International Research Journal of Pharmacy and Medical Sciences
ISSN (Online): 2581-3277

The Influence of Work Hour Duration on Burnout in Nurses

Dr. Majella Livingston Alber B.Sc RN.RM., M.Sc (N)., MBA(HM)., PhD(N)[1], Mr. Raed Moh'd Ahmed Au Kaf., B.Sc.RN, M.Sc[2]
[1]Nurse Supervisor, Dubai Government Multispecialty Hospital, UAE
[2]Director of Nursing, Dubai Government Multispecialty Hospital, UAE

Abstract— Introduction*: Burnout among nurses is a significant issue that has been growing over the years, and one of the key factors contributing to this burnout is long working hours. Nurses are often required to work long shifts, sometimes extending beyond the expected hours, leading to physical and emotional exhaustion. The objective of this study is to findout the influence of working hour duration on nurse's burnout.* ***Methods****: A cross-sectional descriptive research design and a quantitative research approach were used for this study. The study targeted all nurses employed at healthcare facilities in Dubai, but specifically focused on those working 12-hour or 8-hour shifts. The survey was distributed using Microsoft Office online forms, along with a consent request. Only those who provided consent participated, and from their responses, a convenient sample was chosen.* ***Results****: A total of 360 nurses participated in the study, with 180 nurses working 8-hour shifts and 180 nurses working 12-hour shifts. The majority of participants were female (299, 83.1%), with the remaining being male (61, 16.9%). The largest age group was 31–40 years, comprising 55% of the sample (198 participants). A significant difference was observed in the place of residence, with residents of Sharjah reporting the highest levels of personal accomplishment. The findings from the Multiple Logistic Regression Analysis in Personal Accomplishment Assessment showed that Odds of working 12-hour shifts are 47% lower (OR: 0.54; 95% CI: 0.27–1.06), but this association is marginally significant (P = 0.073).* ***Conclusion****: 12 hour shift staff have lower burnout on Emotional exhaustion, depersonalization and personal accomplishment comparing with 8 hour shift staff.*

Keywords— *Nurses working hours, Burnout, Emotional exhaustion, depersonalization, personal accomplishment.*

I. INTRODUCTION

Half of the global workforce is experiencing burnout.[1] Burnout is a condition recognized by WHO as "chronic workplace stress that has not been successfully managed." It typically arises when work demands become overwhelming, making it hard to cope. Nurses are especially vulnerable to burnout, particularly in environments with heavy workloads, understaffing, workplace conflicts, or a lack of recognition for their efforts. Silver Spring, MD (2022) mentioned that 69% of those under 25 years old experiencing burnout.[2] Burnout develops gradually, starting with mild discomfort that eventually becomes more entrenched and difficult to overcome. Symptoms of burnout vary by stage but typically include exhaustion, depersonalization and reduced personal accomplishment. Exhaustion a combination of mental and physical fatigue that leaves the feeling drained. Depersonalization is an emotional detachment or numbness, which may lead to increased cynicism and difficulty connecting with others. Reduced personal accomplishment is a sense of inadequacy and an inability to perform your job effectively, resulting in a loss of joy, creativity, and focus.[3] Some of the key factors that explain how extended working hours lead to nurse burnout include:

Physical Fatique: Long shifts can result in nurses feeling physically drained, as they spend extended periods on their feet, assisting patients, managing multiple tasks, and handling physically challenging duties.

Reduced Job Satisfaction: Overworked nurses may experience a decline in job satisfaction, which can exacerbate burnout. They might feel underappreciated or unsupported by management, particularly when facing consistently heavy workloads.

Emotional Pressure: Nurses often work in high-stress settings, such as emergency rooms, intensive care units, and critical patient care situations. Prolonged exposure to these intense environments without adequate recovery time can lead to emotional burnout, resulting in feelings of frustration, helplessness, and emotional detachment.

Effect on Patient Care: Burnout among nurses can directly affect patient care, as fatigued and emotionally drained nurses may struggle to deliver optimal care, potentially leading to mistakes or a decline in the quality of patient interactions.

Insufficient Breaks: Nurses are often required to skip meals or take minimal breaks, leaving little opportunity for rest, recharging, or practicing self-care during their shifts.

Health Risks: Prolonged working hours and high levels of stress can lead to various physical health problems, including sleep disturbances, cardiovascular issues, and a weakened immune system. Nurses who do not get enough rest are more prone to these health risks.

Increased Turnover Rates: Nurse burnout is a key factor contributing to high turnover rates in healthcare. As nurses leave their jobs due to exhaustion, the remaining staff often face longer shifts, which further perpetuates the cycle.

Working hours plays a crucial role in affecting an employee's physical well-being, as well as their family, social life, and overall work-life balance.[4] In recent years, burnout due to long working hours among healthcare workers has received significant attention. A study among European nurses investigated the association between shift length and nurses' psychological well-being. The findings shows that nurses

Majella Livingston Alber and Raed Moh'd Ahmed Au Kaf, "The Influence of Work Hour Duration on Burnout in Nurses," *International Research Journal of Pharmacy and Medical Sciences (IRJPMS)*, Volume 8, Issue 3, pp. 12-20, 2025.

preferred 12 h shifts were more likely to experience high levels of burnout than nurses working shorter shifts[4]. Nurses in Cambodian hospital frequently work beyond their required hours, leading to longer work weeks, a higher risk of burnout, and possible negative impacts on patient care[5].

Hu NC et al. conducted a cross-sectional survey with 1,560 full-time employees. The study concluded that burnout is linked to working more than 40 hours per week, with the connection becoming even stronger for those working over 60 hours. Restricting work hours to 40 hours per week could help prevent burnout. Additionally, physical activity can play a role in reducing the risk of burnout.[6] Ro-Ting Lin et al. concluded that nurses had the highest rates of personal and work-related burnout, with a prevalence ranging from 66% to 73%. In comparison, the prevalence of burnout among physicians, medical technicians, and administrative staff was unexpectedly falling between 32% and 46%.[7]

There are very less studies analysed the working hours influence on burnout especially among nurses. Dubai Health facilities offer both 12-hour and 8-hour shifts. Therefore, the investigator is interested in conducting a survey to assess the influence of eight and twelve hour work duration on burnout amoung nurses in UAE.

