

IMPACT OF NIGHT SHIFT ON THE QUALITY OF LIFE AMONG NURSES WORKING IN A HOSPITAL AT CHITWAN NEPAL

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ABSTRACT

Background: The impact of the night shift is an important or noticeable effect perceived by nurses in the domain of physical health, psychosocial, and environmental health because of night shift. Quality of life is a measure of an individual's ability to function physically, emotionally, and socially within his/her environment at a level consistent with his/her expectations. Nursing is considered a stressful occupation. Stress implies health and the satisfaction level of the Nurses. The objective of the study was to find out the impact of the night shift on the quality of life among nurses.

Methods: A descriptive cross-sectional research design was carried out in Bharatpur Hospital, Chitwan among 50 nurses working in the ICU, Medical, Obstetrical, pediatric, Observation, and Surgical units of Bharatpur Hospital. A purposive sampling technique was used to select the desired sample. Data were collected by using self- self-developed structure questionnaire. A descriptive analysis was done to find out the impact of the night shift on the quality of life among nurses.

Results: More than half (52.0%) of respondents had been impacted during the night shift. The majority (94%) of respondents experienced unwell during the night shift (94%), sustained occupational injury (88%), did not enough sleep after work, and had health affected anyway (78%).

Conclusions: It is concluded that more than half of respondents tend to be impacted by quality of life because of a night shift. Sufficient night intervals, proper staffing patterns, adequate night allowance, and better working conditions may help to improve the quality of life impacted by the night shift.

Keywords: Shift work, quality of life, nurses

INTRODUCTION

The definition of night shift is different from one country to another. In several countries, it is defined as work performed after 6 pm and before 6am the next day, this means that nurses are working 12hours which is called a 12-hour shift system.¹ In Chitwan. Government Hospital of Nepal has a 13-hour night system that is from 6 pm to 7am. Thus, the activity at night will be out of phase with the circadian body temperature and other coupled rhythms. This can result desynchronized circadian system which can affect health and psychosocial states such as feelings of fatigue and disorientation.²

Quality of life (QoL) embraces not only physical but also mental, and social aspects of life and serves an important aspect in understanding the well-being of individuals. Quality of life is defined by the World

Health Organization (WHO) as individuals' perceptions of their position in life in the context of the culture and value systems in which they live and with their goals, expectations, standards, and concerns.³

On one side, the number of night-shift nurses has rapidly increased worldwide over the last decades and other side nurse has to work the long night shift in intense stressful conditions. Furthermore, they often suffer from excessive workloads, stress, minimal social support and low quality of life.⁴ Night shift is necessary to give continuation of patient care in a hospital. But it affects sleep and vigilance disorders, the alteration of the mental health and the quality of life of the exposed person. These vigilance disorders resulting from the night shift are dreadful and engender an increased accidental risk which is all the more serious in the care environment since it

threatens not only the health of the concerned personnel but also that of the patients being cared for.⁵

Nurses as health care providers are obliged to work not only during the day but also during the night to cater for the needs of patients. To date to the best knowledge of the researcher, no study found to determine the impact of night shift duty on nurses' quality of life. Thus the study aimed to find out the impact of the night shift on nurses' quality of life. The study helps hospital administrators to know some underlying effects of the night shift and make new policies to improve nurses' quality of life and finally patient care.

METHODS

A descriptive cross-sectional study design was used to find out the impact of the night shift on the quality of life among nurses at Bharatpur Hospital, Chitwan. The study populations were nurses working in the ICU, Medical, Obstetrical, pediatric, Observation and Surgical units of Bharatpur Hospital. Data were collected from the period of 22nd Nov 2020 to 29 Nov 2020. A purposive sampling technique was applied for the study. The sample size for this study is calculated using the Cochran formula and a total sample of 50 was enrolled in the study.

The inclusion criteria of the study were the nurses who had completed training in nursing programs including MN or M.Sc. Nursing, BN or BNS, B.Sc. Nursing, PCL and ANM performing their duty on the night shift at regular intervals for six months and present at the time of data collection. Data was collected using a self-administered structured questionnaire based on the objectives of the research containing main two parts; Part 1: socio-demographic data and Part 2: questionnaire related to the impact of the night shift on nursing staff's quality of life. It had 21 questions in three aspects: physical health (10 items), psychological (9 items) and environmental aspect (2 items) respectively and each item question was rated in yes, or no form.

Permission letter was taken from Birgunj Nursing Campus, Birgunj and Bharatpur Hospital, Chitwan before data collection. Written informed consent was taken from each respondent to participate in the study, and fill out the questionnaire. Confidentiality of the respondents was maintained throughout the study by providing a unique code for each respondent. The findings were analyzed using descriptive statistics through IBM SPSS Version 16.

