhaustion caused by long-term involvement in emotionally stressful situations. Moreover, the concept of occupational burnout is described as the result of an abnormal relationship between an individual and their environment. Although stress can lead to depression, routine, and fatigue, it does not cause burnout. Therefore, burnout is a response to unmet job expectations. [6].

The construct of burnout syndrome was introduced for the first time in the early 1970s by psychoanalyst Freudenberger [3] and has subsequently been defined by Maslach (1993) as consisting of three qualitative dimensions of occupational burnout: (i) emotional exhaustion (EE): emotional exhaustion with progressive loss of energy; (ii) depersonalization (D), defined as a negative attitude and feelings towards customers and clients (i.e., patients and co-workers in the nursing profession), a personal detachment, or loss of ideals; and (iii) feelings of low personal accomplishment (LPA): otherwise known as lack of personal accomplishment or loss of confidence and commitment to the profession, feelings of professional failure. [2, 3, 4, 7].

Among nurses, many factors are associated with occupational burnout, such as the nurse's age (some authors believe that younger nurses are at greater risk of burnout, while others hold that nurses aged over 38–40 years are more vulnerable). [3, 8]. Occupational variables associated with burnout include working night shifts, a lack of adequate staff, inadequate clinical supervision, a lack of work performance recognition, and length of experience or seniority. [8]. Additionally, excess workload, emotional stress, unevaluated work and underpayment, poor leadership, conflicts with staff, accepting responsibility, lack of social support, conflict with other nurses, conflict with physicians, presence of stressors related to private life, and feeling that the job is threatened [3].

Furthermore, nursing professionals require a high level of social responsibility, and problems that can occur on a daily basis include work overload, lack of autonomy or decision-making authority, and balancing difficulties with family and work. and so on. All of these factors can cause burnout syndrome, which includes a collection of various symptoms such as fatigue, insomnia, memory loss, inability to concentrate, anxiety, a loss of quality in work performance, sleep disorders, nervousness, and substance abuse in order to cope at home or work. [4, 9].The level of occupational burnout varies among nurses working in different wards in hospitals. Nurses usually work in a specific medical area within a hospital, divided into units or services according to the systems or pathologies treated. Each service has different characteristics, and these, too, can influence burnout levels. All of these factors can contribute to burnout. [8, 10].

Nephrology nurses routinely face a long-term chronic illness, i.e., end-stage kidney failure, which often requires heavy physical efforts to deal with patients' never-ending demands, growing numbers of patients with end-stage renal disease in need of diagnosis and treatment, and long-term interactions with patients and their families. Moreover, nurses in the nephrology center (hemodialysis and peritoneal dialysis, PD) have to deal with complex dialysis, sophisticated modern dialysis machines, and strict implementation of infection control policies and procedures. Furthermore, due to the ongoing shortage of professional dialysis nursing staff, some dialysis nurses are forced to work in both hemodialysis and PD units. All of these factors can contribute to burnout. [9, 10].

● **Study significance and objectives:**

Healthcare workers are often prone to burnout. Evidence has shown that there is a high prevalence of burnout among nursing professionals. Nurse burnout influences patient satisfaction and can lead to problems for patients, and as a result, a few studies are focusing on healthcare workers in nephrology, especially nurses.

In this context, the current study aims to:

● To identify the prevalence of burnout among nurses in the Nephrology Center,

● to explore the differences between burnout subscales and general variables such as age, gender, educational qualification, marital status, and years of experience.

●to study the relationship between burnout and general characteristics.

The research problem highlighted the following questions:

What is the prevalence of job burnout among nursing staff at the Benghazi nephrology center?

What is the relative importance of the prevalence of job burnout according to the study dimensions (emotional exhaustion, depersonalization, and personal accomplishment)?

Are there significant differences between emotional exhaustion, depersonalization, and personal accomplishment according to some general characteristics of the respondents (gender, educational qualification, marital status, and years of experience)?