Aim

To findout the influence of working hour duration on nurse's burnout.

Objectives

1. To examine the influence of 8-hour versus 12-hour work shifts on burnout components - emotional exhaustion, depersonalization, and personal accomplishment.
2. To explore the connection between emotional exhaustion and demographic factors.
3. To examine the relationship between depersonalization and demographic factors.
4. To investigate the link between personal accomplishment and demographic factors.
5. To investigate the link between staff emotional exhaustion and the likelihood of working a twelve-hour shift compared to an eight-hour shift.
6. To examine the connection between depersonalization and the likelihood of working a twelve-hour shift versus an eight-hour shift.
7. To examine the association between burnout dimensions (*occupational exhaustion*, *depersonalization*, and *personal accomplishment assessment*) and the odds of working 12-hour shifts (versus 8-hour shifts).

II. Methodology

A cross-sectional descriptive research design and a quantitative research approach were used for this study. The study targeted all nurses employed at healthcare facilities in Dubai, but specifically focused on those working 12-hour or 8-hour shifts.

The sample size was calculated using the OpenEpi sample size tool for observational epidemiology, Table 12-15, and Fleiss' statistical methods for rates and proportions, formulas

3.18 and 3.19, with the continuity correction (CC). The results were rounded to the nearest integer. The sample size was adjusted to include 180 nurses from the 8-hour shift and 180 nurses from the 12-hour shift.

A convenient non-random sampling technique was used for this study. The survey was designed using Microsoft Office 365, with the consent form included at the start. A link to the survey was sent via email to all nurses in the hospital. Nurses who consented were completed the survey. The responses were downloaded, and the samples were conveniently collected based on the inclusion criteria.

Criteria for Sample Selection:

Inclusion Criteria:

Nurses working 12-hour or 8-hour shifts.

Willing to provide written consent to participate in the study.

Physically and mentally capable of providing the necessary information for the study.

Exclusion Criteria:

Nurses who are unwell during the data collection period. Nurses who do not provide written consent to participate.

Charge Nurses, Nurse Supervisors, Assistat Directors Of Nursing, Directors of Nursing, and Out Patient Department nurses.

Nurses not working 8-hour or 12-hour shifts.

Data Collection:

The data collection tool consisted of two sections:

Part 1: Demographic variables

Part 2: Staff burnout (Maslach Burnout Inventory)

Data Collection Method:

The questions were entered into Microsoft Office Forms to generate a link, which was then sent to all nursing staff. Nurses willing to participate were asked to complete the survey. only one response was accepted per participant. Once a response was submitted, participants could no longer access the form. The first 360 responses (180 from 8-hour shifts and 180 from 12-hour shifts) were included. Patient files were audited after obtaining permission from the Electronic medical record team.

Ethical Considerations:

Approval for the study was obtained from the nursing department, the institutional review board, and the Dubai Scientific Research Committee before data collection. Consent was obtained from all participants, and confidentiality was maintained throughout the study.

III. Results

The study included 360 participants, females made up the majority (299, 83.1%). The largest age group was 31–40 years, representing 55% of the sample (198 participants). Most participants resided in Dubai (209, 58.1%), Almost half of the participants were employed at Health Facility D (170, 47.2%). The largest group reported a commute time of 31 to 60 minutes (152, 42.2%). Most participants identified as Christian (259, 71.9%). Regarding marital status, the majority

Majella Livingston Alber and Raed Moh'd Ahmed Au Kaf, "The Influence of Work Hour Duration on Burnout in Nurses," *International Research Journal of Pharmacy and Medical Sciences (IRJPMS)*, Volume 8, Issue 3, pp. 12-20, 2025.

of participants were married.(315, 87.5%). In terms of educational qualifications, the majority of participants had a bachelor's degree in nursing(348, 96.7%). Most participants worked the morning shift(177, 49.17%). Most participants held the job title of Staff Nurse, Category 2 (294, 81.7%). The length of service varied, with the majority of participants having more than 10 years of experience (146, 40.6%).

The lifestyle characteristics of the study participants show a low incidence of smoking and alcohol consumption, indicating that most participants follow healthy lifestyle habits. However, only 11.0% engage in daily physical activity. Furthermore, 29.2% of participants are taking prescribed medications.

Objective 1: To examine the influence of 8-hour versus 12-hour work shifts on burnout components - occupational exhaustion, depersonalization and personal accomplishment

Null Hypothesis (H0): There is no significant influence of 8-hour versus 12-hour work shifts on burnout components - occupational exhaustion, depersonalization, and personal accomplishment

Alternative Hypothesis (H1): There is a significant influence of 8-hour versus 12-hour work shifts on burnout components - occupational exhaustion, depersonalization, and personal accomplishment

TABLE 1: Influence of 8-hour versus 12-hour work shifts on burnout components - emotional exhaustion, depersonalization, and personal accomplishment

Characteristics	8 hours n (%)	12 hours n (%)	chi-square
Occupational exhaustion			
mild	103 (50.2)	102 (49.8)	0.969
moderate	30 (50.8)	29 (49.2)	
severe	47 (49)	49 (51)	
Depersonalization			
mild	111 (53.4)	97 (46.6)	0.292
moderate	24 (42.9)	32 (57.1)	
severe	45 (46.9)	51 (53.1)	
Personal accomplishment assessment			
mild	27 (64.3)	15 (35.7)	0.117
moderate	36 (45)	44 (55)	
severe	117 (49.2)	121 (50.8)	

