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Prevalence and Predictors of Burnout among Pharmacists at King Abdullah University Hospital, Jordan: A Cross-Sectional Study

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Abstract:

Objective: This study aims to determine the prevalence of burnout among hospital pharmacists and to identify the relationship between certain variables and burnout levels.

Methods: This is a cross-sectional study where a survey was distributed among hospital pharmacists during a one-month period. A non-probability consecutive sampling method was used, and the total sample size was 42 participants. Descriptive data were presented in frequencies, and an ANOVA test was used to assess the association between demographic variables and burnout levels.

Results: Our results showed high levels of burnout among the studied population. While age, gender, years of experience, and number of night shifts were not associated with burnout levels, the number of working hours per week, number of sleeping hours per day, marital status, number of children, and outcome satisfaction were associated with burnout.

Conclusions: There is a high prevalence of burnout among pharmacists in Jordan. Factors associated with burnout can be modified to reduce its risk.

Keywords: Burnout; Pharmacists; King Abdullah University Hospital.

1 Introduction

Burnout is the result of stress caused by work over a long period of time (Alharbi et al., 2020). Most of the time, workers encounter stress when they feel that they cannot be in control of their job duties (Alharbi et al., 2020). And burnout is a kind of psychological issue that occurs when a worker has to both face job-related stressors and work with limited resources over a long period of time (Alharbi et al., 2020). According to the WHO, burnout is divided into three main categories: emotional exhaustion which is also known as energy depletion, having constant negative feelings toward their jobs, and finally low efficacy at their jobs (WHO, 2019).

This chronic exposure to stress resulted from work has been shown to lower quality of life in pharmacists (Almogbel, 2021).

Burnout is a common obstacle among workers in different fields since it can lead to negative consequences such as increased turnover rates, lost work days, and negative work environment (Alharbi et al., 2020). This is confirmed by the results of a recent systematic review study that assessed 19 different studies with 11306 participants, and showed that pharmacists have a high tendency to experience burnout, and that resulted in low quality of life in patients (Dee et al., 2023).

With this in mind, it is considered as a common obstacle the field nowadays for many different reasons; like the growing needs for their services, the lack of pharmacists, and the shortage of resources (Alharbi et al., 2020).

To find solutions for the problem of burnout, it should be kept in mind that the correlation between burnout and other psychological disorders like depression and anxiety is proven (Alharbi et al., 2020). That is why exercise and fun activities could lower the burnout rates (Alharbi et al., 2020).

Other suggestions include reducing working hours, and practicing certain strategies designed to cope with stress (Alharbi et al., 2020).

There is evidence of reduced burnout rates in Jordan (Alshorman et al., 2024), and only a few studies focused on the prevalence of burnout among pharmacists in Jordan, creating a gap in the literature (Al Khalidi and Wazaify 2013; Algunmeeyn et al. 2020). The aim of this research is to determine the prevalence of burnout among pharmacists in the King Abdullah University Hospital in Jordan and to detect factors that might be associated with increased levels of burnout.

A qualitative interview-based study is conducted in Jordan and included 30 healthcare workers 10 of them were pharmacists to identify factors related to burnout during the COVID-19 pandemic, the study showed that work-related stress, limited resources, and fear of COVID-19 infection were the main contributors (Algunmeeyn et al. 2020).

Another cross-sectional study that was conducted in the USA and included 193 pharmacists working in critical care, showing that 64% of them had high levels of burnout (Ball et al., 2020).

A survey-based study also found high levels of burnout among pharmacists working within the hematology oncology association (Golbach et al., 2024).

On the other hand, a cross-sectional study that included 850 pharmacists in Qatar at the Hamad Medical Corporation (HMC) showed a low prevalence of burnout among pharmacists (Eltorki et al., 2022).

2 Methods

2.1 Study design, sitting, and duration

This descriptive cross-sectional study was carried out in the King Abdullah University Hospital in Jordan. Data were collected between May 8, 2024 and June 8, 2024.

2.2 Inclusion criteria

All pharmacists working in both in-patient sections and out-patient pharmacies were included.

2.3 Exclusion criteria

At the end of the data collection period, all incomplete answers were excluded.

2.4 Sample size and sampling technique

A non-probability consecutive sampling method was used, and the total sample size was 42 participants.

