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Prevalence of Work-Related Stress and its Associated Factors among Nursing Staff in King Abdallah Complex at Jeddah City

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aim: This study aims to assess the prevalence of work-related stress and its impact on nurses' work performance at King Abdullah Complex in Jeddah City**.**
Methods: A cross-sectional- study was conducted using a previously validated questionnaire distributed among nursing staff at King Abdullah Complex in Jeddah City.
Duration of the Study: This study was conducted for some time from September 2022 until August 2023.

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Results: From a total of 263 nursing participants, the study findings reported that the prevalence of Work-related stress among nursing staff in the King Abdallah Complex at Jeddah City was 63.7% and most of the nurses feel that their job negatively impacts their physical or emotional health. Many nurses expressed that they have insufficient recognition or rewards for good performance at work.

Conclusion: The findings of the study indicate that work-related stress is a pervasive concern among the nursing staff employed at King Abdullah Complex. A considerable percentage of nursing workers have reported encountering different levels of stress within their everyday work settings.

Keywords: Work motivation; job performance; healthcare providers; Jeddah; Saudi Arabia.

1. INTRODUCTION

The healthcare industry is often acknowledged as being among the most challenging sectors in terms of the level of professional dedication and emotional fortitude required [1]. Nurses, being integral to the provision of healthcare services, bear substantial duties, frequently managing intricate medical scenarios and emotionally charged circumstances [2] Within this particular setting, the issue of work-related stress has become a significant and pressing topic that has a widespread impact on nursing personnel across the globe. Hashish et al. [3] conducted the study. The increasing attention towards the incidence of work-related stress among nurses stems from its possible implications for healthcare professionals and patient care [4]. Nevertheless, it is imperative to do a more thorough analysis of the stressors encountered by nursing practitioners and their impact on job satisfaction, mental well-being, and patient outcomes, given the challenging nature of nursing positions within the intricate healthcare landscape [5]. The prevalence of work-related stress among nursing personnel has emerged as a pressing concern, exerting detrimental effects on both the psychological and physiological well-being of nurses, as well as compromising the calibre of patient care they deliver. Extended exposure to stress has the potential to result in burnout, diminished job satisfaction, and attrition in the nursing profession [6]. In a healthcare facility such as the King Abdullah Complex, where the primary focus is on providing exceptional patient care, the management of work-related stress is not solely a concern for the well-being of nurses, but also crucial for upholding a superior level of healthcare provision Salilih and Abajobir [7] According to the study conducted by Qedair et al [8].

The issue of work-related stress is a significant concern within the nursing profession, as evidenced by many studies reporting prevalence rates that range from 30% to 80%. This issue is of concern because of the potential adverse effects of work-related stress on the physical and emotional well-being of nurses, as well as their professional performance and the quality of care provided to patients. Several studies have been undertaken to ascertain the prevalence of occupational stress among nurses and the factors associated with it. The subsequent investigations, all of which were carried out within the confines of Saudi Arabia, offer significant contributions to the understanding of this subject matter.

Prior research has been undertaken to examine the factors that contribute to work-related stress among nurses and other healthcare professionals in the healthcare sector. For instance, Almhdawi et al. (2021) conducted a study to determine the prevalence of work-related musculoskeletal disorders (WMSDs) in the upper quadrants and identify the factors that predict their occurrence among registered nurses. The research revealed that the occurrence of work-related musculoskeletal disorders (WMSDs) was determined to be 80.9%. The primary factors identified as significant predictors of WMSDs were excessive workload, extended duration of work hours, and suboptimal working postures. The study conducted by Alshanberi (2021) aimed to evaluate the occurrence of work-related muscular and skeletal disorders (MSDs) within the population of surgeons and nurses in Saudi Arabia. The research conducted revealed that the occurrence of musculoskeletal disorders (MSD) was 79%. The primary factors identified as significant predictors of MSD were excessive workload, extended working hours, and repetitive motions. In their study, Alos, Hashish, et al. [3] investigated the factors influencing the quality of shift handover in critical care units in Saudi Arabia, specifically from the perspective of nurses. The research discovered a noteworthy