RESULTS

Table 1. Socio-demographic characteristics of respondents n = 50

Characteristics	Number	Percent
Age in completed years		
Less than 30	43	86.0
More than 30	7	14.0
Mean±SD: 25.4±5.8 (Min-Max: 19-46yrs)		
Marital status		
Unmarried	25	50.0
Married	25	50.0
Level of education		
PCL Nursing	33	66.0
BN or B.sc Nursing	16	32.0
ANM	1	2.0
Experience		
Less than 10 years	41	82.0
More than 10 years	9	18.0
Number of working organizations		
1-2	49	98.0
3-4	1	2.0

Table 1 shows that majority (86%) of respondents were from less than 30 years. All of them (100%) were female. Regarding marital status, half of them (50%) of respondents were married. Two third (66%) of respondents were PCL, almost one third (32%) of respondents were BN or B.SC Nursing whereas only (2%) were ANM. Likewise in the context, duration of career of nurses, majority (82%) of respondents were from less than 10 years. Concerning number of working organization, almost all (98%) of respondents were working 1-2 organization.

Table 2. Working area and duration of work status of respondents n = 50

Characteristics	Number	Percent
Service in the current unit		
ICU	11	22.0
Medical unit	11	22.0
Obstetrical unit	10	20.0
Pediatric unit	2	4.0
Observation unit	8	16.0
Surgical unit	8	16.0
Years or duration of work in current unit		
0 - 3 years	47	94.0
More than 3 years	3	6.0

Table 2 reveals that near one fourth (22%) of respondents were from ICU and medical unit. Likewise in the context of years or duration of work in same unit most of them

(94 %) of respondents were from 0 to 3 year whereas least (6%) of respondents were from more than 3 years.

Table 3. Impact of night shift on physical health

n= 50

Characteristics	Yes		No	
	Number	Percent	Number	Percent
Enough sleep after night work				
Yes	14	28.0	36	72.0
Experience any problem falling asleep after the night shift	32	64.0	18	36.0
If yes, (n=32)				
Hot beverages	10	31.3		
Alcoholic drinks	1	3.1		
Sleeping Tablets	2	6.3		
Listen to music	20	62.5		
Reading	4	12.5		
Spend more energy to carry out work during the night shift	42	84.0	8	16.0
Yes				
Night shift affects health	39	78.0	11	22.0
Yes				
Experience unwell during the night shift				
Yes	47	94.0	3	6.0
If yes, (n=47)				
Headache	24	51.1		
Dizziness	14	29.8		
Anxiety	11	23.4		
Fatigue	32	68.1		
Nausea	7	14.9		
Sustained any occupational injuries during the night shift	44	88.0	6	12.0
Yes				
If yes, (n=44)				
Needle stick injury	16	36.4		
Muscular strain	13	29.5		
Backache	34	77.3		

*** Multiple responses**

Table 3 reveals that near three forth (72%) of respondent's nurses indicated that they do not get enough sleep after night shift. Similarly, more than half (64%) nurses experience problem to fall asleep after night shift. Likewise, more than two third (84%) of respondents said that they have to spend more energy to carryout works

during night shift. Similarly, more than two third (78%) of the respondent's affect their health in any way. Almost all (94%) of them experienced unwell during the night shift. Majority (88%) of them sustained occupational injuries during the night shift.

Table 4. Impact of night shift on psychosocial and environmental aspects

n= 50

Characteristics	Yes		No	
	Number	Percent	Number	Percent
Psychological aspects				
Level of concentration is low when working at night shift	28	56.0	22	44.0
Night shift affects attitude	34	68.0	16	32.0
Night shift disturbs social life	25	50.0	25	50.0
Satisfied with the support get from family during the night shift.	38	76.0	12	24.0
Have a good work-life/home-life balance during the night shift.	34	68.0	16	32.0
Satisfied with personal relationships.	37	74.0	13	26.0
Night shift increases interpersonal conflict at work.	14	28.0	36	72.0
Have negative feelings because of the night shift.	23	46.0	27	54.0
If yes, (n=23)				
Anxiety	7	30.4		
Depression	1	4.3		
Stress	11	47.8		
Frustration	13	56.5		
Environmental aspects				
Have opportunities for leisure activities	23	46.0	27	54.0
Feel safe and security on the night shift	35	70.0	15	30.0

* *Multiple responses*

Table 4 shows that near two third (56%) of respondents said low level of concentration when working at night shift. Likewise, more than two third of respondent's (68%) attitude was affected because of night shift. Half (50%) of respondents got disturbed social life. Similarly, near half (46%) of respondents had negative feelings because of night shift. Nearly all of them (94%) of nurses experience unwell during night shift. In such way nearly two third (64%) respondents have fatigue during night shift. Similarly, majority of respondents (88%) sustained occupational injuries during night shift. Likewise, more than two third (68%) respondents have backache during night shift. However more than two third (76%, 74% and 68%) of respondents says that they were satisfied with the support got from family, satisfied with their personal relationships and had a good work -life/home life balance during night shift respectively. Towards environmental aspects, more than two third (70%) of respondents felt safe and security on the night shift and near half (46%) of respondents had opportunities for leisure activities because of night shift.