Is there a relationship between the general characteristics and the dimensions of the study?

Hypothesis:

To achieve the objectives of the study, the following hypothesis were formulated:

The first hypothesis:

There is burnout among nurses at the nephrology center in Benghazi according to MBI.

- The relative importance of job burnout varies according to emotional exhaustion

- The relative importance of job burnout varies according to the depersonalization

- The relative importance of job burnout varies according to personal accomplishment

The second hypothesis:

This hypothesis states that there are no significant difference between the general characteristics and the total burnout.

The following hypotheses emerge from this hypothesis:

There are no significant differences according to emotional exhaustion, for nurses working at the nephrology centre in Benghazi.

There are no significant differences, according to depersonalization, for nurses working at the nephrology centre in Benghazi.

There are no significant differences according to personal accomplishment, for nurses working at the nephrology centre in Benghazi.

The third hypothesis:

This hypothesis states that there are no relationship according the general characteristics and the total burnout and three dimensions.

The following hypotheses emerge from this hypothesis:

There is no relationship with regard to job burnout, according to the gender variable, for nurses working at the nephrology centre in Benghazi.

There is no relationship regarding job burnout, according to the educational qualification variable, for nurses working at the nephrology centre in Benghazi.

There is no relationship regarding job burnout according to the variable years of experience, for nurses working at the nephrology centre in Benghazi.

■ Method:

● Study design:

On permanent nurses working in the nephrology center, a cross-sectional research design was used. Data collection was carried out from October to December 2020.

Setting and sample size:

Since the population is homogenous, a sample is randomly selected from the staff of the target center, which included 150 nurses working in different departments in rotating shifts at the time of the study. Due to the difficulty of reaching the whole study population, the Steven K. Thompson equation was used to calculate the sample size, which showed that the appropriate sample size was 108 nurses chosen randomly. The number of valid questionnaires was 81, yielding a 75 % response rate.

Study instrument:

The study instrument is a questionnaire that is composed of two parts: the first part focuses on nurses' general characteristics such as age, gender, marital status, qualifications, and years of experience in nephrology nursing.

The second part was the Maslach Burnout Inventory (MBI), which is the most common instrument used for the assessment of burnout. It was comprised of 22 items that evaluated three domains of burnout syndrome: emotional exhaustion (9 items), depersonalization (5 items), and personal accomplishment (8 items).

Nurses were asked to answer on a seven-point Likert scale (never = 0, sometimes in a year = 1, once a month = 2, sometimes in a month = 3, once a week = 4, some days in a week = 5, and every day = 6).

Total scores on each dimension were calculated separately. Personal accomplishment items were positively worded, unlike the two other dimensions. Revised scores for personal accomplishment were applied as a reflection of burnout.

A pilot study was carried out on ten qualified nurses (whose results were excluded from the study sample) to test the tool's clarity, validity, and the time needed to fill it out.

● **Ethical considerations and procedure:**

Before collecting data, permission to conduct the study was obtained from the administrators and nursing director of the center. An informed verbal consent was taken from nurses participating in the study after explaining the purpose of the study; anonymity and confidentiality of data were assured. Each nurse was notified about the right to refuse or to participate in the study before giving verbal consent.

■ **Reliability:**

The reliability of the questionnaire revealed that Alpha-Cronbach's coefficient values were in the range of 0.65 to 0.81. The overall dimensions of the study were 0.85. This value of alpha cronbach compared to the acceptable level (0.6) was generally stable and reliable.

Table (1): Reliability test

Reliability	Alpha Cronbach
Emotional exhaustion (EE)	0.81
Depersonalization (DP)	0.65
Personal accomplishment (PA)	0.68
Burnout	0.85

Data analysis: Data were analyzed using the Statistical Package for Social Science (SPSS), Version 28, based on the following statistical methods: Descriptive statistics were done to compute frequencies and percentages, as well as the mean and standard deviation. Kolmogorov-Smirnov test to find out the data's dependence on a normal distribution

one-sample t-test to determine the relative importance of the study dimensions (emotional exhaustion, depersonalization, and personal accomplishment).

