

Psychosomatic Stress for Nurses During Day and Rotating Shift Work in Al- Najaf governmental Hospital's

Zahraa Abdull Abbass Taher Al- Khafajy¹, Bashar R. Mohammed Ali², Iman Qasim Kteo Al-husseini³, Huda Jwad Kadium⁴, Salma Jehad Shehab⁵

Email: zahraa.abdulabbas@uokufa.edu.iq

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Abstract

Objective: To assess physical and psychological stress for nurses during day and rotating shift work. To find out the relationship job satisfaction and demographic data and Finally to find out the relationship between physical and psychological stress for nurses and demographic data.

Methodology: A Descriptive study design (correlation study) was carried out through the present study in order to achieve the early stated objectives. From period 15th of May 2021 to 20th of June 2021 A non-probability (purposive sample) of (137) nurses who were works in governmental hospitals were included in the study. The data were collected through the utilization of the developed questionnaire, consist of two parts: part I consists of demographic data contain (6) items, and part II include the Standard Shift Work Index Scale (SSI) which consist of three subsection as "Work situation, General job satisfaction and psychosomatic symptoms.

Results: The result of present study indicate that highest percentage of the nurses' are females (54%) within age group (≥ 25) years old (56.2%), who are married (66.4 %), and graduated from nursing colleges (63.5 %) and lives in urban residential area (82.5%), and those with monthly income which sufficient to meet some extent (38.7 %). Furthermore, the overall assessment for job satisfaction is partially satisfied while psychosomatic stress among nurses is (moderate). **Conclusion:** The study concludes that more than half of nurses are partially satisfied about your job due to most them are suffering from psychosomatic stress so the study find that there is a high significant correlation between psychosomatic stress and job satisfaction ($r= 0.441$) at ($P<0.01$).

Keywords: governmental hospitals, demographic data, Standard Shift Work Index Scale (SSI).

INTRODUCTION

Healthcare systems are organizations that are established to meet the health needs of people. Work in the health sector is often requires the provision of health services 24 hours a day so , shift work is considered necessary and indispensable to ensure continuity of care in hospitals and residential facilities. and according to the context of this system, it is necessary to put measures in place to enhance the safety of members of health personnel working in these institutions.^{1,2} shift work is increasingly relevant. Shift work may encompass any work schedules that deviate from the traditional day shift (typically starting between 7 am and 10 am), and is typically categorized as fixed night, early morning, and late afternoon/evening shifts, or rotating shifts. Recent estimates of the prevalence of shift work indicate that between 15 to 30% of the European and American workforce are engaged in shift work.³ In health system rotating and scheduling are the main characteristics of shift work and nurses are largely locked into schedules that provide care especially during night shift work as nurses often feel sleepy and exhausted during this shift.⁴

Nursing is a highly stressful occupation, and high levels of occupational stress are believed to affect the physical and mental health of nurses . It was found that job stress brought about hazardous impacts not only on nurses' health but also in their abilities to cope with job demands.⁵ Night shift nurses are responsible for patient care with little support in a difficult working environment under continuous pressure and face problems directly related to working at night in addition This increases the risk of accidents, circulation, cancer, gastrointestinal diseases, and heart.⁶ According to the World Health Organization, social and personal problems are more prevalent among night shift healthcare workers, compared to those working day shifts only. Irregular shifts tend to cause more social and subjective problems and dissatisfaction at work. According to the same study, night shift health workers use more sedatives than their colleagues who only work day shifts.² Although exhausted during Nurse shift works not only have effects on work but family life, Social and leisure activities.⁷ Work and family commitments

usually Cannot be fulfilled simultaneously. Therefore, working shifts commonly conflicts with valued Time for family activities as well as restricting domestic commitments, particularly for female.8

Methodology:

