

Assessment of Impact of Shift Work on Health among Staff Nurses at SRM General Hospital, Kattankulathur

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Abstract

Objective: The objective of the present study was to assess the impact of shift work on health among staff nurse and to associate the level of impact of shift work on health with the selected demographic variables among staff nurses.

Methodology: Descriptive cross sectional research design and Quantitative approach was used to assess the impact of shift work on health among staff nurses. The study was conducted at SRM General Hospital, Kattankulathur, Kancheepuram district .Samples were selected by non-probability purposive sampling technique. Sample includes 100 staff nurses who were working at SRM general hospital and fulfil the inclusion criteria The tool used for data collection was the “modified version of Standard Shift work Index” . It comprises of two sections: Section –A includes Structured questionnaire to elicit demographic variables such as Age, gender, religion, qualification, duration of work, year of experience. Section –B includes Structured questionnaire to assess the impact of shift work on health. Likert scale rating was used to evaluate the level of impact of shift work on health .

Results : The present study findings revealed that the majority of 79% of staff nurses had moderate impact of shift work on health. 20% had less impact,1% had severe impact and none of them had very less impact of shift work on health. There was no significant association between the demographic variables and level of impact of shift work on health among staff nurses.

Conclusion :There was moderate impact of shift work on health among staff nurses and there was no significant association between the demographic variables and level of impact of shift work on health among staff nurses. Nurses involved in shift work are at risk for decreased health and poor job performance. Their needs should be identified and in service education should be frequently conducted in the hospital in order to ensure that the staff nurses maintain healthy life style.

Keywords: Staff nurse, Shift work, Level of impact, Health.

Introduction

Nursing is a noble profession and nurses play vital

role in the health care. If nurses who are the “symbol of service and humanity” are distressed by their ill health or other stressful circumstances they will not be able to give their full attention to this demanding task. Hospital cannot function effectively and efficiently if there is high incidence of ill health among nurses¹. Quality of care for hospital patients is strongly linked to the performance of the nursing staff. Creating a healthy work environment for nurses is crucial to maintain an adequate nursing workforce.²

Shift work is defined as “work beyond the typical

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daily working hours (about 7–8 AM to 5–6PM)”, including graveyard shift, night shift, early morning shift, and rotational work.³ In this running world, shift work is a very common mode of operation to serve obvious economic and social goals. ‘Shift work’ is a work schedule involving irregular or unusual hours, compared to those of a normal daytime work schedule. According to worldwide epidemiological data, up to 30% of the working population are employed in shifts. Many different work schedules can be described as shift work, including night work and rotating shift work⁴. Nurses serve as the backbone of health care service. In order to be realistic in their health education and patient expectations, nurses must lead by engaging in positive health behaviour⁵. Due to endemic shortages of health care providers all over the world, nurses are exposed to risks which predispose them to poor health as a result of increased workloads and long working hours that lead to burnout⁶

Health Effects of Shift Work

Shift work and job-related stress cause impact on the workers health and safety Researchers have found forceful connections between shift workers and an increased risk of serious health conditions and diseases such as Cardiovascular disease, Cancer, Diabetes and metabolic syndrome, Obesity, Depression and Mood Disorders, Gastrointestinal problems, problems with Fertility and Pregnancy. Study indicates that 24 hours of total sleep deprivation leads to elevated blood pressure through resetting of arterial bar reflexes. Insomnia individuals also show heart period variability, with increased low frequency and decreased high frequency power spectra and increases sympathetic tone on the heart. The progress of a cost-effective and easy to-use strategies for detection of chronic stress accumulation in individual nurses would allow for detection of potential harm to the nurse. It is essential to identify the factors for the evaluation of future stress prevention interventions prior to initiating those interventions. Documentation of adverse health effects affiliated with nursing shift work may prompt the individual, and employers, to take actions directed at preventing negative health effects. Nurses act as direct caregivers and serve hospitals twenty-four hours a day, seven days a week.. Percentage of workforce and health of nurses may be affected due to shift work problems. Thus, the investigators felt the need and conducted this study to assess the impact of shift work on health among staff nurses .

Methodology

Descriptive cross sectional research design and Quantitative approach was used to assess the impact of shift work on health among staff nurses. The study was conducted at SRM General Hospital, Kattankulathur, Kancheepuram district .Samples were selected by non-probability purposive sampling technique. Sample includes 100 staff nurses who were working at SRM general hospital . The inclusion criteria were (a) Staff nurses of both genders, (b) Staff nurses between the age group of 21-50 years (c) Staff nurses who were employed for more than 1 year and willing to participate in the study. The exclusion criteria was (a) Staff nurses who have known chronic illness such as diabetes mellitus, hypertension, etc.(b) Staff nurses who were working for less than one year and not willing to participate. The tool used for data collection was the “modified version of Standard Shift work Index” . It comprises of two sections: Section –A includes Structured questionnaire to elicit demographic variables such as Age, gender, religion, qualification, duration of work, year of experience. Section –B includes Structured questionnaire to assess the impact of shift work on health. It consists of five sub-section, in accordance with the aim of the study.