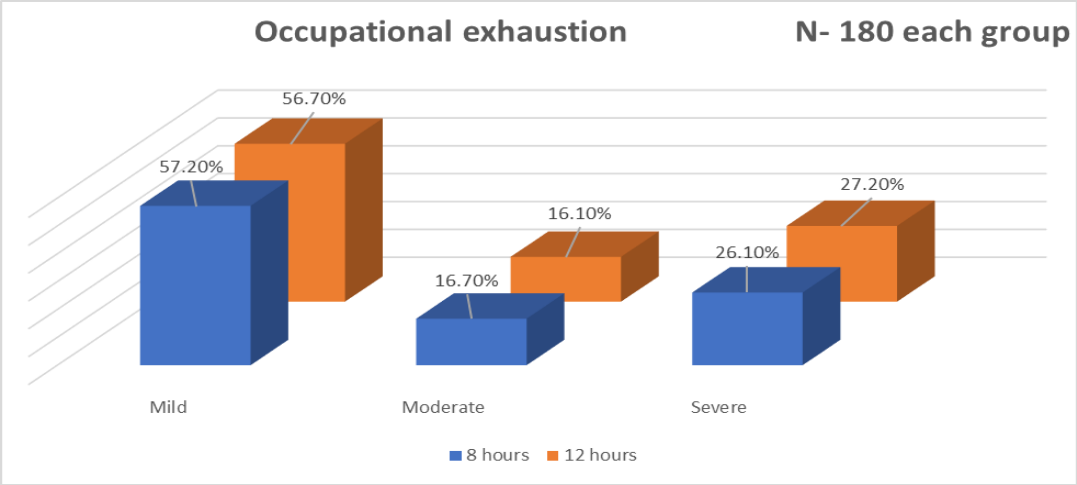

Figure 1. Occupational Exhaustion

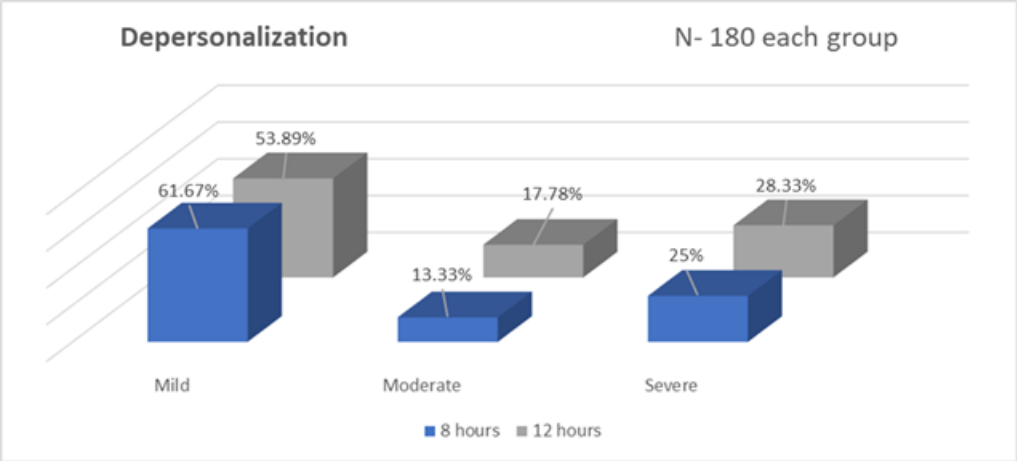

Figure 2. Depersonalization

Majella Livingston Alber and Raed Moh'd Ahmed Au Kaf, "The Influence of Work Hour Duration on Burnout in Nurses," *International Research Journal of Pharmacy and Medical Sciences (IRJPMS)*, Volume 8, Issue 3, pp. 12-20, 2025.

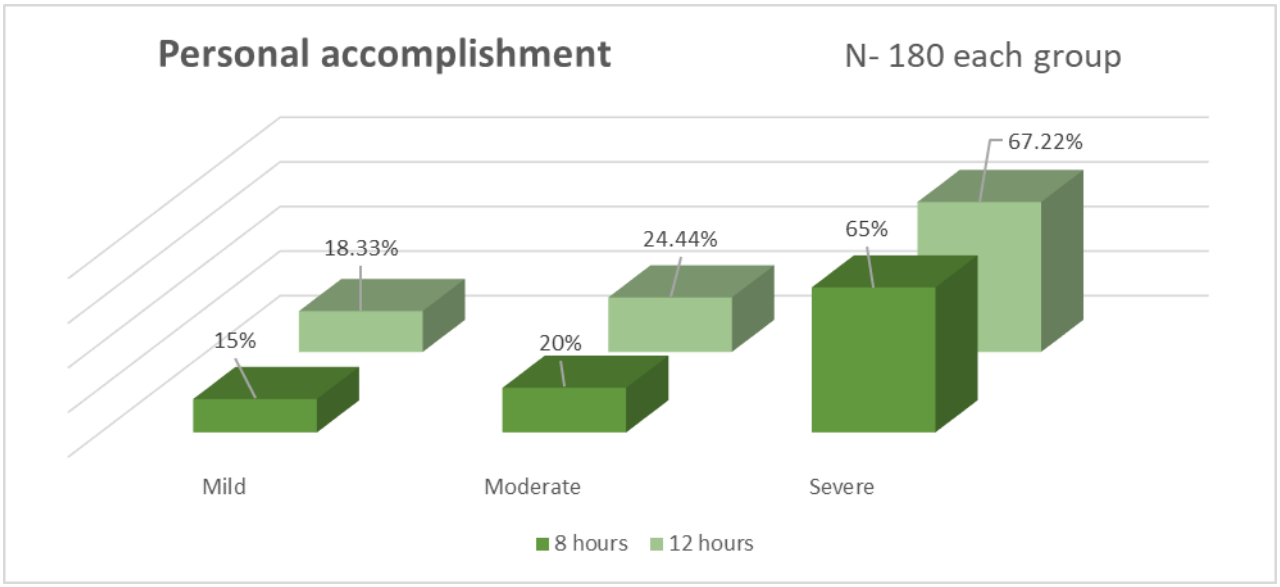

Figure 3. Personal Accomplishment

Occupational Exhaustion:

Mild: Similar proportions in both 8-hour (50.2%) and 12-hour (49.8%) shifts.
Moderate: Nearly identical proportions, 50.8% in 8-hour shifts and 49.2% in 12-hour shifts.
Severe: 49% in 8-hour shifts and 51% in 12-hour shifts.
Chi-square result: p = 0.969, indicating no significant difference in the distribution of occupational exhaustion levels between the two shift groups.

Depersonalization

Mild: A higher proportion in 8-hour shifts (53.4%) compared to 12-hour shifts (46.6%). Moderate: A higher proportion in 12-hour shifts (57.1%) compared to 8-hour shifts (42.9%). Severe: Similar distribution between 8-hour (46.9%) and 12-hour (53.1%) shifts.
Chi-square result: p = 0.292, indicating no significant difference in depersonalization levels between the shift groups.