A correlation study design was carried out through the present study in order to achieve the early stated objectives. From period 15th of January 2021 to 12th of July 2021. A non-probability (purposive sample) of (137) nurses who were works in governmental hospitals were included in the study. An assessment tool was adapted and developed by the researcher to use in determinate physical and psychological stress for nurses who work at governmental hospitals in Al-Najaf AL- Ashraf. The final copy consists of two parts: The first section of the questionnaire included demographic information which includes residency, gender, age, marital status, level of educational and monthly income while The second section of the questionnaire consists of three

subsection related to SSI.9 which include 1. “Work situation” consists of eight questions investigating Years of Experience, Usual Shift Pattern, Duration of Work/ Months, Number. of Week Days, Number of Shifts during holydays, Shifts distribution to the nurses, and Reason for working with shifts. 2. “General job satisfaction” consists of twelve items which “measure the degree to which the employee is satisfied and happy with the job”. 3. “psychosomatic symptoms” consists of twenty items which “measure physical and psychological burden for nurses during day and night shift. A three-point Likert scale is used (1=unsatisfied, 2= some time and 3=satisfied.). The questionnaire was developed in English language and subsequently being translated into Arabic language. A validity of the study instrument is conducted through a group of experts who have a years of experience in nursing field. The data were collected through the utilization of the developed questionnaire, and by means of structured interview technique with the subject who individually interviewed, and each subject was interviewed in the same way by using the similar questionnaire for the subjects of the study sample at the governmental hospitals in Al-Najaf AL- Ashraf. The data collection was carried out from 1st of May to 22th of June 2021.

Ethical Considerations

The data were collected after obtaining the approval of the research proposal from the Ethics Committee of the faculty of nursing University of kufa and AL-Najaf Health directorate.

Study Results

Table (3-1): Distribution of Nurses by Their Socio Demographic Characteristics.

Demographic data	Rating and intervals	Frequency	Percent
Gender	Male	63	46.0
	Female	74	54.0
	Total	137	100.0
Age / years	≥ 25	77	56.2
	26-35	30	21.9
	36-45	24	17.5
	≤ 55	6	4.4
	Total	137	100.0
Marital status	Single	38	27.7
	Married	91	66.4
	Divorced	6	4.4
	Widowed	2	1.5
	Total	137	100.0
	Secondary School	26	19.0
	Institute	24	17.5
College	87	63.5	
Total	137	100.0	

Residence	Urban	113	82.5
	Rural	24	17.5
	Total	137	100.0
Economic Status	Sufficient	50	36.5
	Sufficient to some extent	53	38.7
	Insufficient	34	24.8
	Total	137	100.0

Table (3.1) explains that the highest percentage of the nurses' are females (54%) within age group (≥ 25) years old (56.2%), who are married (66.4 %), and graduated from nursing colleges (63.5 %) and lives in urban residential area (82.5%), and those with monthly income which sufficient to meet some extent (38.7 %).

Table (3.2): Distribution of Nurses by Their Professional Characteristics.

Items	Sub-groups	Frequency	Percent %
Years of Experience	1-7	87	63.5
	8-14	20	14.6
	15-21	19	13.9
	22-28	11	8.0
	Total	137	100.0
Usual Shift Pattern	Day	76	55.5
	Afternoon	35	25.5
	Night	26	18.9
	Total	137	100.0
Duration of Work/ Months	1-90	100	73.0
	91-180	19	13.9
	181-270	14	10.2
	271-360	4	2.9
	Total	137	100.0
No. of Week Days	2-3	56	40.9
	4-5	77	56.2
	6-7	4	2.9
	Total	137	100.0
No. of holydays after work shift	1	46	33.6
	2	54	39.4
	3	37	27.0
	Total	137	100.0
Shifts distribution	Permanent Night Shifts	11	8.0
	Yearly Night Shifts	3	2.2
	Monthly Shifts	87	63.5
	1-2 nights per week	36	26.3
	Total	137	100.0
Reason for working with shifts	Work Tasks	91	66.4
	Suitable for Home activities	34	24.8
	Extra Wages	6	4.4
	Other Reasons	6	4.4
	Total	137	100.0

Table (3.2) This table reveals that the subjects' response regarding work characteristics, that the highest percentage of the nurses' are: nurses with (1-7) years of experience (63.5%), those who work with day shift pattern (55.5 %), with duration of work

between (1-90) months (73 %), and work (4-5) days weekly (56.2%), and those who have working shifts two times during holydays (39.4 %), due to they work with monthly shifts distribution (63.5 %) as well as the reason of working with shifts represent a part work tasks (66.4).