2.5 Data collection tool

The questionnaire was prepared using Google form, and subsequently distributed to pharmacists after taking their consent to participate. We kept in contact with participants by adding them to a WhatsApp group in case they wanted to update their answers. The questionnaire composed of 3 sections: The first section is the demographic section which contains questions about the following items: Age, gender, marital status, having

children, number of years working in pharmacy, number of working hours, number of night shift, satisfaction of income, and sleeping hours.

The second section is based on the Maslach Burnout Inventory (MBI) for Healthcare Workers, which is the most commonly used scale for burnout and is composed of 22 questions (Alharbi et al., 2020). It is subdivided into 3 scales one of them estimates emotional exhaustion, one of them evaluates depersonalization, and the final one is relates to personal accomplishment (Alharbi et al., 2020). Each question within these sections is scaled from 0 to 6 where 0 means never and 6 equals every day. For emotional exhaustion, a score of 30 is considered high, 18 to 29 is moderate, and 17 or below is low. For depersonalization, a score of 12 is considered high, 6 to 11 is moderate, and 5 or below is low. For personal accomplishment, a score of 40 is considered high, 34 to 39 is moderate, and 33 or below is low (Maslach and Jackson, 1981).

2.6 Data analysis

Data were analyzed using the SPSS software. Descriptive data were presented as frequencies and percentages. ANOVA was used to assess the relation between demographic data and the level of burnout (Low, moderate, high) with a significance level of $\alpha=0.05$. Also, chi-square was used to

analyse the variation in demographics characteristics using Minitab v 18.0. Data have been visualized when available using R v 4.4.0.

2.7 Ethical consideration

Consent was obtained from every participant was taken before including them in the study. They had the right to withdraw from the study at any time during the data collection period. Their personal information was kept confidential and not used for publication.

3 Results

3.1 Demographic data

The total number of pharmacists working in both in-patient sections and out-patient pharmacies who filled out the questionnaire was 42. Their mean age was 34.5, and they were mostly female. Most of them worked more than 40 hours a week, slept less than six hours a night, and had more than 5 night shifts a month. However, most of them said that they were satisfied with their salaries. The participant varied in their demographic characteristics significantly ($P < 0.05$) which is mean more diverse population sample except for age classes ($P > 0.05$). The demographic data are summarized in Table 1 & Fig. 1.

Table 1: Demographic data

Demographic variables	Classification	Frequency(n)	Percent (%)	χ^2	P-value
Age	20-30	16	38.1	5.57143	0.062
	31-40	19	45.2		
	41 and above	7	16.7		
Gender	Male	9	21.4	13.7143	< 0.001
	Female	33	78.6		
Marital status	Single	5	11.9	48.8571	< 0.001
	Married	30	71.4		
	Divorced	5	11.9		
	Widowed	2	4.8		
Do you have any children	No	8	19	16.0952	< 0.001
	Yes	34	81		
How many years have you been working in pharmacy?	5 years or less	6	14.3	21.4286	< 0.001
	more than 5 years	36	85.7		
How many hours do you work a week?	40 or less	4	9.5	24.5238	< 0.001
	more than 40	38	90.5		
Are you satisfied with your income?	No	3	7.1	30.8571	< 0.001
	Yes	39	92.9		
How many night shifts do you have a month?	5 days or less	7	16.7	18.6667	< 0.001
	more than 5 days	35	83.3		
How many hours do you sleep every day?	6 or less	28	66.7	4.6667	< 0.01
	more than 6.	14	33.3		