1. Shift Work – Consist of twelve questions, where it gives detail about their shift working time
2. Sleep and Fatigue –Consists of nine questions, to investigate about their normal and disturbed sleep pattern during shift work
3. Physical Health and Well Being – Consists of eleven questions, to concern on their physical symptoms during shift work
4. Mental Health and Coping – Consists of thirteen questions, to measure the psychological disturbance of staff nurse during shift work
5. Social and Domestic Situation – Consists of five questions, regarding their social participation and daily own works during shift work.

Likert scale rating was used to evaluate the impact of shift work on health among staff nurses..Content validity was obtained from various nursing experts and Reliability of the tool was established by test-retest method. The r value was 0.80 and 0.9 respectively which indicated a positive co-relation to proceed for the main study. Formal approval was obtained from the institution review board and institutional ethical committee of SRM IST, Kattankulathur. The data collection was done after

obtaining Informed consent from the participants and Statistical analysis was performed using SPSS software version 16.

Results

Descriptive and Inferential Statistics were used to assess the impact of shift work on health among staff nurses.

Results of Demographic Variables: Regarding the age, 80% of staff nurses were in the age group of 21-30 years, 19% were between the age of 31-40 years, and 1% staff nurses were in the age group of 41-50 years. Considering the gender of the staff nurses, only 21% were male and 79% of them were females. Regarding the marital status 35% of the staff nurses were married, 1% were divorced, and 64% of the staff were single, there was no widow. On the aspects of religion 57% were Hindu, 14% were Muslim, 28% were Christian, and only 1% were others. Considering qualification 39% of staff nurses were DGNM, 58% were B.Sc.(N), 2% were M.Sc.(N). 44% of staff nurses were working for 6 hours, 22% were working for 7 hours, 27% were working for 8

hours, and 7% of staff were working for >8 hours. 35% of staff nurses had work experience of 1-3 years, 37% were having 3-5 years of experience, 17% were having 5-7 years of experience, and 11% were having >7 years of experience.

Table 1. Assessment of Level of Impact of Shift Work on Health Among Staff Nurses. N=100

S.No.	Level of Impact	No. of respondents	Percentage
1	Very less impact	0	0%
2	Less Impact	20	20%
3	Moderate Impact	79	79%
4	Severe Impact	1	1%
Total		100	

The above data shows the level of impact of shift work on health among staff nurses. 0% of the staff nurses have very less impact of shift work on health, 20% of the staff nurses have less impact of shift work on health, 79% of the staff nurses had moderate impact and 1% of the staff nurses had severe impact of shift work on health.