Table (3.3): Assessment of job satisfaction among Nurses.

No.	Items	Scale	Freq.	%	MS	SD	Ass.
1.	Health workers are satisfied about their job	Disagree	27	19.7	2.19	0.74	Partially satisfied
		Sometime	57	41.6			
		Agree	53	38.7			
2.	Workers in health institutions are satisfied with the work they do	Disagree	19	13.9	2.33	0.71	Partially satisfied
		Sometime	54	39.4			
		Agree	64	46.7			
3.	Some workers in health institutions are considering leaving this job and working in another job	Disagree	49	35.8	1.89	0.77	Partially satisfied
		Sometime	54	39.4			
		Agree	34	24.8			
4.	The main goal of working in the shift system is to achieve stability in health institutions	Disagree	5	3.6	2.74	0.52	Partially satisfied
		Sometime	26	19.0			
		Agree	106	77.4			
5.	The workers feel resentment of the management of the health institution because it does not provide an opportunity to discuss matters of interest to the workers	Disagree	12	8.8	2.48	0.65	satisfied
		Sometime	47	34.3			
		Agree	78	56.9			
6.	The night shift is more difficult than the day shift	Disagree	14	10.2	2.57	0.67	satisfied
		Sometime	31	22.6			
		Agree	92	67.2			
7.	Health workers feels that work is interferes with family life	Disagree	9	6.6	2.46	0.62	satisfied
		Sometime	56	40.9			
		Agree	72	52.6			
8.	workers in day shift have more experience than those in night shift	Disagree	63	46.0	1.86	0.88	Partially satisfied
		Sometime	30	21.9			
		Agree	44	32.1			
9.	workers in day shift have more time than those in night shift	Disagree	48	35.0	2.04	0.86	Partially satisfied
		Sometime	36	26.3			
		Agree	53	38.7			
10.	Shift work affects on the role of workers inside the home	Disagree	11	8.0	2.39	0.63	satisfied
		Sometime	62	45.3			
		Agree	64	46.7			
11.	Night shift workers require special attention due to high risk of job dissatisfaction and undesirable health effects.	Disagree	5	6.9	2.74	0.51	satisfied
		Sometime	28	38.4			
		Agree	104	142.5			
		Sometime	43	31.4			
		Agree	85	62.0			

Table (3.3) demonstrate that the assessment of nurses about job satisfaction, that the assessment of items (1,2,3,4,8,9) is

(Partially satisfied), while the assessment of items (5,6,7,10,11) is (satisfied).