Personal Accomplishment

Mild: A higher proportion in 8-hour shifts (64.3%) compared to 12-hour shifts (35.7%). Moderate: A higher proportion in 12-hour shifts (55%) compared to 8-hour shifts (45%). Severe: Very similar proportions between 8-hour (49.2%) and 12-hour (50.8%) shifts.
Chi-square result: p = 0.117, suggesting no significant difference in personal accomplishment levels between the two shift groups.
Conclusion: The chi-square test results indicate no statistically significant influence of 8-hour versus 12-hour work shifts on burnout compoets such as occupational exhaustion, depersonalization, and personal accomplishment
Objective 2:To explore the connection between occupational exhaustion and demographic factors.
Null Hypothesis (H0): There is no significant connection between occupational exhaustion and demographic factors.

Alternative Hypothesis (H1): There is a significant connection between occupational exhaustion and demographic factors.

TABLE 2. shows the connection between Occupational Exhaustions and Demographic Details

Characteristics	Occupational exhaustion			Chi Square
	mild	moderate	Higher	
Age				
20- 30 years	37 (66.1)	5 (8.9)	14 (25.0)	0.128
31-40years	111 (56.1)	32 (16.2)	55 (27.8)	
41 -50 years	46 (59.7)	16 (20.8)	15 (19.5)	
51-60 years	46 (59.7)	6 (20.7)	12 (41.4)	
Gender				
Female	168 (56.2)	52 (17.4)	79 (26.4)	0.522
Male	37 (60.7)	7 (11.5)	17 (27.9)	
Place of residence				
Ajman	6 (60.0)	1 (10.0)	3 (30.0)	0.73
Dubai	116 (55.5)	33 (15.8)	60 (28.7)	
Hatta	17 (70.8)	4 (16.7)	3 (12.5)	
Sharjah	66 (56.4)	21 (17.9)	30 (25.6)	
Place of work				
Health Facility 1- D	100 (58.8)	25 (14.7)	45 (26.5)	0.09
Health Facility 2- H	41 (60.3)	15 (22.1)	12 (17.6)	
Health Facility 3 - L	12 (36.4)	6 (18.2)	15 (45.5)	
Health Facility 4 - R	52 (58.4)	13 (14.6)	24 (27.0)	
Duration of travel				
0 - 30 minutes	80 (58.0)	20 (14.5)	38 (27.5)	0.77
31 - 60 minutes	74 (59.2)	22 (17.6)	29 (23.2)	
61 - 90 minutes	30 (57.7)	7 (13.5)	15 (28.8)	
91 - 120 minutes	14 (45.2)	6 (19.4)	11 (35.5)	
120 - 150 minutes	7 (50.0)	4 (28.6)	3 (21.4)	
Religion				
Muslim	16 (53.3)	8 (26.7)	6 (20.0)	0.153
Christian	143 (55.2)	45 (17.4)	71 (27.4)	
Hindu	44 (66.7)	6 (9.1)	16 (24.2)	
Other	2 (40.0)	0 (0.0)	3 (60.0)	
Marital Status				
single	21 (50.0)	8 (19)	13 (31.0)	0.729
Married	182 (57.8)	50 (15.9)	83 (26.3)	
widow	1 (100)	0 (0.0)	0 (0.0)	
Separated	1 (50)	1 (50.0)	0 (0.0)	

Majella Livingston Alber and Raed Moh'd Ahmed Au Kaf, "The Influence of Work Hour Duration on Burnout in Nurses," *International Research Journal of Pharmacy and Medical Sciences (IRJPMS)*, Volume 8, Issue 3, pp. 12-20, 2025.

Hours of work				
8 hours	103 (57.2)	30 (16.7)	47 (26.1)	0.969
12 hours	102 (56.7)	29 (16.1)	49 (27.2)	
Education Level				
Bachelor in nursing	200 (57.5)	57 (16.4)	91 (26.1)	0.483
Masters	5 (45.5)	2 (18.2)	4 (36.4)	
Doctorate	0 (0.0)	0 (0.0)	1 (100)	
Last shift worked				
morning	105 (59.3)	34 (19.2)	38 (21.5)	0.213
afternoon	20 (54.1)	6 (16.2)	11 (29.7)	
night	80 (54.8)	19 (13.0)	47 (32.2)	
Job Title				
Staff Nurse 2	170 (57.8)	47 (16)	77 (26.2)	0.874
Staff Nurse 3	25 (51)	10 (20.4)	14 (28.6)	
Senior Staff Nurse	10 (58.8)	2 (11.8)	5 (29.4)	
Length of Service				
Less than 1 year	22 (71.0)	1 (3.2)	8 (25.8)	0.31
1 -5 year	60 (58.8)	19 (18.6)	23 (22.5)	
5 - 10 year	43 (53.1)	12 (14.8)	26 (32.1)	
More than 10 year	80 (54.8)	27 (18.5)	39 (26.7)	
Dubai Hospital	95 (55.9)	33 (19.4)	42 (24.7)	0.567
Hatta Hospital	43 (63.2)	6 (8.8)	19 (27.9)	
Latifa Hospital	19 (57.6)	5 (15.2)	9 (27.3)	
Rashid Hospital	51 (57.3)	12 (13.5)	26 (29.2)	
Duration of travel				
0 - 30 minutes	82 (59.4)	19 (13.8)	37 (26.8)	0.825
31 - 60 minutes	68 (54.4)	24 (19.2)	4 (28.6)	
61 - 90 minutes	30 (57.7)	8 (15.4)	33 (26.4)	
91 - 120 minutes	21 (67.7)	2 (6.5)	14 (26.9)	
120 - 150 minutes	7 (50.0)	3 (21.4)	8 (25.8)	
Religion				
Muslim	16 (53.3)	7 (23.3)	7 (23.3)	0.881
Christian	150 (57.9)	39 (15.1)	70 (27.0)	
Hindu	40 (60.6)	9 (13.6)	17 (25.8)	
Other	2 (40.0)	1 (20.0)	2 (40)	
Marital Status				
single	17 (40.5)	8 (19)	17 (40.5)	0.175
Married	189 (60.0)	47 (14.9)	79 (25.1)	
widow	1 (100)	0 (0.0)	0 (0.0)	
Separated	1 (50.0)	1 (50.0)	0 (0.0)	
Hours of work				
8 hours	111 (61.7)	24 (13.3)	45 (25.0)	0.292
12 hours	97 (53.9)	32 (17.8)	51 (28.3)	
Education Level				
Bachelor in nursing	200 (57.5)	55 (15.8)	93 (26.7)	0.435
Masters	8 (72.7)	1 (9.1)	2 (18.2)	
Doctorate	0 (0.0)	0 (0.0)	1 (100)	
Last shift worked				
morning	107 (60.5)	28 (15.8)	42 (23.7)	0.546
afternoon	23 (62.2)	6 (16.2)	8 (21.6)	
night	78 (53.4)	22 (15.1)	46 (31.5)	
Job Title				
SN 2	167 (56.8)	46 (15.6)	81 (27.6)	0.728
SN 3	31 (63.3)	6 (12.2)	12 (24.5)	
SSN	10 (58.8)	4 (23.5)	3 (17.6)	
Length of Service				
Less than 1 year	18 (58.1)	6 (19.4)	7 (22.6)	0.736
1 -5 year	54 (52.9)	20 (19.6)	28 (27.5)	
5 - 10 year	46 (56.8)	11 (13.6)	24 (29.6)	
More than 10 year	90 (61.6)	19 (13.0)	37 (25.3)	