A chi-squared test was used to find the relationship between general characteristics and burnout subscales. A P-value of less than 0.05 was considered significant.

■ Results:

Table (2): Respondents' general characteristics

Characteristics		Frequency (N=81)	Percentage (%)
Gender	Male	25	30.9 %
	Female	56	69.1 %
Age	Less than 25 years	15	18.5 %
	25- 34 years	37	45.7 %
	35- 44 years	22	27.2 %
	45 years and more	7	8.6 %
Marital status	Single	40	49.4 %
	married	34	42 %
	Divorced or widow	7	8.6 %
Qualification	Secondary school	3	3.7 %
	Mid-diploma	26	32.1 %
	Diploma	42	% 51.9
	Bachelor	9	11.1 %
	Master	1	1.2 %
Experience	Less one year	15	18.5 %
	1-5 years	22	27.2 %
	6-10 years	٢٨	34.6 %
	11-15 years	١٣	16 %
	More than 15 years	3	3.7 %

Out of 108 questionnaires distributed to nephrology nurses, 81 were returned, giving a response rate of 75 % . The general characteristics of nurses were shown in Table 2. The majority of nurses in the study sample were female (69.1 %), meaning that females were represented at twice the percentage of males. Around two-thirds of them (64.2 %) were aged less than 35 years, while only 8.6 % of them were older than 45 years; 49.4 % were single, and 42 % were married.

Concerning level of education, approximately half of the nurses in the study sample (51.9 %) had a diploma degree education and 35.8 % were assistant nurses (secondary school graduates or mid-diploma), while (11.1 %) of the nurses had a bachelor's degree.

Regarding years of experience, it was found that more than one quarter of nurses (27.2 %) had 1–5 years of experience, and more than one third (34.6 %) of them had 6–10 years of experience.

■ **Normality:**

The data is considered to follow the normal distribution if the level of significance is greater than 0.05, and Table 3 shows the results of the normal distribution test for the study variables.

Table (3): Tests of Normality

	Kolmogorov-Smirnova		
	Statistic	**df**	**Sig.**
Emotional exhaustion	0.129	81	0.002
Depersonalization	0.137	81	0.001
Personal accomplishment	0.155	81	0.000
All dimensions	0.063	81	0.200*

*Significant at 5 %

It is clear from the above table that each of the dimensions (emotional exhaustion, depersonalization, and personal accomplishment) does not follow a normal distribution, while the results showed that the total dimensions of the study followed a normal distribution, which means that using non-parametric

tests for the dimensions and parametric tests for the total burnout.

Burnout scale:

The results in Table 4 displayed that more than two-thirds of the nurses (72.8 %) in the study sample experienced high levels of total burnout. Meanwhile, approximately a third of nurses (27.1 %) had a moderate level of burnout, and none of the nurses reported a low total burnout score.

According to Table 4, nurses had a high level of emotional exhaustion and a low level of personal accomplishment domains (65.4 % and 60.5 % , respectively), as well as a moderate level of depersonalization (43.2 %).

Table (4): Prevalence of burnout based on MBI subscale scores

Burnout subscale		No. (%)	Mean	SD	Sign test or one sample T test	Sig.
Emotional exhaustion	Low (0-15)	2 (2.5)	3.71	.87	5.333	.001*
	(Moderate (16-30	26 (32.1)				
	High (31-45)	53 (65.4)				
Depersonalization	(Low (0-8	22 (27.2)	2.49	1.14	-3.15	.002*
	Moderate (9-16)	35 (43.2)				
	High (17-25)	24 (29.6)				
Personal accomplishment*	Low (27-40)	49 (60.5)	4.31	.67	-7.88	.001*
	Moderate (14-26)	30 (37)				
	High (0-13)	2 (2.5)				
Total burnout	Low (0-36)	-	3.17	.4053	2.58	.012*
	Moderate (37-73)	22 (27.1)				
	High (74-110)	59 (72.8)				