Table (3.4): Assessment of psychosomatic stress among Nurses

No.	Somatic domain	Groups	Freq.	%	MS	SD	Ass.
1.	Health workers feel tired and exhausted at the end of the shift	Disagree	2	1.5	2.89	0.36	Moderate
		Sometime	11	8.0			
		Agree	124	90.5			
2.	employees in health institutions can't take enough rest on day off due to family requirements	Disagree	5	3.6	2.58	0.57	Moderate
		Sometime	48	35.0			
		Agree	84	61.3			
3.	I suffer from a loss of self-confidence	Disagree	95	69.3	1.50	0.80	Moderate
		Sometime	16	11.7			
		Agree	26	19.0			
4.	I feel anxious and stressed when there is any change in work	Disagree	17	12.4	2.26	0.66	Low
		Sometime	68	49.6			
		Agree	52	38.0			
5.	I have trouble getting up early	Disagree	23	16.8	2.45	0.77	Moderate
		Sometime	29	21.2			
		Agree	85	62.0			
6.	married workers suffer from Fatigue than singles	Disagree	7	5.1	2.63	0.58	Moderate
		Sometime	37	27.0			
		Agree	93	67.9			
7.	I have difficulty in sleeping	Disagree	17	12.4	2.27	0.67	Moderate
		Sometime	66	48.2			
		Agree	54	39.4			
8.	The amount of sleep that you get after the shift is usually sufficient	Disagree	45	32.8	2.04	0.84	Moderate
		Sometime	41	29.9			
		Agree	51	37.2			
9.	Night shift workers drinks a lot of coffee, to helps them to get rid of drowsiness	Disagree	21	15.3	2.31	0.73	Moderate
		Sometime	52	38.0			
		Agree	64	46.7			
10.	Taking some medications that help worker to sleep due to disturbances during work	Disagree	77	56.2	1.61	0.77	Moderate
		Sometime	36	26.3			
		Agree	24	17.5			
11.	suffers from psychological distresses as a result of shift work	Disagree	70	51.1	1.72	0.81	Moderate
		Sometime	36	26.3			
		Agree	31	22.6			

12.	sleeplessness leads to tired, exhaustion, loss of energy and a feeling of nervousness	Disagree	7	5.1	2.72	0.56	Moderate
		Sometime	25	18.2			
		Agree	105	76.6			
13.	suffer from disturbance stomach and colon.	Disagree	41	29.9	2.02	0.79	Moderate
		Sometime	52	38.0			
		Agree	44	32.1			
14.	I feel headache during work	Disagree	23	16.8	2.34	0.75	Moderate
		Sometime	45	32.8			
		Agree	69	50.4			
15.	Sometimes I suffer from back, muscle and joint pain.	Disagree	10	12.7	2.49	0.63	Moderate
		Sometime	50	63.5			
		Agree	76	96.52			
16.	I often suffering from tachycardia	Disagree	54	39.4	1.85	0.78	Moderate
		Sometime	50	36.5			
		Agree	33	24.1			
17.	sometime i have dizziness	Disagree	26	19.0	2.15	0.71	Moderate
		Sometime	65	47.4			
		Agree	46	33.6			
18.	sometime i feel with difficulty of breathing	Disagree	49	35.8	1.87	0.76	Moderate
		Sometime	57	41.6			
		Agree	31	22.6			
19.	I have difficult to focus and think	Disagree	29	21.2	2.06	0.69	Moderate
		Sometime	71	51.8			
		Agree	37	27.0			
20.	psychosomatic disturbances in shifts lead to an increase in the risk of job dissatisfaction and thus lead to absenteeism from work in a way that negatively effects on patient care	Disagree	29	21.2	2.20	0.77	Moderate
		Sometime	52	38.0			
		Agree	56	40.9			

Table (3.4) illustrates that the assessment of psychosomatic stress among nurses, that the majority of items is (moderate), except the items numbered (4) , in which the assessment is (low).

Table (3.5): Overall Assessment for Job Satisfaction and Psychosomatic Stress among Nurses.

Scales	M.S.	S.D.	Ass.
Job Satisfaction	2.33	0.68	Partially satisfied
Psychosomatic Symptoms	2.20	0.70	Moderate

Table (3.5) explains that the overall assessment for job satisfaction is partially satisfied while psychosomatic stress among nurses is (moderate).

Table (3.6): Pearson correlation coefficient (r) between psychosomatic symptoms and job satisfaction.

	Psychosomatic Symptoms	Sig.
Job Satisfaction	r = 0.441 **	HS

Table (3.6) shows Pearson correlation coefficient (r) between psychosomatic symptoms and job satisfaction, it explains that there is a high significant correlation between psychosomatic stress and job satisfaction (r = 0.441) at (P<0.01).