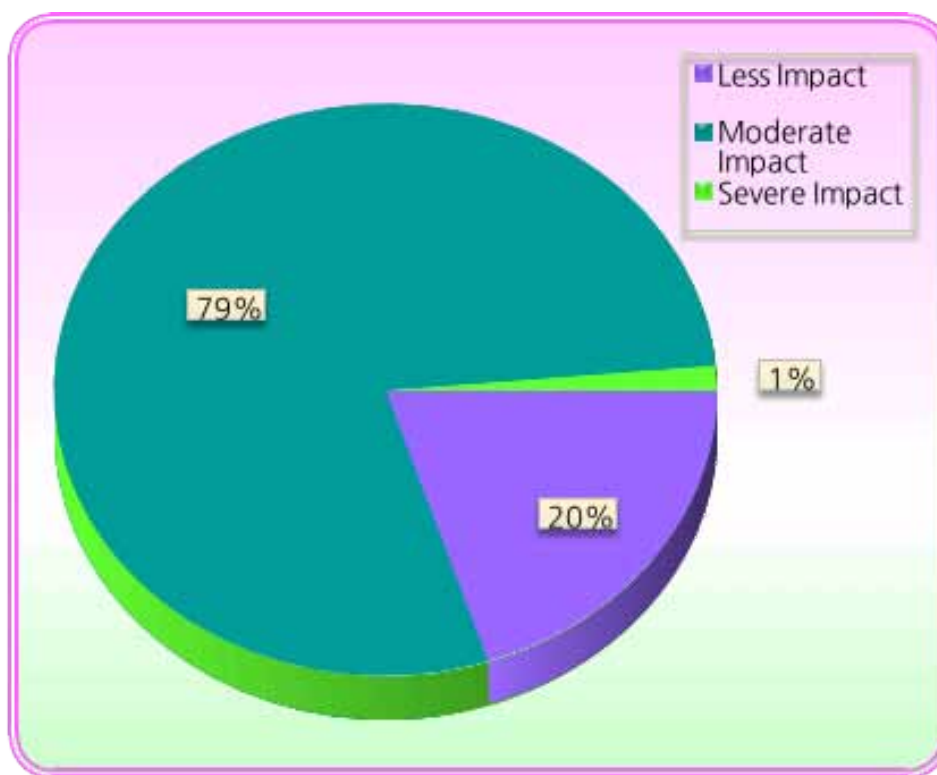


Figure 1: Percentage Distribution of Level of Impact of Shift Work on Health among Staff Nurses

Table 2: Association between the “Demographic variables and level of impact of shift work on health” among staff nurses

S.No.	Demographic Variable	Class	Level of Impact			Chi-Square	DF	P-Value
			Less Impact	Moderate Impact	Severe Impact			
1	Age	21-30 Years	17	62	1	0.825	4	0.935
		31-40 Years	3	16	0			
		41-50 Years	0	1	0			
2	Gender	Male	6	14	1	5.250	2	0.072
		Female	14	65	0			
3	Marital status	Married	5	30	0	5.484	4	0.241
		Divorced	1	0	0			
		Single	14	49	1			
4	Religion	Hindu	13	44	0	3.582	6	0.733
		Muslim	3	11	0			
		Christian	4	23	1			
		Others	0	1	0			
5	Qualification	DGNM	9	29	1	2.684	6	0.847
		B. Sc (N)	11	47	0			
		M. Sc (N)	0	2	0			
		Others	0	1	0			
6	Duration of Work	6 Hours	14	30	0	10.940	6	0.090
		7 Hours	1	20	1			
		8 Hours	4	23	0			
		> 8 Hours	1	6	0			
7	Years of Experience	1-3 Years	9	26	0	3.675	6	0.721
		3-5 Years	5	31	1			
		5-7 Years	3	14	0			
		>7 Years	3	8	0			

**-Significant at 1% level *-Significant at 5% level

From the above table, the p-value corresponding to the demographic variables were not significant at 5% level of significance and hence it was found that there was no significant association between the demographic variables and level of impact of shift work on health.

Discussion

Altered shift schedules will have various impacts on the health of a shift worker. The way the shift pattern is designed affects how shift workers sleep, eat and take holidays. Some shift patterns can aggravate fatigue by increasing stress, limiting rest, overworking staff or

disrupting their time off⁷. The present study reveals that 1% of the staff nurses have severe impact of shift work on health, 79% have moderate impact, 20% have less impact and 0% of staff nurses have very less impact of shift work on health. The results also revealed that there was no significant association between the demographic variables and level of impact of shift work. Deficits in health behaviours of nurses are common issues in a number of countries mainly due to inadequate balanced diet, low level of physical activity, not enough sleep and rest⁸. Findings of this study is similar to Rathore H et al 2012⁹ study with objective of getting an insight into

the problems faced by female nurses in shift work. The results showed that the female nurses in the age groups of 30-45 years and 45-60 years faced many problems related to health and well being, fatigue, social and domestic situations.

Surekha anbazhagan et al 2016¹⁰ study involved 130 nurses, aged of 27.4 ± 2.64 years. The prevalence of shift work disorders was found to be 43.07%. Headache, back pain, gastritis, and menstrual disorders were the most common complaints, which were found in 60.0%, 57.6%, 32.3%, and 30.0% cases, respectively. Anxiety and depression was found in 17.6% and 23.8% individuals, respectively. 53.8% nurses were found to have sleep problem. Researcher found a significant association of shift work disorder with increasing age, more number of nights worked in a year, and longer duration of working hours. Researches also show that nurses who work on rotating shifts had complaints concerning fatigue and this was highest in the night shift, followed by evening then morning shift. The symptoms reported by night shift nurses include sleepiness, sadness, and difficulty concentrating, with numerous complaints about cumulated fatigue and disturbed social life¹¹

Conclusion

The investigators conclude that there was moderate impact of shift work on health among staff nurses and there is no significant association between the demographic variables and level of impact of shift work.. Nurses involved in shift work are at risk for decreased health and poor job performance .Their needs should be identified and in service education should be frequently conducted in the hospital in order to ensure that the staff nurses maintain healthy life style.

Source of Funding: Self

Conflict of Interest: Nil

Acknowledgement: Investigators thank the Dean, SRM College Of Nursing for her valuable direction during the research project. We also thank all the staff nurses of SRM general hospital for their cooperation and support.

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