*reversed subscale   ***Significant at 5 %**

In table 4-A, the mean of total burnout was 3.17, SD =.4053, and the weighted mean was 63.4 % . Concerning the dimensions, the total mean for nurses' emotional exhaustion was high (3.71, SD =.87), and the weighted mean equaled 74.2 % . It was also noted that nurses who worked with people all day were strained for them, with a mean of (4.63) and a weighted mean of 92.6 % , whereas nurses who felt frustrated with their job had the lowest mean item at the emotional

exhaustion dimension, with a mean of (2.33) and a weighted mean of 46.6 % .

Regarding nurses' depersonalization (DP), in the table (4-A), it was revealed that the total mean and SD were 2.49 and 1.14. It was noted that the nurses felt patients blamed them for some of their problems, with the mean and SD being (3, 1.71). In addition, nurses have become more callous toward people since they took this job, with a mean of 2.73 and an SD of 1.78.

In terms of personal accomplishments (PA), the total mean and SD were (4.31, 0.67) and the weighted mean equaled 86.4 % , indicating that nurses cannot easily understand how their patients feel about things (M = 4.2, SD = 1.04, and weighted mean 92.3 %), while nurses positively influencing their patients had the lowest mean (M = 3.95, SD = 1.53) and the weighted mean 79.01 % .

Table (4-A): Burnout items

Burnout items	Mean	SD	Sign test	P-value	Weighted mean %	Rank
Emotional exhaustion (EE)	3.71	0.87	5.333	.001	74.2	
I feel emotionally drained from my work.	3.49	1.61	2.51	0.012	69.8	6
I feel used up at the end of the work day.	4.40	1.14	6.08	.001	88	2
I feel fatigued when I get up in the morning & have to face another day on the job	4.25	1.37	5.07	.001	85	3
Working with people all day is really a strain for me.	4.63	1.05	6.75	.001	92.6	1
I feel burned out from my work.	3.98	1.30	4.02	.001	79.6	4
I feel frustrated by my job	2.33	1.70	-3.37	.001	46.6	9
I feel I am working too hard on my job	3.68	1.54	3.03	0.002	73.6	5
Working with people directly puts too much stress on me	3.19	1.66	.849	0.369	63.8	8
I feel like I am at the end of my rope	3.46	1.66	1.768	0.077	69.2	7
Depersonalization (DP)	2.49	1.14	-3.15	0.002	49.8	

Burnout items	Mean	SD	Sign test	P-value	Weighted mean %	Rank
I feel I treat some patients as if they were impersonal objects	2.23	1.68	3.375-	001.	44.6	4
I›ve become more callous toward people since I took this job	2.73	1.78	-8140.	4160.	54.6	2
I worry that this job is hardening me emotionally	2.46	1.76	-2.735	0.006	49.2	3
I don›t really care what happens to some recipients	2.05	1.63	-4.189	001.	41	5
I feel patients blame me for some of their problems.	3.00	1.71	6.953	001.	60	1
Personal accomplishments*	4.31	0.67	-7.88	.001	86.4	
I can easily understand how my patients feel about things	4.62	1.04	7.293	001.	92.35	1
I deal effectively with the patients› problems	4.16	1.29	5.697	001.	83.21	6
I feel I am positively influencing my colleagues/patients lives through my work	3.95	1.53	3.963	001.	79.01	8
I feel very energetic	4.28	1.32	6.154	001.	85.68	5
I feel exhilarated after working closely with my (colleagues/patients)	4.49	1.01	7.324	001.	89.88	2
I can easily create a relaxed atmosphere with my patients	4.47	1.04	6.953	001.	89.38	3

Burnout items	Mean	SD	Sign test	P-value	Weighted mean %	Rank
I have accomplished many worthwhile things in this job	4.41	1.12	6.394	001.	88.15	4
In my work, I deal with emotional problems calmly	4.12	1.30	5.538	001.	82.47	7
Burnout	3.17	0.4053	2.58	.012	63.4	

*reversed subscale

Differences between general data and burnout subscales

The results showed the associated nurses' general characteristics, total burnout, and each subscale of the MBI. There was a highly significant difference in gender, marital status, and total burnout score, as shown in Table 5. High burnout was found in females and singles.