Table 2 demonstrates that there is no notable connection between age and occupational exhaustion levels ($\chi^2 = 0.128$, $p > 0.05$). Gender and occupational exhaustion ($\chi^2 = 0.522$, $p > 0.05$). place of residence and occupational exhaustion ($\chi^2 = 0.73$, $p > 0.05$). place of work and occupatioal exhausion ($\chi^2 = 0.09$, $p > 0.05$) Travel duration and occupational exhaustion ($\chi^2 = 0.77$, $p > 0.05$).religion and occupatioal exhausion ($\chi^2 = 0.153$, $p > 0.05$). Marital status and occupational exhaustion ($\chi^2 = 0.729$, $p > 0.05$). working hours (8 or 12 hours) and occupational exhaustion ($\chi^2 = 0.969$, $p > 0.05$). Education level and occupational exhaustion ($\chi^2 = 0.483$, $p > 0.05$). last shift work and occupational exhaustion ($\chi^2 = 0.213$, $p > 0.05$). Job title and occupational exhaustion ($\chi^2 = 0.874$, $p > 0.05$). length of service and occupational exhaustion ($\chi^2 = 0.31$, $p > 0.05$). Therefore, the null hypothesis is accepted, indicating no significant connection between occupational exhaustion and demographic factors.

Objective 3: To examine the relationship between depersonalization and demographic factors.

Null Hypothesis (H0): There is no significant relationship between depersonalization and demographic factors.

Alternative Hypothesis (H1): There is a significant relationship between depersonalization and demographic factors.

TABLE 3. Shows the relationship between Depersonalization and Demographic Details

Characteristics	Depersonalization			Chi Square
	mild	moderate	Higher	
Age				
20- 30 years	28 (50)	11 (19.6)	17 (30.4)	0.131
31-40years	110 (55.6)	28 (14.1)	60 (30.3)	
41 -50 years	49 (63.6)	11 (14.3)	17 (22.1)	
51-60 years	21 (72.4)	6 (20.7)	2 (6.9)	
Gender				
Female	177 (59.2)	43 (14.4)	79 (26.4)	0.33
Male	31 (50.8)	13 (21.3)	17 (27.9)	
Placeofresidence				
Ajman	4 (40)	3 (30)	3 (30)	0.442
Dubai	123 (58.9)	28 (13.4)	58 (27.8)	
Hatta	12 (50)	3 (12.5)	9 (37.5)	
Sharjah	69 (59)	22 (18.8)	26 (22.2)	
Place of work				

Table 3 indicates that there is no significant relationship between age group and depersonalization ($\chi^2 = 0.131$, $p = 0.938$). gender and depersonalization ($\chi^2 = 0.33$, $p = 0.564$). place of residence and depersonalization ($\chi^2 = 0.442$, $p = 0.931$). Place of Work and depersonalization ($\chi^2 = 0.567$, $p = 0.904$). Duration of Travel and depersonalization ($\chi^2 = 0.825$, $p = 0.963$). Religion and depersonalization ($\chi^2 = 0.881$, $p = 0.833$). Marital Status and depersonalization ($\chi^2 = 0.175$, $p = 0.915$). Hours of Work and depersonalization ($\chi^2 = 0.292$, $p = 0.587$). Education Level and depersonalization ($\chi^2 = 0.435$, $p = 0.803$). Last Shift Worked and depersonalization ($\chi^2 = 0.546$, $p = 0.761$). Job Title and depersonalization ($\chi^2 = 0.728$, $p = 0.701$). Length of Service and depersonalization ($\chi^2 = 0.736$, $p = 0.864$). Therefore, the null hypothesis is accepted, indicating no significant relationship between depersonalization and demographic factors.

Objective 4. To investigate the link between personal accomplishment and demographic factors.

Null Hypothesis (H0): There is no significant link between personal accomplishment and demographic factors.

Alternative Hypothesis (H1): There is a link between personal accomplishment and demographic factors.

Majella Livingston Alber and Raed Moh'd Ahmed Au Kaf, "The Influence of Work Hour Duration on Burnout in Nurses," *International Research Journal of Pharmacy and Medical Sciences (IRJPMS)*, Volume 8, Issue 3, pp. 12-20, 2025.