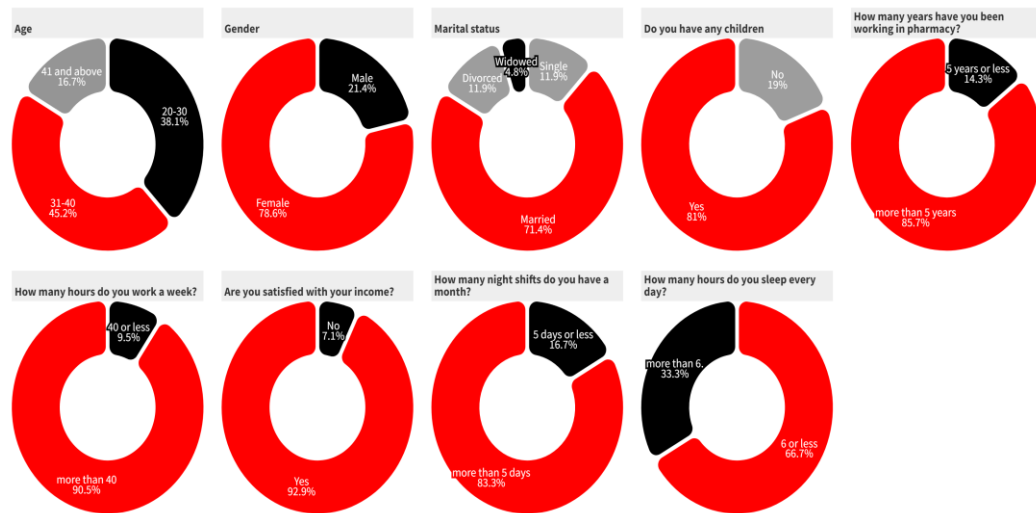


Fig.1: Demographic characteristics of participant

3.2 Levels of burnout

Our results indicate that the levels of burnout are high. The frequencies and percentage of the

answers to each question are mentioned in detail in Table 2 & Fig. 2.