Table (3.7): Relationship between total job satisfaction of the nurses and their demographic Characteristics

Demographic Data	Chi Square	df	P value	Significance
Age	3.26	3	0.35	NS
Gender	0.00	1	0.98	NS
Residence	0.10	1	0.75	NS
Educational Level	0.38	1	0.53	NS
Marital status	4.09	3	0.25	NS
Economic Status	1.42	2	0.49	NS

NS : Non-significant at P value >0.05

Table (3.7) shows that there is no significant relationship between demographic data and total job satisfaction.

Table (3.8): Relationship Between Psychosomatic Stress Assessment of Nurses and Their Demographic Characteristics

Demographic Data	Chi Square	df	P value	Significance
Age	1.12	6	0.54	NS
Gender	3.39	2	0.51	NS
Residence	3.16	2	0.20	NS
Educational Level	3.86	6	0.69	NS
Marital status	1.32	2	0.51	NS
Economic Status	12.84	8	0.11	NS

Table (3.8) demonstrates that there is no significant relationship between demographic data and total psychosomatic stress.

Discussion of Results:

Part-I: Discussion of Distribution of Nurses by Their Socio-Demographic and professional characteristics:

In our study, the response rate was relatively high in comparison with other studies, according to the demographic and professional characteristics of the nurses that the majority of study are females (54%) within age group (≥ 25) years old (56.2%), who are married (66.4 %), This finding is consistent with results of (Sharma, et al., 2014)⁵, which mentioned in their study result that the majority of sample are female within age group (15-25 years old), lives in urban residential area, and those and those with monthly income which sufficient to meet some extent but they are single as well as this result agree with study done by (verma, et al., 2018).¹⁰ the shows in their study the majority of study subjects are female within age group less than 40 years old and married. In addition the study results in contact with (Al-Ameri, 2017)¹¹, they claimed in their study the majority of study sample are female within age group less than 30 years old, married, reside in urban and while this result disagree with our study result they revealed in their study that more than half of the nurses completed diploma in nursing.

Also this result agree with (Gouzou, et al., 2015)¹², the they emphasized in their study that the majority of study sample are

female, married and reside in urban. Regarding work characteristics, that the highest percentage of the nurses' are : nurses with (1-7) years of experience (63.5%), those In our study, the response rate was relatively high in comparison with other studies, according to the demographic and professional characteristics of the nurses that the majority of study are females (54%) within age group (≥ 25) years old (56.2%), who are married (66.4 %), This finding is consistent with results of (Sharma, et al., 2014)⁵, which mentioned in their study result that the majority of sample are female within age group (15-25 years old), lives in urban residential area, and those and those with monthly income which sufficient to meet some extent but they are single as well as this result agree with study done by (verma, et al., 2018)¹⁰ the shows in their study

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Part-2: Assessment of nurses' according to their total job satisfaction and psychosomatic stress.

The study results reveals that the overall assessment of job satisfaction among nurses, are (44.53%) of the study sample are satisfied about job, while (55.47%) of the study subject are partially satisfied, and no one dissatisfied from job This result disagree with (Bajraktarov, et al., 2011)², they pointed in their study that night shift workers are dissatisfied with their work, (Griffiths, et al., 2014)¹⁴, They reporting in their study that the nurses are being moderately to very satisfied with her/his job Concerning the assessment of psychosomatic stress among nurses, that the majority of items is (partially satisfied), except the items numbered (4) , in which the assessment is (dissatisfied). (Bajraktarov, et al., 2011)², employees whose work schedule includes night shifts are more common suffering from the following common health symptoms and effects: Gastrointestinal problems, particularly peptic ulcers as well as personnel who work in night shift are suffering from daytime sleepiness may lead to depression symptoms which appear as difficulty concentrating, headaches and lack of energy. In addition (Tahghighi, et al., 2017)⁸, they revealed in their study there is no definitive evidence that shift work is effect on psychosomatic functioning of nurses. (Olds and Clarke, 2010)¹⁵, they reported in their study that healthcare workers while doing night shifts are at a higher risk to burnout than day workers because nurses working in RNSs revealed that their duty time was sometimes extended the work for few hours as compared to DS nurses, who work in a fixed time schedule finally, the stress result from increased work hours, rather than the type of shift. Also, (Jones, et al., 2015)¹⁶, they reported in their study that the personnel on rotating shifts had lower stress and a better current state, while those on night shifts had greater psychosomatic burnout. furthermore (Rosa, et al., 2019)¹, they show in their study that shift work involves an alteration in psychophysical homeostasis, with a decrease in performance and social and family relationships, as well as a risk factor for stress, sleep disorders, metabolic disorders, diabetes,