Table (5): Differences between total burnout and general characteristics of the study group (N=81)

	Total burnout				Cramer's V Or phi	Or Fisher	P-value
	High (n=57)		Moderate (n=24)				
	No.	٪	No.	٪			
Gender							
Male	22	38.6	3	12.5			
Female	35	69.1	21	87.5	0.258	5.390	0.033
Marital Status							
Single	32	56.1	8	33.3			
Married	19	33.3	15	62.5			
Divorced or widow	6	10.5	1	4.2	0.272	5.992	0.045
Experience							

Less than1 year	12	21.1	3	12.5			
1-5 years	16	28.1	6	25			
6-10 years	9	15.8	4	16.7			
10-14 years	19	33.3	9	37.5			
15 year or more	1	1.8	2	8.3	0.186	2.792	0.593
Age							
Less than 25	14	24.6	1	4.2			
25- 34	24	42.1	13	54.2			
35- 44	15	26.3	7	29.2			
45 or more	4	7	3	12.5	0.248	4.696	0.174
Level of Education							
Secondary	1	1.8	2	8.3			
Medium Diploma	16	28.1	10	41.7			
High Diploma	32	56.1	10	41.7			0.369
Bachelor›s Degree	7	12.3	2	8.3			
Masters and above	1	1.8	0	0	0.230	4.287	

Regarding subscales, table 5-A indicated that there were significant differences between male and female nurses (P = 0.016), and high emotional exhaustion was noted in 58.5 % of females. Furthermore, there were significant differences in nurses' educational level (P = 0.035), with nearly half (52.8 %) having a high diploma degree and high emotional exhaustion. However, there were no statistically significant differences found between marital status, work experience, and age.

Table (5- A) Relationship between emotional exhaustion and general characteristics of the study group (N=81)

	Emotional exhaustion						Cramer's V Or phi	Or Fisher	P-value
	High (n=53)		Moderate (n=26)		Low (n=2)				
	.No	%	.No	%	.No	%			
Gender									

Male	22	41.5	3	11.5	0	0			
Female	31	58.5	23	88.5	2	100	0.319	8.26	0.016
Marital Status									
Single	31	58.5	8	30.8	1	50			
Married	16	30.2	17	65.4	1	50	0.238	9.19	0.056
Divorced or widow	6	11.3	1	3.8	0	0			
Experience									
Less than1 year	11	20.8	4	15.4	0	0			
years 1-5	15	28.3	6	23.1	1	50			
years 6-10	9	16.9	4	15.4	0	0			0.427
years 10-14	18	33.9	9	34.6	1	50	0.223	8.07	
year or more 15	0	0	3	11.5	0	0			
Age									
Less than 25	13	24.5	2	7.7	0	0			
34 25-	24	45.3	12	46.1	1	50			
44 35-	12	22.6	10	38.5	0	0	0.339	9.28	0.158
or more 45	4	7.5	2	7.7	1	50			
Level of Education									
Secondary	1	1.9	1	3.8	1	50			
Medium Diploma	15	28.3	11	42.4	0	0			
High Diploma	28	52.8	13	50	1	50	0.452	16.54	0.035
Bachelor›s Degree	8	15.1	1	3.8	0	0			
Masters and above	1	1.9	0	0	0	0			

The results also showed that there was no significant relationship between general nurse characteristics and depersonalization, as shown in Table 5-B.