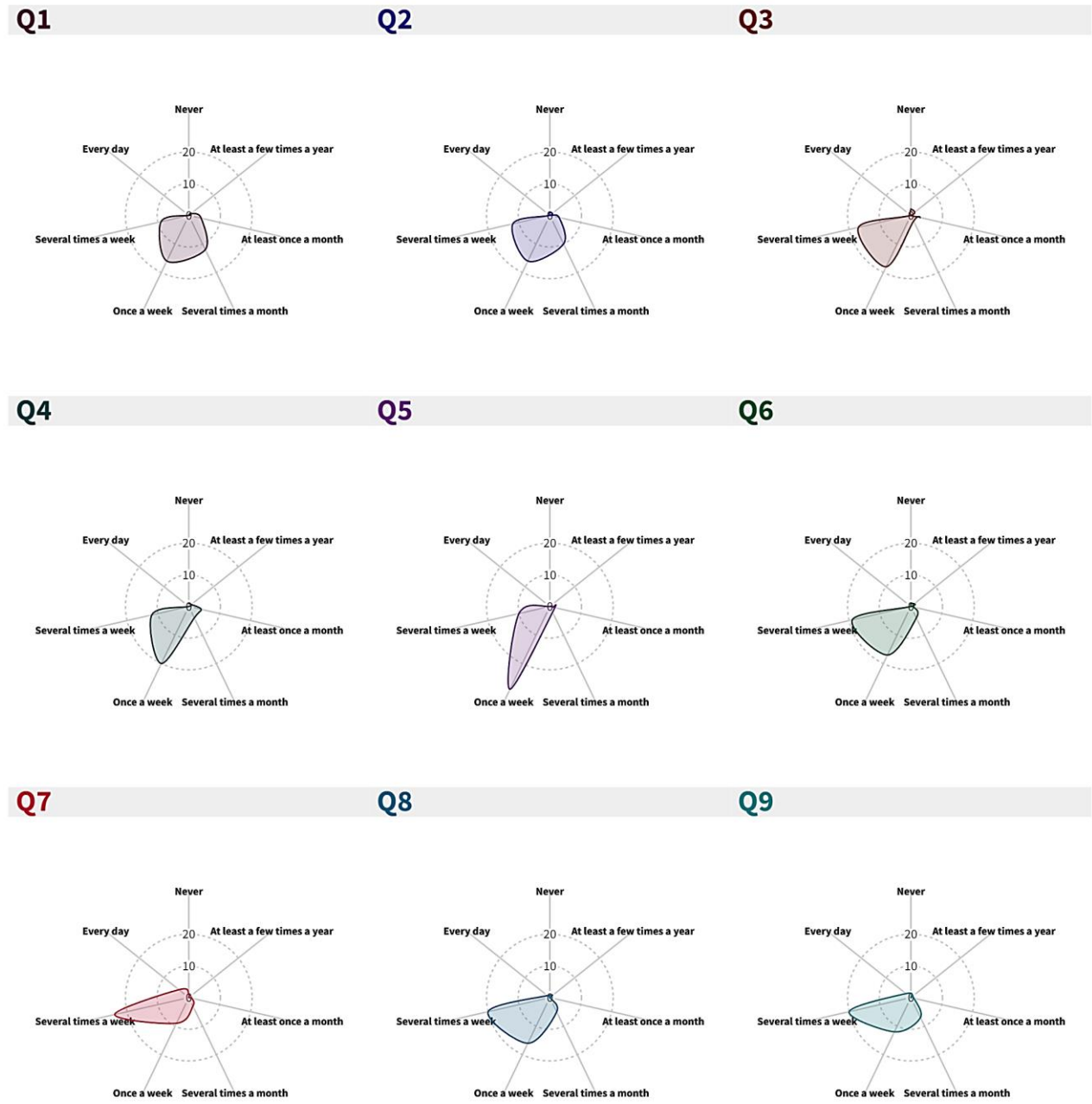
Table 2: Levels of burnout

No.	item	Never N (%)	At least a few times a year N (%)	At least once a month N (%)	Several times a month N (%)	Once a week N (%)	Several times a week N (%)	Every day N (%)
emotional exhaustion								
Q1	I feel emotionally drained from my work	0	1(2.4)	4(9.5)	12(28.6)	16(38.1)	9(21.4)	0
Q2	I feel used up at the end of a workday	1(2.4)	0	3(7.1)	10(23.8)	16(38.1)	12(28.6)	0
Q3	I feel fatigued when I get up in the morning and have to face another day on the job	2(4.8)	0	3(7.1)	2(4.8)	18(42.9)	17(40.5)	0
Q4	I feel like I am at the end of my rope	1(2.4)	1(2.4)	4(9.5)	4(9.5)	20(47.6)	12(28.6)	0
Q5	I feel I am working too hard on my job	0	0	1(2.4)	2(4.8)	29(69)	10(23.8)	0
Q6	I feel frustrated by my job	1(2.4)	0	1(2.4)	4(9.5)	17(40.5)	19(45.2)	0
Q7	Working with people all day is really a strain for me	1(2.4)	0	1(2.4)	3(7.1)	9(21.4)	24(57.1)	4(9.5)
Q8	Working with people directly puts	0	0	0	5(11.9)	16(38.1)	20(47.6)	1(2.4)

Q9	too much stress on me							
	I feel burned out from my work	0	0	1(2.4)	7(16.7)	12(28.6)	20(47.6)	2(4.8)
evaluates depersonalization								
Q10	I have become more callous toward people since I took this job	1(2.4)	9(21.4)	12(28.6)	4(9.5)	5(11.9)	11(26.2)	0
Q11	I feel I treat some patients as if they were impersonal objects	5(11.9)	9(21.4)	6(14.3)	3(7.1)	11(26.2)	8(19)	0
Q12	I feel patients blame me for some of their problems	3(7.1)	8(19)	6(14.3)	6(14.3)	11(26.2)	7(16.7)	1(2.4)
Q13	I worry that this job is hardening me emotionally	5(11.9)	4(9.5)	10(23.8)	6(14.3)	11(26.2)	6(14.3)	0
Q14	I do not really care to what happens to some patients	1(2.4)	3(7.1)	8(19)	2(4.8)	8(19)	20(47.6)	0
personal accomplishment								
Q15	I can easily create a relaxed atmosphere with my patients	1(2.4)	1(2.4)	2(4.8)	11(26.2)	0	27(64.3)	0
Q16	I feel exhilarated after working closely with my patients	2(4.8)	1(2.4)	0	2(4.8)	9(21.4)	27(64.3)	1(2.4)
Q17	I have accomplished many worthwhile things in this job	1(2.4)	0	3(7.1)	7(16.7)	9(21.4)	22(52.4)	0
Q18	In my work, I deal with emotional problems very calmly	1(2.4)	2(4.8)	4(9.5)	6(14.3)	8(19)	18(42.9)	3(7.1)
Q19	I can easily understand how my patients feel about things	1(2.4)	2(4.8)	5(11.9)	3(7.1)	7(16.7)	22(52.4)	2(4.8)
Q20	I deal very effectively with the problems of my patients	0	2(4.8)	4(9.5)	5(11.9)	7(16.7)	19(45.2)	5(11.9)