inverse relationship between work-related stress experienced by nurses and the quality of shift handovers. This finding aligns with the findings of Khotany et al. [9] who investigated the influence of caring for psychiatric patients on nurses' conduct in Saudi Arabia. The research revealed that nurses who provided care for psychiatric patients encountered elevated levels of work-related stress, subsequently resulting in heightened negative behaviours, including absenteeism and turnover, The study conducted by Qedair et al. [8] aimed to examine the prevalence of burnout among nurses in Jeddah, as well as identify the factors linked with this phenomenon. The research conducted revealed that the incidence of burnout was 44.8%. The primary contributing factors identified were excessive workload, staff scarcity, and gender, with females being particularly affected. In a separate study, Shaikh et al. [10] examined the prevalence and risk factors related to musculoskeletal illnesses among healthcare professionals in the Arab World. The research revealed that the occurrence of musculoskeletal disorders (MSDs) was recorded at a rate of 40.7%. The primary contributing causes to these disorders were identified as excessive workload, extended periods of labour, and unfavourable ergonomic positions during employment. The aforementioned research presents compelling data indicating that work-related stress is a prevalent issue among nurses in Saudi Arabia. Moreover, this stress is linked with several adverse outcomes, such as work-related musculoskeletal disorders (WMSDs), musculoskeletal disorders (MSDs), diminished quality of shift handovers, heightened negative behaviours, and burnout.

This study is significant in various aspects. Firstly, this study contributes to the current literature by providing insights into the unique issues encountered by nursing personnel within a complex healthcare setting such as the King Abdullah Complex. Additionally, this study provides significant perspectives on the occurrence and factors associated with work-related stress, thereby equipping hospital administrators with the necessary knowledge to make well-informed choices and implement appropriate interventions. This research aims to examine the possible impact of emotional intelligence on mitigating factors, specifically fostering emotional well-being among nursing staff. The findings of this study may offer practical techniques that may be used to enhance emotional well-being inside healthcare organizations, hence having larger implications for the field. Therefore, this study aims to assess the prevalence of work-related stress with its factors affecting nurses' work performance among nursing staff at King Abdullah Complex in Jeddah City.

2. METHODOLOGY

2.1 Study Design

This research employed descriptive research using a cross-sectional study design by setting an online questionnaire form.

2.2 Study Duration

This study was conducted for one year starting from September 2022 till August 2023.

2.3 Study Setting

The study was conducted in the King Abdullah Complex in Jeddah City.

2.4 Sample Size

The sample size for this study was determined to be 263 nursing staff members after determining the total population size which was 830 patients, $z = 1.96$ at a 5% level of significance, and the estimated proportion was 0.5, The margin of error (d) was 5%.

2.5 Target Population

A random sampling technique was used among the target population for this study was a sample of registered nurses in the study selected setting to be the main sample population for conducting this study with an inclusion Criteria which were all nursing participants who are employed as registered nursing staff at King Abdullah Complex, Jeddah City with medically free status and willing to participate in this study while the exclusion Criteria was nurses who do not hold nursing positions or are not directly involved in patient care, such as administrative staff or non-clinical personnel, are excluded from the study, nurses who are absent during the study conducting, and all other medical staff rather than nurses.

Table 1. The internal consistency of the first axe "Work-related stress"

Item number	Pearson Correlation	Item Number	Pearson Correlation
1	0.834**	5	0.828**
2	0.886**	6	0.889**
3	0.852**	7	0.826**
4	0.878**	8	0.870**

*** correlation is significant at α = 0.01 or less While the reliability of this study by measuring Cronbach's alpha showed that Cronbach's Alpha was 0.948. These findings indicate that the study's tool, the questionnaire, exhibited high reliability*

2.6 Study Variables

The following variables will be measured in this study:

- **Dependent Variable:** Prevalence of Work-Related Stress.
- **Independent Variable:** Factors Associated with Work-Related Stress.

2.7 Research Instrument

This study employed a structured questionnaire previously set by Alrashidi et al. (2022), this tool measures work-related stress by work stress assessment tool with main 5 choices according to the level of stress recorded by nurses, a 5-Likert scale was used to assess the score of this tool.

2.8 Validity and Reliability

The study reliability was measured according to internal consistency measuring using Pearson correlation (Table 1), to find that the total score of the axe is statistically significant at a significance level of 0.01. Additionally, all of these coefficients have positive values. This indicates a high level of internal consistency and a strong relationship between the axe and its items, thus demonstrating the overall validity of the items in the axe.

2.9 Data Collection

After obtaining IRB approval from the university and getting another approval from King Abdullah Complex in Jeddah City board, the questionnaires were distributed to nurses after getting their consent to participate, after 6 weeks of questionnaire administration, the data was collected, analyzed, on an Excel sheet and be ready for statistical analysis.

2.10 Statistical Analysis

An SPSS (version 25) was used to determine the descriptive statistics such as mean, standard deviations, frequencies, and percentages, in addition to inferential statistics of ANOVA and independent sample t-test.