Table (5 -B) Relationship between Depersonalization and general characteristics of the study group (N=81)

	Depersonalization						Cramer's V Or phi	Or Fisher	P-value
	High (n=24)		Moderate (n=35)		Low (n=22)				
	.No	%	.No	%	.No	%			
Gender									
Male	8	33.3	13	37.1	4	18.2			
Female	16	66.7	22	62.9	18	81.8	0.17	2.37	0.305
Marital Status									
Single	13	54.2	17	48.6	10	45.5			
Married	8	33.3	16	45.7	10	45.5			
Divorced	3	12.5	2	5.7	2	9.09	0.139	1.557	0.816
Experience									
Less than 1 year	5	20.8	5	14.3	3	13.6			
years 1-5	6	25	8	22.8	8	36.4			
years 6-10	3	12.5	7	20	3	13.6			
years 10-14	10	41.7	10	28.6	8	36.4	0.286	6.65	0.575
year or 15 more	0	0	5	14.3	0	0			
Age									
Less than 25	5	20.8	7	20	3	13.6			
34 25-	12	50	15	42.8	10	45.5			
44 35-	6	25	10	28.6	6	27.3			0.936
or more 45	1	4.2	3	8.6	3	13.6	0.150	1.812	

Level of Education									
Secondary	1	4.2	1	2.9	1	4.5			
Medium Diploma	9	37.5	9	25.7	8	36.4			
High Diploma	10	41.6	20	57.1	12	54.5	0.234	4.45	0.815
Bachelor›s Degree	4	16.7	4	11.4	1	4.5			
Masters and above	0	0	1	2.9	0	0			

In addition, the results showed that there was no significant relationship between general nurse characteristics and personal accomplishment, except in work experience. There were significant differences in nurses' experience ($P = 0.021$), and personal accomplishment was higher among nurses who had experience between 1 and 5 years. More information can be found in table 5-C).

Table (5- C) Relationship between personal accomplishment and general characteristics of the study group (N=81)

	Personal accomplishment						Cramer's V Or phi	Or Fisher	P-value
	High (n=49)		Moderate (n=30)		Low (n=2)				
	.No	%	.No	%	.No	%			
Gender									
Male	17	34.7	7	23.3	1	50			
Female	32	65.3	23	76.7	1	50	0.135	1.47	0.478
Marital Status									
Single	28	57.1	11	36.7	1	50			
Married	18	36.7	15	50	1	50	0.151	3.68	0.450
Divorced or widow	3	6.1	4	13.3	0	0			

Experience									
Less than1 year	10	20.4	5	13.3	1	50			
years 1-5	16	32.7	6	20	0	0			
years 6-10	8	16.3	5	16.7	0	0	0.333	18.007	0.021
years 10-14	14	28.6	14	46.7	0	0			
year or more 15	1	2	1	3.3	1	50			
Age									
Less than 25	10	20.4	4	13.3	1	50			
34 25-	26	53.1	11	36.7	0	0			
44 35-	11	22.4	10	33.3	1	50	0.228	8.425	0.209
or more 45	2	4.2	5	16.7	0	0			
Level of Education									
Secondary	0	0	3	10	0	0			
Medium Diploma	16	32.7	9	30	1	50			
High Diploma	27	55.1	14	46.7	1	50	0.217	7.614	0.472
Bachelor›s Degree	6	12.2	3	10	0	0			
Masters and above	0	0	1	3.3	0	0			

■ Discussion

Burnout is a frequent problem in healthcare organizations, especially among critical care nurses, and it has negative implications for clinical outcomes and quality of care. Therefore, this study assessed the prevalence of burnout among nurses in the nephrology center. The majority of nurses sampled in this study were female; this result was in line with previous studies. [11, 12, 13], which stated that female nurses accounted for the majority of the study population. This result could be due to increased women's participation in the labor market, so the nursing profession might be more suitable for women [11, 12, 13].