DISCUSSION

The present study shows that the majority of the respondents reported that did not get enough sleep after the night shift (78.0%) (spent more energy carrying outwork during the night shift(84.0%) and reported its effect on their health in any way (78.0%). Most of them (94.0%) experienced unwell during the night shift. A majority (88.0%) of respondents sustained occupational injuries during the nightshift. However, the majority (76.0%) of respondents were satisfied with the support they got from family during the night shift. The findings of the study disclose that the majority (78%) of respondents indicated that they did not get enough sleep after the night shift. This finding is supported by some studies done in Norway & Spain which showed that nearly three-fourth (70%) of the respondents indicated that they did not get enough sleep when on night shift which can lead to fatigue, irritability, lack of focus, and diminished cognitive abilities.^{6, 7, 8, 9}

Likewise, more than half of respondents (64%) experienced problems falling asleep after the nightshift. This finding is inconsistent with the study done in

hospitals of Nineveh governorate, Iraqi where three-fourths (75%) and more than one-fourth (32%) of respondents had problems to fall asleep after the night shift. Similarly, this study also demonstrates that more than three-fourths (78%) of the respondents affected their health in any way.¹

Present study revealed that nearly half (40%) of respondents listen to music to induce sleep followed by hot beverages (20%), reading (8%) and sleeping tablets (4%). The majority (84%) of respondents said that they had to spend more energy to carry out work during the night shift. This finding is supported by the study where nearly three-fourths (72%) of respondents felt the night shift work had a heavy workload.¹

The present study demonstrated that 68% of respondents had suffered from backache, (64%) fatigue, (48%) headache, (28%) dizziness, (22%) anxiety and (14%) nausea. These results come in agreement with the study done by 10 which has shown that 67.3% of respondents reported fatigue and (51.3%) headache whereas disagreement with studies where (32%), persistent or continuous tired during work, (14%) legs pain, (10%) headache and (8%) backache respectively.^{1, 11} It may be due to good staffing pattern, adequate night shift interval and more additional payment etc.

The present study shows that more than half (56%) of respondents felt that their concentration was low. Nearly three-fourths (68%) of respondents said that the night shift had affected their attitude.

The nature of a nurse's job involves physical and mental workload like standing, bending, lifting, decision making about patient care, and other administrative work plus the long duration of night shift work, the imbalance between nurse and patient ratio may affect their attitude. Likewise, half (50%) of respondent stated that their social life was affected. However, the present study has shown that only 26% of respondents had frustration followed by stress (22%), anxiety (14%) and depression (2%). This result is contradictory in aspects of depression with the study conducted in Saudi Arabia which demonstrates that 36% of respondents perceived depression because of the night shift.¹⁰ It may be due to good support from family, satisfied personal relationships and good work-life/home-life balance during the night shift as the present study has shown that the majority (76%) of respondents were satisfied with the support get from family during the

night shift. Nearly three-fourths of respondents (74%) said that they were satisfied with their relationship in their society and 68% of respondents said that they had a good work-life/home life balance during the night.

Regarding the impact of the night shift on respondents' environment, the present study shows that nearly three-fourths of respondents (70%) felt safety and security at the night shift and less than half (46%) of them had opportunities for leisure activity. The current study shows that more than half (52.0%) of respondents' quality of life had been impacted during the night shift whereas nearly half (48.0%) of them had not impacted because of the night shift which is similar to the study in Iraq where regarding the levels of quality of life, more than half (51.4%) of them had very weak (21.4%) and weak (30.0%) level and only 22.9% of respondents had a good level of quality life.¹²

Thus it is a concerned issue because the night shift is affecting nurses' quality of life which may affect patients' health and quality of care. Based on the findings hospital administrators should take steps to protect nurses from occupational hazards caused by night shifts.

CONCLUSIONS

This study concludes that the highest proportion of nurses' quality of life was impacted because of the night shift as the majority did not enough sleep, had to spend more energy carrying work during the night shift, health was affected anyway, experienced unwell during the night shift and sustained occupational injury during the night shift. Thus, the impact of the night shift on the quality of life of nurses is the issue because their quality of life is indirectly linked to the patient's health and quality of care. So, hospital administrators should play a vital role in promoting quality of life by facilitating an environment to prevent occupational hazards caused by the night shift.

CONFLICT OF INTEREST

None

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