3. RESULTS AND DISCUSSION

3.1 Demographic Data

This study involved a total of 263 nurses participated in this study with different demographic characteristics,

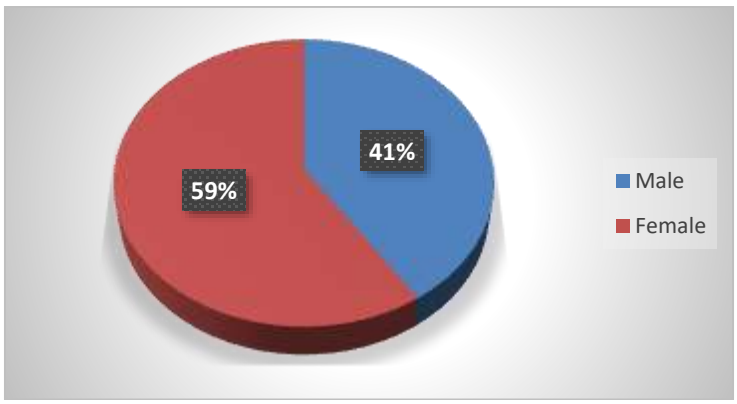

Fig. 1. The gender distribution among this study's participants

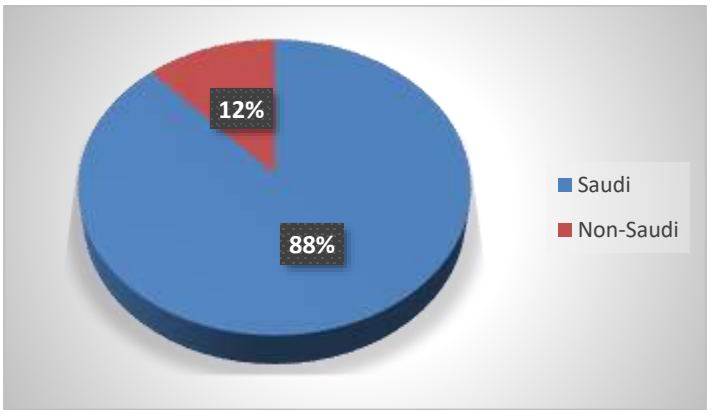

Fig. 2. The nationality distribution among this study's participants

Table 2. The demographic characteristics of this study participants (n=263)

Variables	Categories	N	%
Age	Less than 25 years	16	6.1
	From 25 to 35 years	100	38
	From 36 to 45 years	120	45.6
	More than 45 years	27	10.3
Gender	Male	107	40.7
	Female	156	59.3
Nationality	Saudi	232	88.2
	Non-Saudi	31	11.8
Marital status	Single	65	24.7
	Married	137	52.1
	Divorced	45	17.1
	Widow	16	6.1
Work experience	From 6 months to 2 years	32	12.2
	From 2 to 5 years	54	20.5
	From 5 to 10 years	101	38.4
	More than 10 years	76	28.9
Qualification	Diploma	79	30
	Bachelor degree	130	49.4
	Master degree	50	19
	PhD degree	4	1.5
Work hours	8 Hours	125	47.5
	12 Hours	138	52.5
Department	Nursing office	23	8.7
	Outpatient	45	17.1
	Dialysis/Surgical/Medical ward	50	19
	ER / CR / ICU	49	18.6
	Primary health centres	44	16.7
	Others	52	19.8

As shown in the previous table and figures, there were 263 nurses. Of these, 45.6% were aged from 36 to 45 years, 38% from 25 to 35 years, 10.3% were over 45 years, and 6.1% were under 25 years. The majority (59.3%) were female, and 40.7% were male. Most of them (88.2%) were Saudi, and 11.8% were non-Saudi. Regarding marital status, the majority (52.1%) were married, 24.7% were single, 17.1% were divorced, and 6.1% were widowed.