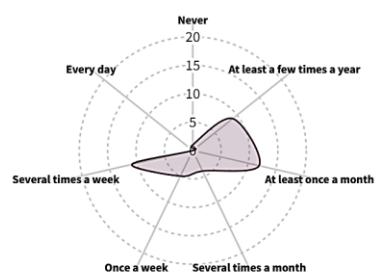
Q21	I feel I am positively influencing other people's lives through my work	0	1(2.4)	4(9.5)	8(19)	10(23.8)	19(45.2)	0
Q22	I feel very energetic	0	1(2.4)	2(4.8)	4(9.5)	11(26.2)	18(42.9)	6(14.3)
	Total	27(2.92)	45(4.87)	84(9.09)	116(12.55)	260(28.14)	367(39.72)	25(2.71)

3.2.1 Emotional exhaustion



3.2.2 Evaluates depersonalization

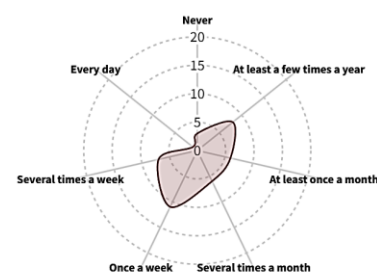
Q10



Q11



Q12



Q13



Q14



3.2.3 Personal accomplishment

Q15



Q16



Q17



Q18



Q19



Q20



Q21



Q22



3.3 Correlation between demographic characteristics and burnout subscales

Our results show that $P\text{-value} < 0.05$ for correlations between marital status and burnout subscales, having children and burnout subscales, number of hours worked per week and burnout subscales, satisfaction with income and burnout subscales,

and number of sleeping hours and burnout subscales, indicating that there is a significant association between these variables and burnout subscales. Conversely, $P\text{-value} > 0.05$ for correlations between age and burnout subscales,

gender and burnout subscales, number of years working in a pharmacy and burnout subscales, and number of night shifts and burnout subscales,

indicating no significant association between these variables and burnout subscales. These results are indicated in Table 3.

Table 3: Correlation between demographic characteristics and burnout subscales

	Age	Gender	Marital status	Do you have any children	How many years have you been working in pharmacy?	How many hours do you work a week?	Are you satisfied with your income?	How many night shifts do you have a month?	How many hours do you sleep every day?	burnout subscales
Age	1									
Gender	.450** (.003)	1								
Marital status	.164 (.300)	.265 (.090)	1							
Do you have any children	.139 (.382)	.486** (.001)	.381* (.013)	1						
How many years have you been working in pharmacy?	.262 (.094)	.284 (.068)	.289 (.063)	.149 (.348)	1					
How many hours do you work a week?	-.004- (.982)	-.169- (.283)	-.114- (.474)	-.157- (.320)	-.132- (.403)	1				
Are you satisfied with your income?	-.327- * (.034)	.080 (.612)	.029 (.856)	.336* (.029)	.151 (.340)	-.090- (.571)	1			
How many night shifts do you have a month?	.146 (.356)	.389* (.011)	-.070- (.661)	.108 (.494)	.365* (.017)	-.145- (.359)	.124 (.434)	1		
How many hours do you sleep every day?	.145 (.360)	.123 (.437)	.037 (.818)	.086 (.589)	.000 (1.000)	.057 (.718)	.000 (1.000)	.316* (.041)	1	
burnout subscales	.025 (.877)	.291 (.062)	.367* (.050)	.459* (.022)	.124 (.434)	.543* (.045)	.240* (.032)	-.050- (.752)	.321* (.046)	1

4 Discussion

In order to better understand the prevalence of burnout and its predictors among pharmacists working in both in-patient sections and out-patient pharmacies, the current study was conducted.

In this study three dimensions of burnout level were measured that include; emotional exhaustion, depersonalization and Personal accomplishment. Since, emotional exhaustion had the highest level of burnout among pharmacists. this result in line with (Orton et al.,2012) who conducted a study of "Depersonalised doctors: a cross-sectional study in

UK general practice" and found that; there was a high level of emotional exhaustion (46%) and followed by depersonalisation (42%) and low levels of personal accomplishment (34%) were reported. Whereas in the study of (Subramaniam et al.,2022) Entitled "The Prevalence of Burnout and Its Predictors among Pharmacists Working in Government Hospitals in Selangor" showed that the prevalence of burnout among pharmacist which was reported as 52.9% (Personal), 66.0% (Work-related) and 47.1% (Client-related).

Our results show high levels of burnout. Similarly, a cross-sectional study was conducted in Saudi Arabia during additional stressful atmosphere which was the COVID-19 pandemic and entitled "Cross-sectional study to evaluate burnout among pharmacy staff in Saudi Arabia during COVID-19 pandemic" and showed that as high as 60% of the participants had considerably high levels of burnout (Aljuffail et al., 2022).

