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SLEEP QUALITY AND ITS ASSOCIATION WITH DEPRESSION AMONG PSYCHIATRIC NURSES: A SCOPING REVIEW

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Abstract

Background. *Psychiatric nurses face high workloads and stress, contributing to sleep issues and depressive symptoms. This scoping review examines the relationship between sleep quality and depression among psychiatric nurses, highlighting research gaps and synthesizing existing evidence.*

Materials and methods. *A comprehensive literature review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Five databases - MEDLINE, SAGE Knowledge, Scopus®, PubMed, and Google Scholar—were searched using terms related to sleep quality and depression. Inclusion criteria focused on studies published between 2018 and 2022 that involved psychiatric nurses and measured both sleep quality and depression. Exclusion criteria eliminated studies not focusing on these specific variables or populations.*

Results. *Initially, 274 articles were identified, of which 22 were included in the final review after screening and eligibility assessments. These studies used various research designs, predominantly cross-sectional, and were conducted in diverse geographical settings, providing a broad spectrum of evidence. Most studies identified a strong correlation between poor sleep quality and higher levels of depression among psychiatric nurses. Shift work, particularly night shifts, was frequently associated with worse sleep quality and depressive symptoms. Tools such as the Pittsburgh Sleep Quality Index and the Center for Epidemiologic Studies Depression Scale were commonly used to assess outcomes.*

Conclusion. *The review confirms a significant association between sleep quality and depression among psychiatric nurses, exacerbated by demanding work conditions and shift patterns. The findings underline the need for targeted interventions to improve sleep quality and manage depression, potentially enhancing overall well-being and job performance in this group.*

Implications for Practice and Research. *This review suggests that healthcare facilities should consider structured interventions addressing shift scheduling, stress management, and mental health support. Future research should explore longitudinal relationships and intervention effectiveness, focusing on diverse populations and settings to generalize findings and enhance nurse well-being and patient care quality.*

Keywords: *sleep quality, depression, psychiatric nurses, shift work, Scoping review.*

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Introduction

Sleep is a physiological state in which the body temporarily disengages from the external environment. In addition, overnight polysomnography is the only approach to measure different sleep aspects objectively. A questionnaire is one of the most common subjective measures to evaluate sleep quality; it measures several sleep indicators, including delayed sleep latency, length, efficacy, and disruptions. Therefore, insomnia, pain, drug usage, alcohol, caffeine, obstructive sleep apnea, depression, and stress were all identified as factors affecting sleep quality in many research [*Mollayeva et al., 2016; Williams, A. B. et al., 2020*]. Similarly, the existing literature has consistently identified shift work as a notable factor that contributes to both decreased sleep quality and increased risk of depression.

Furthermore, it is still being determined whether shift work has the most negative impact on poor sleep quality [*Athar et al., 2020*]. However, good scheduling without unsuitable shiftwork patterns will assist in lessening adverse effects. Psychiatric nurses are stressed, have high-risk jobs, and have tremendous workloads.

Many researchers found that psychiatric nursing staff has been under exposure to traumatic stressors and potential developers of negative symptoms related to sleep quality and depression due to extended working hours in healthcare settings, administrative workload, supervision, and staffing challenges [*Arimon-Pagès et al., 2019; Yılmaz & Üstün, 2018; Cavanagh et al., 2020*]. Depression recognized as a significant global public health concern, are a leading contributor to disability worldwide [*Ferrari et al., 2013*]. The Global Burden of Disease Study found that between 1990 and 2017, reported incidents of depression increased globally by 49.86% [*Liu et al., 2020*]. Notably, nurses are susceptible to exposure to work-related stress, which might raise their risk of developing depression as nursing is demanding and stressful [*Gao et al., 2012; Wang, Lv, et al., 2019*].