In terms of work experience, 38.4% had 5 to 10 years of experience, 28.9% had more than 10 years, 20.5% had 2 to 5 years, and 12.2% had 6

months to 2 years. Concerning qualifications, the majority (49.4%) had a bachelor's degree, 30% had a diploma, 19% had a master's degree, and 1.5% had a Ph.D. Regarding work hours, 52.5% worked 12 hours, 47.5% worked 8 hours in the departmental distribution, 19% worked in dialysis/surgical/medical wards, 18.6% in ER/CR/ICU, 17.1% in the outpatient clinic, 16.7% in primary health centres, 8.7% in the nursing office, and 19.8% in other departments

As shown, the prevalence of Work-related stress among nursing staff in the King Abdallah Complex at Jeddah City was 63.7% with mean sum score 20.39, the highest stress item was (I feel that my job negatively impacts my physical or emotional health.) with mean score 2.67, followed by (I feel that work pressures interfere with my family or personal life) with mean score 2.66, followed by (I have a lot of work to do or unreasonable deadlines)with mean score 2.63, followed by (The working conditions are unsatisfactory or sometimes unsafe) with mean score 2.62, followed by (I find it difficult to express my opinions or feelings about my work conditions to my superiors) with mean 2.55, followed by (I receive insufficient recognition or rewards for good performance at work.) with men score 2.46, followed by (I feel that I don't have enough control or sufficient contribution to my job duties) with mean score 2.42, followed by (I cannot fully leverage my skills and talents in the workplace) with mean score 2.37.

3.2 The correlations between Demographic Variables and Work Stress-Related Factors

The following Table 4 summarizes the main relationship between this study variable and the work-related stress factors among these nurses,

As indicated, there is a significant difference in work-related stress levels was observed concerning work hours ($t = -6.173$, P-value < 0.001). Those working 12-hour shifts experienced higher work-related stress compared to those working 8-hour shifts. However, no significant differences were found concerning other factors, including age, gender, nationality, marital status, experience, qualification, and department.

3.3 Discussion

This study aimed to to assess the prevalence of work-related stress with its factors affecting nurses' work performance among nursing staff at King Abdullah Complex in Jeddah City.

In this study, from a total 263 nurses participants with a majority female gender and Saudi Arabia nationality, as reported previously that most of the nurses in KSA are females [11] it was observed that the prevalence of Work-related stress among nursing staff in the King Abdallah Complex at Jeddah City was 63.7%, it is in contrast to Tsegaw et al. [12] study, who found that the prevalence of work-related stress among nurses was 48.4%, with a slightly higher rate of 51.6% observed in public hospitals compared to 46.4% in private hospitals to conclude that the prevalence of work-related stress among nurses in Dessie city was almost 50%. In contrast, there is a higher prevalence of work-related stress among nurses employed in public hospitals compared to those in private hospitals. The drivers of work-related stress in public and private hospitals included factors such as sex, job position, work experience, and institutional type. Therefore, it is imperative to implement strategies such as workload reduction and stress management training to mitigate work-related stress among nurses, which agrees with Vernekar and Shah [13] study, which reported a moderate level of distress reported by 59.3% of nurses.

Most nurses feel that their job negatively impacts their physical or emotional health, agreed with Abdelaal et al. [14] who reported that nurses experienced occupational stress as a result of the demands associated with the expression and management of emotions when confronted with challenging circumstances within their professional environment.

Many nurses experienced that they have insufficient recognition or rewards for good performance at work, This is in agreement with Alahiane et al [15] who reported that the results revealed noteworthy associations between recognition from superiors and three variables: gender, mental health specialism, and normal work schedule. The regression coefficients (β) for these associations were as follows: $\beta=-5.71$ (-9.39, -2.03) for gender, $\beta=-5.96$ (-11.17, -0.75) for mental health specialisation, and $\beta=-4.04$ (-7.23, -0.85) for normal work schedule. One of the reasons for work stress among this study participants is that nurses saw that the working conditions were unsatisfactory or sometimes unsafe, This is consistent with

Ojekou and Dorothy (2015) study, which reported that there is a noteworthy correlation between the work atmosphere, stress levels, and burnout experienced by nurses within the chosen unit.

Table 3. Total responses of participants about Work-related stress

No	Items	Mean	SD
1	The working conditions are unsatisfactory or sometimes unsafe.	2.62	1.05
2	I feel that my job negatively impacts my physical and emotional health.	2.67	1.13
3	I have a lot of work to do or unreasonable deadlines.	2.63	1.07
4	I find it difficult to express my opinions or feelings about my work conditions to my superiors.	2.55	1.15
5	I feel that work pressures interfere with my family or personal life.	2.66	1.15
6	I feel that I don't have enough control or sufficient contribution to my job duties.	2.42	1.19
7	I receive insufficient recognition or rewards for good performance at work.	2.46	1.33
8	I cannot fully leverage my skills and talents in the workplace	2.37	1.28
	Total	20.39 (63.7%)	8.01