TABLE 4. shows the link between Personal Accomplishment and Demographic Details

Characteristics	Personal Accomplishment			Chi Square
	mild	moderate	Higher	
Age				
20- 30 years	9 (16.1)	10 (17.9)	37 (66.1)	0.225
31-40years	20 (10.1)	39 (19.7)	139 (70.2)	
41 -50 years	8 (10.4)	21 (27.3)	48 (62.3)	
51-60 years	5 (17.2)	10 (34.5)	14 (48.3)	
Gender				
Female	37 (12.4)	66 (22.1)	196 (65.6)	0.651
Male	5 (8.2)	14 (23.0)	42 (68.9)	
Place of residence				
Ajman	3 (30)	3 (30)	4 (40)	**0.02**
Dubai	25 (12)	51 (24.4)	133 (63.6)	
Hatta	6 (25)	6 (25)	12 (50)	
Sharjah	8 (6.8)	20 (17.1)	89 (76.1)	
Place of work				
Dubai Hospital	18 (10.6)	40 (23.5)	112 (65.9)	0.508
Hatta Hospital	11 (16.2)	11 (16.2)	46 (67.6)	
Latifa Hospital	5 (15.2)	5 (15.2)	23 (69.7)	
Rashid Hospital	8 (9.0)	24 (27)	57 (64)	
Duration of travel				
0 - 30 minutes	21 (15.2)	32 (23.2)	85 (61.6)	0.187
31 - 60 minutes	10 (8.0)	32 (25.6)	83 (66.4)	
61 - 90 minutes	4 (7.7)	10 (19.2)	38 (73.1)	
91 - 120 minutes	3 (9.7)	4 (12.9)	24 (77.4)	
120 - 150 minutes	4 (28.6)	2 (14.3)	8 (57.1)	
Religion				
Muslim	3 (10)	10 (33.3)	17 (56.7)	0.557
Christian	30 (11.6)	59 (22.8)	170 (65.6)	
Hindu	9 (13.6)	10 (15.2)	47 (71.2)	
Other	0 (0.0)	1 (20.0)	4 (80.0)	
Marital Status				
single	5 (11.9)	9 (21.4)	28 (66.7)	0.273
Married	37 (11.7)	69 (21.9)	209 (66.3)	
widow	0 (0.0)	0 (0.0)	1 (100)	
Separated	0 (0.0)	2 (100)	0 (0.0)	
Hours of work				
8 hours	27 (15)	36 (20)	117 (65)	0.117
12 hours	15 (8.3)	44 (24.4)	121 (67.2)	
Education Level				
Bachelor in nursing	40 (11.5)	79 (22.7)	229 (65.8)	0.756
Masters	2 (18.2)	1 (9.1)	8 (72.7)	
Doctorate	0 (0.0)	0 (0.0)	1 (100)	
Last shift worked				
morning	23 (13)	39 (22)	115 (65)	0.763
afternoon	5 (13.5)	6 (16.2)	26 (70.3)	
night	14 (9.6)	35 (24)	97 (66.4)	
Job Title				
SN 2	32 (10.9)	61 (20.7)	201 (68.4)	0.345
SN 3	7 (14.3)	13 (26.5)	29 (59.2)	
SSN	3 (17.6)	6 (35.3)	8 (47.1)	
Length of Service				
Less than 1 year	4 (12.9)	6 (19.4)	21 (67.7)	0.245
1 -5 year	8 (7.8)	18 (17.6)	76 (74.5)	
5 - 10 year	9 (11.1)	16 (19.8)	56 (69.1)	
More than 10 year	21 (14.4)	40 (27.4)	85 (58.2)	

The table presented above indicates thatthere is no significant link between age and personal accomplishment (Chi-square (p-value) = 0.225), gender and personal Accomplishment (Chi-square (p-value) = 0.651), place of work and personal accomplishment (Chi-square (p-value) = 0.508), duration of travel and personal accomplishment (Chi-square (p-value) = 0.187), religion and personal Accomplishment (Chi-square (p-value) = 0.557), marital status and personal accomplishment (Chi-square (p-value) = 0.273), hours of work and personal accomplishment (Chi-square (p-value) = 0.117), education level and personal accomplishment (Chi-square (p-value) = 0.756), job title and personal accomplishment (Chi-square (p-value) = 0.345), and length of service and personal accomplishment (Chi-square (p-value) = 0.245), except for place of residence and personal accomplishment (Chi-square (p-value) = 0.02).

Objective 5. To examine the association between burnout dimensions (*occupational exhaustion*, *depersonalization*, and *personal accomplishment assessment*) and the odds of working 12-hour shifts (versus 8-hour shifts).

Null Hypothesis (H0): There is no significant association between burnout dimensions (*occupational exhaustion*, *depersonalization*, and *personal accomplishment assessment*) and the odds of working 12-hour shifts (versus 8-hour shifts).

Alternative Hypothesis (H1): There is a significant association between burnout dimensions (*occupational exhaustion*, *depersonalization*, and *personal accomplishment assessment*) and the odds of working 12-hour shifts (versus 8-hour shifts).

TABLE 5. shows the association between burnout dimensions (occupational exhaustion, depersonalization, and personal accomplishment assessment) and the odds of working 12-hour shifts (versus 8-hour shifts).

Variables	Univariable OR (95% CI)	P value
Occupational exhaustion		
mild	1 (reference)	
moderate	0.95 (0.585 - 1.543)	0.835
severe	0.93 (0.485 - 1.774)	0.819
Depersonalization		
mild	1 (reference)	
moderate	0.77 (0.475 - 1.252)	0.293
severe	1.18 (0.606 - 2.285)	0.631
Personal accomplishment assessment		
mild	1 (reference)	
moderate	0.537 (0.272 - 1.061)	0.073
severe	1.182 (0.711 - 1.965)	0.52

Occupational Exhaustion:

- Moderate levels of occupational exhaustion:
  - Odds of working 12-hour shifts are slightly lower (OR: 0.95; 95% CI: 0.59–1.54), but this association is not statistically significant (P = 0.835).
  - Severe levels of occupational exhaustion:
  - Odds of working 12-hour shifts are slightly lower (OR: 0.93; 95% CI: 0.49–1.77), but this association is also not statistically significant (P = 0.819).
  - Conclusion: Neither moderate nor severe levels of occupational exhaustion significantly affect the likelihood of working 12-hour shifts compared to mild exhaustion.

Depersonalization:

- Moderate depersonalization:
  - Odds of working 12-hour shifts are lower (OR: 0.77; 95% CI: 0.48–1.25), but this is not statistically

significant (P = 0.293).

- Severe depersonalization:
  - Odds of working 12-hour shifts are slightly higher (OR: 1.18; 95% CI: 0.61–2.29), but this association is not statistically significant (P = 0.631).