In terms of age, the current study found that more than two-thirds of nurses were under the age of 35. This reflects that the majority of them had less than 10 years of experience. This result was congruent with Darawad et al. (2015) and Skefales et al. (2014) [12, 13]. The findings of this study also demonstrated that more than three-quarters of the nurses in the study sample had a diploma

degree or less in education. The percentage of nursing bachelors was limited compared with the percentage of nurses with secondary or advanced diplomas.

This result in accordance with the finding of study at Makkah Al-Mukaramah stated that more than two-thirds of nurses (69.3 %) had a diploma degree where it was contradicting with Darawad et al. (2015), They discovered that roughly half of all nurses had a bachelor's degree. [11,12].

From the literature, the overall prevalence of burnout and its three dimensions among nurses varied between countries as well as within the same country. The differences in the prevalence of burnout in the current study and others could be explained by the differences in culture and medical specialties. Nurse burnout was significantly higher in ICU, oncology, and dialysis. [14]. In the current study, the prevalence of burnout was high (70.4 %) among nurses at the nephrology center. This might result from the nurses' work environment with limited resources, a high workload, a low nurse-patient ratio, and dealing with complex dialysis techniques. [15]. The overburdened nurses caring for acutely ill patients may experience burnout syndrome due to the high mortality rate and their decision to withhold or withdraw treatment. [16]. This result was consistent with that of Zaki et al. (2016), who found that the prevalence of burnout among Saudi nurses was high. [11].

A study conducted in Jordan to examine the relationship between time pressure and burnout discovered that the majority of nurses experienced time pressure at work and had a high level of burnout. Time pressure was identified as an important factor in nurse burnout, and it was significantly correlated with two components of burnout: emotional exhaustion and depersonalization [12]. Another study in a community hospital among 75 nurses in Singapore found that 33.3 % of nurses experienced high levels of burnout, and a study in Saudi Arabia indicated that 32 % of the dialysis nurses had high levels of burnout. [17, 18].

The current study revealed that nurses recorded the highest levels of burnout, emotional exhaustion, and low personal accomplishment, but the depersonalization subscale was moderate. In a study among nurses done by Darawad et al. (2015), it was identified that emotional exhaustion (72 %) was the highest compared to 53.9 % for depersonalization and 49.2 % for personal achievement. [12]. On the other hand, Klersy et al. (2007 found that

three burnout dimensions were lower than the current result. 30 % of nurses scored high emotional exhaustion; 18 % had high depersonalization; and 19 % had low personal accomplishment. [10].

Another study conducted among dialysis nurses found that 44.5 % of nurses suffered from severe emotional exhaustion and 22.5 % had experienced severe depersonalization [19]. As a result of this study, there was a significant difference in total burnout by gender and marital status. A significant relationship between emotional exhaustion (EE), gender, and level of education was identified. Personal accomplishment (PA) was significantly associated with the nurse's experience.. While no statistically significant differences were found between the depersonalization and general nurses' data, Kavumaci et al. (2014) indicated that there was a significant difference between depersonalization and personal accomplishment with gender and marital status, as well as emotional exhaustion and personal accomplishment with educational level. [13].

There were some limitations to this study. Firstly, because of the low sample size and the restriction to only nurses from one nephrology center, the results cannot be generalized. This study was a cross-sectional study that measured burnout at a single point in time and did not consider the causes and outcomes of burnout syndrome.

Conclusion:

It can be concluded that a high percentage of staff nurses in a nephrology center experienced high levels of burnout. In this regard, the dimensions of nurse burnout were: emotional exhaustion was high, personal accomplishment was low, and depersonalization was moderate. Based on the current study findings, it was recommended that administrators and head nurses should pay more attention to their staff and take actions and interventions to reduce job burnout. To reduce burnout among the center's staff nurses, reinforcement for changing the workplace environment and improving working conditions is essential. Administrators should establish communication skills training programs for nurses to cope with job burnout, as well as make efforts to learn from the previous experiences of other countries in the field of psychological support for nursing workers. Further studies are needed to determine the factors that can lead to nurse burnout.

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