cardiovascular disorders and breast cancer.

Part-3: Overall assessment for job satisfaction and psychosomatic stress among nurses

Overall assessment for job satisfaction and psychosomatic stress among nurses is partially satisfied while psychosomatic stress among nurses is (moderate) this result agree with study done (verma, et al., 2018)¹⁰ they emphasized in their study that there was a significant difference between RNS and DS nurses regard in job satisfaction, and psychological health due to RNS work imposes circadian strain and leads to a greater number of physical and psychological symptoms such as sleep, and chronic fatigue, (Griffiths, et al., 2014)¹⁴ are in agreement with the present study results, they claimed in their study that nurses workload is associated with job satisfaction, the greater workload, lead to less job satisfaction. Despite job satisfaction related to nurses level of involvement in patient care these mean the nurses working in direct patient care are more likely to be satisfy than those who supervisory roles on patients care. (Ruiz-Fernándezjob, et al., 2020)¹⁷, they said in their study that the job satisfaction significantly influence on the physical and mental components of health related quality of life for nurses .

Part-4: Relationship between total job satisfaction of the nurses and their demographic data

shows that there is no significant relationship between demographic data and total job satisfaction this result disagree with (verma, et al., 2018)¹⁰ they stated in their study that there is a significant association between the job satisfaction and female gender. In addition, Shift work was associated with increased overall risk of adverse mental stress specifically depression. so Gender differences explained around 90% female shift workers more likely to experience depressive symptoms than female non-shift workers (Torquati, et al., 2019)¹⁸.

Part-5: Relationship between total psychosomatic stress and their demographic data:

The current study shows that there is no significant relationship between psychosomatic stress of the nurses and their demographic data this result agree with (Sharma, et al., 2014)⁵, they claimed in their study that the professional stress not significantly associated with socio-demographic factors like age, marital status, no of children and gender of the staff nurse while this result disagree with study done by (Cheng, and Cheng, 2017)¹⁹, they shows in their study that there is significantly relationship between age, gender and burnout of shift. This result disagree with (Jones, et al., 2015)¹⁶, they claimed in their study that female gender is associated with higher stress levels and greater fatigue.

Conclusions:

According to the present study findings, the researcher is able to make the following conclusions:

- The most study subject are female within age group more than or equal 25 years old, married, live in urban residential area than in those in rural.
- The study confirms that more than half of nurses are partially satisfied about your job
- The most of research sample are suffering from some psychosomatic stress
- there is a high significant correlation between psychosomatic stress and job satisfaction ($r = 0.441$) at ($P < 0.01$).
- There is no significant relationship between job satisfaction and demographic characteristics
- There is no significant relationship between psychosomatic stress and demographic characteristics

Recommendations:

- One implication to decrease burnout and improve staff satisfaction to

provide best care , policymakers and management should only consider workload and patient mix, but also consider the role of the nurses in patient care

- Health prevention and promotion programs are most important for overcoming the consequences of psychosomatic stress that result from shift work

- Further researches should be conducted on the role of job satisfaction

and work burnout because these variables are more influential on healthcare providers ,than others specifically work-related (workplace, employment status, work shift and work experience).

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