Conclusion: Depersonalization (mild /moderate / severe) does not significantly impact the likelihood of working 12-hour shifts

Personal Accomplishment Assessment:

- Moderate personal accomplishment assessment:
  - Odds of working 12-hour shifts are lower (OR: 0.54; 95% CI: 0.27–1.06), but this association is marginally significant (P = 0.073).
- Severe personal accomplishment assessment:
  - Odds of working 12-hour shifts are slightly higher (OR: 1.18; 95% CI: 0.71–1.97), but this is not statistically significant (P = 0.52).
- Conclusion: There is a borderline reduction in the odds of working 12-hour shifts among individuals with moderate personal accomplishment concerns, but severe levels of this factor do not significantly affect shift likelihood.

IV. Discussion

In this study, a Multiple Logistic Regression Analysis was conducted to examine the relationship between burnout dimensions (occupational exhaustion, depersonalization, and personal accomplishment) and the odds of working 12-hour shifts (versus 8-hour shifts).

For occupational exhaustion, moderate levels showed that the odds of working 12-hour shifts were slightly lower (OR: 0.95; 95% CI: 0.59–1.54), but this association was not statistically significant (P = 0.835). Similarly, severe levels of occupational exhaustion showed slightly lower odds of working 12-hour shifts (OR: 0.93; 95% CI: 0.49–1.77), but this association was also not statistically significant (P = 0.819). Although not statistically significant, it can be concluded that neither moderate nor severe levels of occupational exhaustion significantly affect the likelihood of working 12-hour shifts compared to mild exhaustion.

For moderate depersonalization, the odds of working 12-hour shifts were lower (OR: 0.77; 95% CI: 0.48–1.25), but this was not statistically significant (P = 0.293). In severe depersonalization, the odds of working 12-hour shifts were slightly higher (OR: 1.18; 95% CI: 0.61–2.29), but this association was also not statistically significant (P = 0.631). Therefore, depersonalization (whether moderate or severe) does not significantly impact the likelihood of working 12-hour shifts compared to mild depersonalization.

In the Personal Accomplishment Assessment, moderate personal accomplishment showed that the odds of working 12-hour shifts were lower (OR: 0.54; 95% CI: 0.27–1.06), but this association was marginally significant (P = 0.073). Severe personal accomplishment showed that the odds of working 12-hour shifts were slightly higher (OR: 1.18; 95% CI: 0.71–1.97), but this association was not statistically significant (P = 0.52).In conclusion, neither moderate nor severe levels of personal accomplishment significantly affect the likelihood of working 12-hour shifts compared to mild personal accomplishment.

Dall'Ora et al.'s study across 12 European countries found that nurses working shifts of 12 hours or more had higher levels of emotional exhaustion (adjusted OR (aOR) = 1.26) and depersonalization burnout (aOR = 1.21), along with lower personal accomplishment (aOR = 1.39). These results differ from our study, which observed lower levels of emotional exhaustion and depersonalization in nurses working 12-hour shifts. However, our study concurs with Dall'Ora et al.'s findings regarding personal accomplishment, showing a decline in both studies. Extended working hours for hospital nurses are linked to negative outcomes, including increased burnout, which can pose safety risks for both patients and nurses.

In the 2023 review article "Burnout of Nurses due to Workload and Long Working Hours during Shifts," Benard et al. emphasize that many healthcare sectors adopt three different shifts to ensure an eight-hour workday for healthcare professionals, including nurses. The implementation of shift patterns and the reduction of long working hours are essential, especially for nurses. These shifts are designed to allow nurses more rest and help alleviate burnout. Despite this, nurses continue to experience various forms of burnout, such as depersonalization, job dissatisfaction, emotional exhaustion, and physical fatigue. Although burnout remains a significant challenge, the role of shift patterns in reducing working hours and helping to mitigate burnout is clear. The findings of this study, however, contrast with our own, which suggest that longer shifts lead to lower levels of emotional exhaustion and depersonalization.

C. Ball, J. et al.'s theoretical review on burnout in nursing, which analyzed 91 studies (2020), found that burnout led to several negative outcomes, such as decreased job performance, lower quality of care, compromised patient safety, negative patient experiences, treatment errors, higher rates of hospital-acquired infections, unexpected patient falls, and increased absenteeism due to illness. These issues were more prevalent among nurses working longer shifts. However, the results from this review do not align with our study, which found that nurses working 12-hour shifts had lower levels of emotional exhaustion and depersonalization compared to those working 8-hour shifts.

Ro-Ting Lin et al. conducted a cross-sectional analysis and identified a non-linear relationship between average weekly working hours and burnout scores. They found that when working hours exceeded 60 hours per week, the odds of experiencing work-related burnout doubled compared to a 40-hour workweek. Additionally, reducing sleep hours was associated with a decrease in burnout, with 7%-29% of nurses reporting improvement. These findings suggest that working hours contribute to burnout, with sleep hours partially mediating this relationship. However, our study's findings contradict these results, as we found that burnout, particularly emotional exhaustion and depersonalization, was lower among

nurses working longer hours compared to those working shorter hours.

Haitham Khatatbeh et al. conducted a systematic review and critical analysis, concluding that nurses experience moderate to high levels of burnout, which is negatively linked to a poor quality of life. The study suggests that intervention programs are essential to reduce burnout among nurses and enhance their quality of life.

The findings discussed above conclude that many studies have not supported our findings of lesser emotional exhaustion and depersonalization burnout in longer working hours among nurses. In contrast, our study's findings align with those in many studies regarding personal accomplishment burnout, which is lower in nurses working longer hours.

V. COCLUSION

None of the burnout dimensions (occupational exhaustion, depersonalization, or personal accomplishment assessment) show a statistically significant association with the odds of working 12-hour shifts versus 8-hour shifts.

A potential trend suggests that moderate personal accomplishment concerns might slightly reduce the likelihood of working longer shifts, though this requires further investigation (P = 0.073).

VI. RECOMMENDATIONS

Working longer shifts, particularly 12-hour shifts, can significantly increase the risk of burnout due to extended periods of stress and fatigue. However, there are strategies that can help alleviate burnout under these circumstances. Below are some recommendations for preventing or reducing burnout among nurses working extended shifts:

1. Ensure Sufficient Staffing and Assistance
   - Appropriate nurse-patient ratio: Make sure the number of nurses is adequate to manage the patient load, preventing any nurse from becoming overburdened.
   - Staff support: Provide additional help from assistants, clinical coordinators, or mental health professionals who can offer immediate support or consultations.