Psychiatric nurses have been found to have depression about twice as frequently as individuals in other professions [*Letvak et al., 2013*]. In the United States, it has been estimated that 18–35% of nurses experience depression or depressive symptoms [*Hsieh et al. 2021*]. 61.7% of the population in China [*Gao et al., 2012*], 9.4% in Canada [*Fang et al., 2018*], and 35.8% in Hong Kong [*Nwani et al., 2010*] are the countries with the highest percentages.

Generally, chronic sorrow, worry, or empty feelings are signs of depression, affecting work productivity and performance [*Langlieb & DePaulo Jr, 2008; Letvak et al., 2012*]. People who are depressed struggle to concentrate, have trouble managing their time, are less effective at mental and interpersonal tasks, and make poor decisions when under pressure [*Langlieb & DePaulo Jr, 2008*]. Missed nursing care is any component of patient care that is neglected or delayed [*Suhonen & Scott, 2018*] and is described as psychological impairments among nurses [*Kalisch et al., 2009*]. The field of mental health nursing is highly concerned about this problem. At least 75% of psychiatric nurses report missing nursing care at least once [*Griffiths et al., 2018*], defined as the omission or delay of necessary patient treatment [*Kalisch et al., 2009*].

Psychiatric nurses often handle multiple work-related stressors, such as heavy workloads, interacting with patients and their families, working in shifts, and overtime, which can add to their stress levels [*Bae & Fabry, 2014; Shin S., & Kim S. 2021*]. This increased stress can heighten the risk of sleep disturbances and mental health issues [*Deng et al., 2020*]. According to public health research, a significant proportion of psychiatric nurses, ranging from 57% to 83%, report experiencing sleep difficulties, such as insomnia, insufficient sleep, sleep deprivation and poor sleep quality [*Qiu et al., 2020*]. When psychiatric nurses have inconsistent, interrupted, or inadequate sleep, it may adversely affect personal, professional, and societal levels [*Bae & Fabry, 2014*]. Furthermore, studies suggest that psychiatric nurses who experience frequent insomnia and shorter sleep duration often exhibit lower Brain-Derived Neurotrophic Factor levels. Brain-Derived Neurotrophic Factor is critical in neuronal survival, growth, and neurotransmitter functions. This finding indicates that psychiatric nurses may be more vulnerable to depression, surpassing previous assumptions [*Furihata et al., 2020; Ibrahim et al. 2019*].

This review was conducted to synthesize evidence from various articles and describe each article's char-

