

sleep quality and the need for recovery among nurses working irregular shifts: A cross-sectional study

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INTRODUCTION



- 1. Night shift work contributes to sleep deprivation and circadian disruption, and some studies suggest that nurses working night shifts have an increased risk for cancer mortality and cardiovascular disease.
- 2. Shift work has been associated with low sleep quality among nurses.
- The sleep quality of nurses who work irregular shifts has not been 3. investigated.
- 4. Sleep is vital in the body's recovery process, as it facilitates many restorative

Design: A cross-sectional study.

Setting: Maastricht University Medical Center (MUMC+).

Study methods: Data were collected using an online questionnaire that included sociodemographic characteristics, health, lifestyle behaviors, the Sleep-Wake Experience List (SWEL), sleep problems, sleep duration, and the Need for Recovery scale.

functions.

Sleep quality has received little attention in research as a possible determinant 5. or correlate of the need for recovery.

Objective:

lacksquare

The purpose of this study was to investigate the sleep quality of nurses working irregular shifts, including night shifts, and to determine whether sleep quality is associated with the need for recovery.

Data analysis: Was performed using descriptive statistics, chi-square tests, *t*tests, logistic regression, and multiple linear regressions

Sleep complaints of the SWEL sle Early morning awakening Tiredness upon waking up Maintainingsleep Difficulty waking up Davimesteepiness Average score of SWELL Initiating sleep Sleep pr difficulty asleep, waking up too Nurses working night shifts Nurses working night shifts

RESULTS

ISI-based questions	Multiple linear regression results of sleep quality with the need for recovery					
	Variables		Model 1		Model 2	
		β	<i>p</i> -value	β	<i>p</i> -value	
	Sleep quality (composite SWEL score)	.595	.001	.554	.001	
Sleep problems, Hindering of including daily functioning	Working night shifts during last six months (No/Yes)	106	.012	076	.082	
difficulty falling	Sleep duration	.081	.055	.041	.364	
sleeping, and	Model 2: adjusted for age (continuous), gender, living situation, general health, being treated for sleep					

problems, daily smoking, frequency of exercise per week, and average number of working hours per week (continuous).

- Nurses without night shifts Nurses without night shifts
- Nurses who worked irregular shifts, including night shifts, had significantly poorer sleep quality (M = 3.3) than those who did not work night shifts (M = 2.8).
- Nurses who worked irregular shifts, including night shifts, demonstrated more difficulties in daily functioning than nurses who did not work night shifts (p = .009).

DISCUSSION

- This is the first study that assessed the association between working irregular shifts and sleep quality among nurses, and the association between sleep quality and the need for recovery after work.
- The study findings align with few studies that assessed the sleep quality of night shift nurses, these previous studies did not clearly state \bullet whether the included nurses worked irregular or regular night shifts.
- This study found that sleep quality is associated with the need for recovery, demonstrating that nurses working irregular shifts with lower sleep \bullet quality had a higher need for recovery after work.
- This association suggests that sleep quality can be viewed as a "moderator" in the effort-recovery model, which may moderate the effects of lacksquareworking irregular shifts on the need for recovery after work.

CONCLUSION

Nurses who work irregular shifts have poor sleep quality, particularly if they work night shifts. Sleep quality is strongly associated with nurses' need for recovery after work. It is suggested that low sleep quality for shift nurses may lead to high need for recovery, which may affect the future

 Sleep quality was significantly associated with the need for recovery and remained so after controlling for confounding variables ($\beta = .554$, p = .001).

health status. Therefore, it is important to assess in future research whether sleep quality in nurses working irregular shifts can be improved by either optimizing shift schedule or by using certain sleep hygiene strategies.

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