The current study found that a number of characteristics include; marital status, having children, number of hours worked per week, satisfaction with income, and number of sleeping hours, indicating that there was a significant positive correlation between these variables and burnout subscales and were linked to high levels of burnout among pharmacists.

In terms of marital status and children number, similar study conducted by (Subramaniam et al., 2022). and found that compared to single pharmacists, married pharmacists had a higher rate of burnout. And, a similar finding was made in a study of hospital pharmacists in the United States, wherein those who were married or in a committed relationship were identified as burned out (Jones et al., 2017).

To build a solid marital institution and the link between parents and children, marriage demands responsibility, commitment, and a great deal of emotional attachment. (Arbae et al., 2019). Whereas, in the study of (Alharbi et al., 2020), which entitled "Prevalence of burnout among hospital pharmacists at National Guard Hospital in Riyadh, Saudi Arabia" and revealed that single pharmacists were prone to have a higher level of burnout. It was due to social pressure, feeling lonely and also having the perception that the families will see them with remorse if they are unmarried and consequently scorn their work-related achievements.

Regarding number of hours worked per week, this result was in line with (Kang et al 2020) who conducted a study "Evaluation of burnout among hospital and health-system pharmacists in North Carolina" and stated that working longer hours per week was significantly correlated with burnout. Another study also, (Subramaniam et al., 2022) reported similar outcome.

This result was inconsistent with Durham et al. (2018) in study entitled "Evidence of burnout in health-system pharmacists" and reported that there was an inverse correlation between working time and burnout since pharmacists working for less time were more exposed to burnout.

According to our results, there was no association between age, gender, number of years working in pharmacy, number of night shifts and burnout levels. This study consistent with a study by Calgan et al. (2011) entitled "Community pharmacists' burnout levels and related factors: an example from Turkey.", and stated that; gender and burnout did not significantly correlate.

While the study was inconsistent with Alharbi and colleagues' study and stated that there was a statistically significant inverse correlation between both of emotional exhaustion and depersonalization with age (Alharbi et al., 2020), and a cross-sectional study by Eltorki and colleague, entitled "Burnout among pharmacy professionals in Qatar:" showed an association between working hours and burnout (Eltorki et al., 2022).

The study entitled "Evaluation of burnout in a national sample of hematology-oncology pharmacists." Conducted by (Golbach et al., 2024). which focused on the rates of burnout among hematology/oncology pharmacists revealed that pharmacy professionals who were older, and had more job hours were more likely to suffer from high rates of burnout. Also, in study of (Aljuffail et al., 2022). stated that; Many factors were identified to be associated with high burnout levels among pharmacists and include age, gender, practice site, working culture, years of experience.

Numerous ideas and suggestions have been made to address this by various studies. Interventions have shown that organizational change might have a more substantial effect, and a number of organizations have provided organization-focused methods for enhancing workplace well-being. Since, a state of trust and power may be maintained by taking steps such as having consistent procedures for all possible scenarios, practical staff preparedness for security precautions, and adequate use of protective equipment, all of which can significantly reduce stress. (Dimitriu et al. 2020). Telemedicine has been suggested by another study as a way to preserve the wellbeing of healthcare providers (Moazzami et al. 2020).

The findings of this study can help future researchers investigate the specific factors associated with burnout among pharmacists in other fields of employment and other healthcare professions. This study highlights how critical it is for pharmacists and other medical professionals to understand the elements of burnout that could have an impact on their health at work.

Several restrictions applied to this investigation. The study is cross-sectional, thus general conclusions about causal links are not possible. It is also possible to regard the study sample as representative of the pharmacists engaged in both in-patient and out-patient pharmacies due to the wide range of demographic traits, lifestyles, and working conditions that this group possesses.

5 Conclusion

There is a high prevalence of burnout among hospital pharmacists in Jordan. It was also shown that burnout is associated with many modifiable factors that include: marital status, having children, number of hours worked per week, satisfaction with income, and number of sleeping hours. Thus, measures could be taken to reduce the levels of this challenging phenomenon. The management and administration have to take telemedicine and methods to achieve a state of trust and authority into consideration as solutions. Additional investigation is required to find alternative remedies to address the rising incidence of burnout among pharmacists.

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