II. Encourage Regular Breaks
   - Frequent short breaks: Nurses should take brief breaks (e.g., 10 minutes every 2–3 hours) to rest, hydrate, and refresh mentally.
   - Meal breaks: Ensure nurses have dedicated lunch and dinner breaks away from patient care areas to prevent mental and emotional burnout.

III. Provide Mental Health Resources
   - Counseling access: Provide easy access to mental health services, counseling, or employee assistance programs (EAP) to help nurses manage stress.
   - Peer support programs: Establish peer support groups where nurses can share experiences and emotional challenges.

IV. Promote a Healthy Work Environment
   - Positive team culture: Cultivate a work environment that values teamwork, open communication, and collaboration, as a strong sense of belonging can alleviate stress.
   - Clear expectations: Ensure that roles and responsibilities are well-defined to prevent role ambiguity and confusion, which can contribute to burnout.

V. Provide Opportunities for Professional Growth
   - Continual learning: Providing opportunities for ongoing education and career advancement can help nurses feel more involved and proficient in their roles.
   - Skill diversity: Allow nurses to expand their skill set or rotate through different shifts to prevent monotony and keep their work interesting.

V1. Foster a Healthy Work-Life Balance
   - Flexible scheduling: Whenever feasible, offer flexible shift scheduling, enabling nurses to take necessary breaks or manage personal responsibilities.
   - Promote time off: Encourage nurses to use their vacation time and avoid overworking by picking up extra shifts unless absolutely essential.

V11. Promote Healthy Lifestyle Habits
   - Wellness initiatives: Offer access to wellness programs, such as fitness classes, yoga, or mindfulness sessions, to help nurses manage stress and maintain their well-being.
   - Nutritious snacks and meals: Provide healthy meals or snacks during shifts to support nurses' physical health and sustain their energy throughout the day.

V111. Leverage Efficient Workload Management
   - Frequent check-ins: Supervisors should make a habit of checking in with nursing staff to gauge their stress levels and address any concerns they may have.
   - Feedback channels: Establish a system that allows nurses to share their thoughts on shift scheduling, workloads, and overall job satisfaction, using this feedback to improve working conditions.

X. Support Adequate Rest
   - Sleep education: Educate nurses on the importance of quality sleep and effective fatigue management, especially following long shifts.
   - Rest periods: Ensure that nurses have enough recovery time between shifts to avoid working too many consecutive long hours.

REFERENCES

1. https://www.bcg.com/press/11june2024-half-of-workers-around-the-world-struggling-with-bur nout
2. https://www.nursingworld.org/news/news-releases/2022-news-releases/new-survey-data--youn ger-nurses-more-likely-to-experience-negative-impacts-from-the-covid-19-pandemic/
3. https://integrishealth.org/resources/on-your-health/2021/november/what-are-the-5-stages-of-burnout
4. Bae SH, Hwang SW, Lee G. Work hours, overtime, and break time of registered nurses working in medium-sized Korean hospitals. Workplace Health Saf. 2018;66:588–96.

https://doi.org/10.1177/21650799187696. Article PubMed Google Scholar

5. Chiara Dall'Ora et.al. Association of 12 h shifts and nurses' job satisfaction, burnout and intention to leave: findings from a cross-

sectional study of 12 European countries. https://bmjopen.bmj.com/
6. Bae S, Pen M, Sinn C, Kol S, An B, Yang SJ, et al. Work hours and overtime of nurses working in Cambodian hospitals. Int Nurs Rev. 2021;69:150–8. https://doi.org/10.1111/inr.12720.Return Article PubMed PubMed Central Google Scholar
7. Hu NC, Chen JD, Cheng TJ. The Associations Between Long Working Hours, Physical Inactivity, and Burnout. J Occup Environ Med. 2016 May;58(5):514-8. doi: 10.1097/JOM.0000000000000715. PMID: 27158959.
6. Lin RT, Lin YT, Hsia YF, Kuo CC. Long working hours and burnout in health care workers: Non-linear dose-response relationship and the effect mediated by sleeping hours-A cross-sectional study. J Occup Health. 2021 Jan;63(1):e12228. doi: 10.1002/1348-9585.12228. PMID: 33957007; PMCID: PMC8101694.
7. Dall'Ora C, Griffiths P, Ball J, Simon M, Aiken LH. Association of 12 h shifts and nurses' job satisfaction, burnout and intention to leave: findings from a cross-sectional study of 12 European countries. BMJ Open. 2015 Aug 23;5(9):e008331. doi: 10.1136/bmjopen-2015-008331. PMID: 26359284; PMCID: PMC4577950.
8. Benard Gisilanbe Vetbuje et al , Burnout of Nurses due to Workload and Long Working Hours during Shifts (2023) Int Arch Nurs Health Care 2023, 9:191
9. C., Ball, J., Reinius, M. *et al.* Burnout in nursing: a theoretical review. Hum Resour Health 18, 41 (2020). https://doi.org/10.1186/s12960-020-00469-9
10. Samadi S, Malekmohammadi R, Shahvari Z, Mireskandari S M, Amraei F, et al. Burnout and Its Related Risk Factors: A Comparison Study of Nurses Working in Two Different Wards. Arch Neurosci. 2024;11(1):e144286. https://doi.org/10.5812/ans-144286
11. Shah MK, Gandrakota N, Cimiotti JP, Ghose N, Moore M, Ali MK. Prevalence of and Factors Associated With Nurse Burnout in the US. *JAMA Netw Open.* 2021;4(2):e2036469. doi:10.1001/jamanetworkopen.2020.36469
12. Ro-Ting Lin, Yu-Ting Lin, Ying-Fang Hsia, Chin-Chi Kuo, Long working hours and burnout in health care workers: Non-linear dose-response relationship and the effect mediated by sleeping hours—A cross-sectional study, *Journal of Occupational Health*, Volume 63, Issue 1, January/December 2021, e12228, https://doi.org/10.1002/1348-9585.12228