Table 4. The total factors associated with work-related stress

	Variables	Categories	Mean	Statistics	P-value
1	Age	Less than 25 years	20.69	0.112	0.953
		From 25 to 35 years	20.71		
		From 36 to 45 years	20.18		
		More than 45 years	19.96		
2	Gender	Male	19.67	-1.150	0.252
		Female	20.88		
3	Nationality	Saudi	20.72	1.825	0.069
		Non-Saudi	17.94		
4	Marital status	Single	21.71	1.371	0.252
		Married	19.78		
		Divorced	19.6		
		Widow	22.5		
5	Work experience	From 6 months to 2 years	19.69	1.042	0.375
		From 2 to 5 years	22.02		
		From 5 to 10 years	20.3		
		More than 10 years	19.66		
6	Qualification	Diploma	22.18	2.041	0.108
		Bachelor degree	19.86		
		Master degree	18.98		
		PhD degree	20		
7	Work hours	8 Hours	17.39	-6.173	<0.001
		12 Hours	23.11		
8	Department	Nursing office	18.61	1.174	0.323
		Outpatient	20.87		
		Dialysis/Surgical/Medical ward	22.08		
		ER / CR / ICU	20.51		
		Primary health centres	20.75		
		Others	18.73		

This study showed that there is a significant difference in work-related stress levels was observed concerning work hours ($P < 0.001$), it is in contrast to Abdoh et al. [16] study, which found that a total of 30% of the participants had high levels of stress, categorized as either severe or extremely severe. The results of the study indicate a strong association between stress and the prevalence of chronic diseases ($P = 0.037$), as well as stress and working night shifts ($P = 0.042$). There was a substantial positive association ($P < 0.01$) between all causes of job stress and stress levels, it is in agreement with Aserri et al. (2021) study, when nurses reported the highest mean score, indicating increased levels of stress, in response to the following stress factors: working diligently (mean score of 4.3 ± 0.9), being subjected to pressure to work extended hours (mean score of 4.2 ± 0.9), and perceiving insufficient and unrealistic opportunities for professional engagement (mean score of 4.2 ± 1.0). The results of the study revealed a statistically significant correlation between the stress levels of nurses and their individual and job-related attributes ($P = 0.001$.

3.4 Implications on Nursing Practice

This study has a wide and crucial implication on practice to keep the nursing profession under the scope of all authorities to use some modification in their work strategies to decrease their work stress-related factors. In addition, it provides more solutions to reorganize the nursing profession and then improve the quality of work with less stress.

4. CONCLUSION

The study conducted at the King Abdallah Complex in Jeddah City revealed that work-related stress was found to be prevalent among nursing staff, with a prevalence rate of 63.7%. The mean sum score for work-related stress was moderate (20.39). A notable disparity was observed in the levels of work-related stress concerning work hours. Individuals who are engaged in 12-hour shifts tend to encounter elevated levels of work-related stress in comparison to their counterparts who are involved in 8-hour shifts. The present study's results provide insights into the frequency of work-related stress and the factors linked to it among nursing personnel at King Abdullah Complex in Jeddah City. The objective of this study was to offer significant insights into the difficulties encountered by nursing professionals and to identify potential opportunities for intervention and enhancement within the healthcare organization. The findings of the study indicate that work-related stress is a pervasive concern among the nursing staff employed at King Abdullah Complex. A considerable percentage of nursing workers have reported encountering different levels of stress within their everyday work settings. The aforementioned prevalence underscores the significance of addressing work-related stress as a crucial issue impacting the nursing industry. This study highlights the importance of acknowledging and tackling work-related stress as a complex problem that affects the welfare of nursing personnel and, consequently, the standard of healthcare provision. The findings present a compelling argument for King Abdullah Complex and other healthcare institutions to allocate resources towards comprehensive approaches that prioritize the psychological and emotional well-being of their nursing staff. This research is a valuable contribution to the existing literature on job-related stress in healthcare settings, extending our understanding beyond the scope of individual organizations. By offering insights into this topic, it has the potential to inform the development of policies and best practices that might enhance the work conditions of nursing professionals. The study's findings have the potential to empower nurses and healthcare leaders in developing healthier, more resilient, and ultimately more successful healthcare systems, while the healthcare environment undergoes ongoing changes.

CONSENT

As per international standards or university standards, participants' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

Throughout this study, we adhered to all applicable ethical guidelines for human subjects research. The research obtained an IRB approval number A01762 all study participants' anonymity was kept and approval consent was obtained from participants to participate in this study after getting approval from the King Abdullah Complex in Jeddah City ethical committee.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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