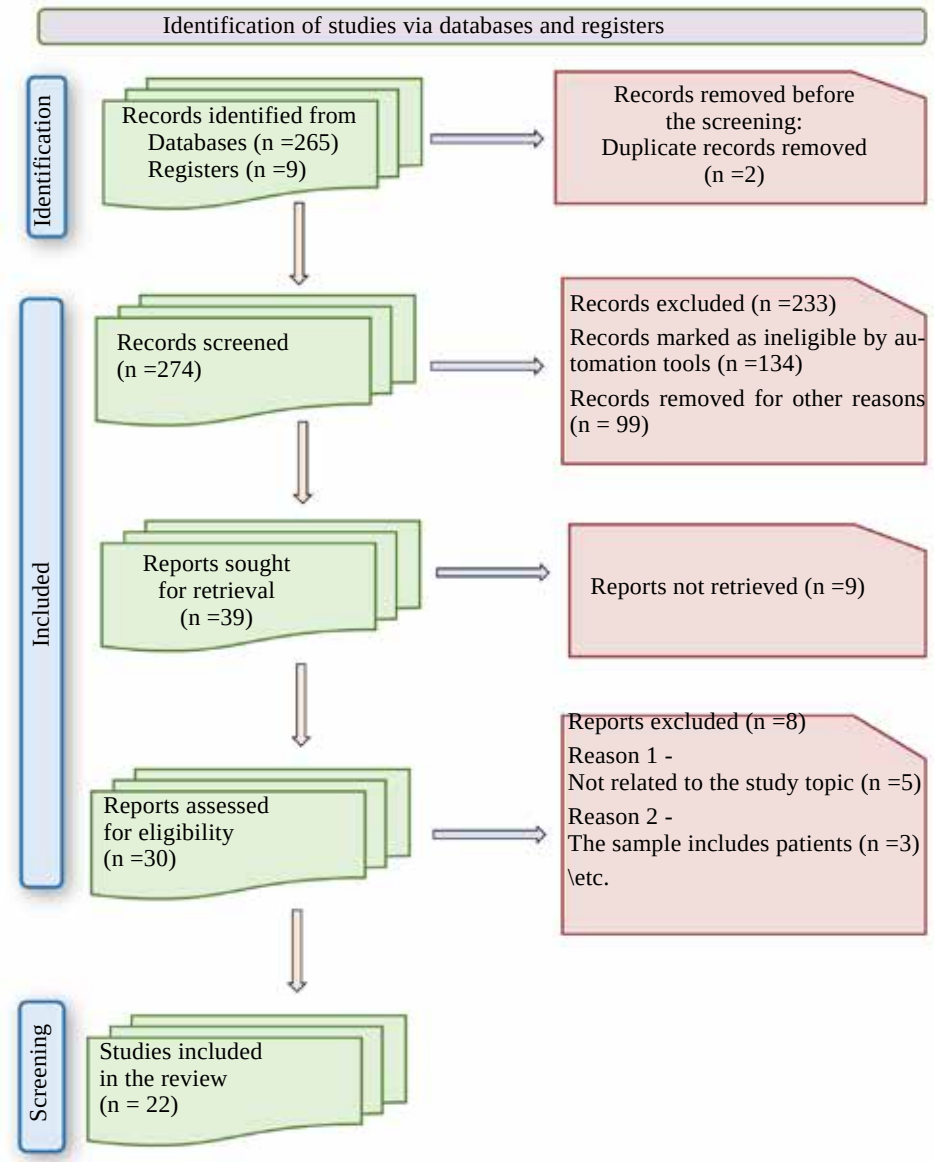

Figure 1. *Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram showing the identification and selection of studies.*[*Page MJ, et al., 2021*]

acteristics and samples. The principal investigator has conducted the review. The review process comprised multiple steps, which are as follows.

Identifying Review Questions. The review question of this literature review was defined using the Population-Intervention-Comparison-Outcome-Time (PICOT) format [*Melnyk & Fineout-Overholt, 2022*]. The PICOT question was: "What is the association between sleep quality and depression among psychiatric nurses?" [*Feng et al., 2021*].

Aim. This study aims to describe the theoretical evidence linked to sleep quality and its relationship to depression among psychiatric nurses and identify any research gaps.

MATERIALS AND METHODS

A literature review was conducted to explore evidence from multiple studies and describe characteristics of each study, the study design, participants, the primary endpoint and findings. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 Guidelines were used for reporting the studies [*Page et al., 2021*]. An additional descriptive correlational design was used. The correlational descriptive study examined the relationship between depression and sleep quality among the participating psychiatric nurses.

Search Strategy. Developing an effective search strategy enables the researcher to find relevant data on the research problem [*Pagatpatan et al., 2016*].

Furthermore, the search strategy helps with an investigation of the relevant literature. Five databases were searched to identify relevant literature: MEDLINE, SAGE Knowledge, Scopus®, PubMed, and Google Scholar. Search terms used in each database included depressive symptoms and sleep combined with the Boolean operators "or" and "and" when searching for both words sleep quality or/ sleep disturbance, depression, or/ depressive symptoms. The reference lists of the included studies were manually screened as part of the search strategy for this review to find more relevant research.

Inclusion and Exclusion Criteria. The inclusion criteria were studies that examined sleep quality and its association with depression among psychiatric nurses. Studies published between 2018 and 2022 were included. Full-text articles, studies published in the English language only, original primary studies that examined the relationship between sleep quality and depression, and studies involving psychiatric nurses were included. The exclusion criteria were studies that did not report on sleep quality and its association with depression symptoms.

Study Selection Process. Preferred Reporting Items for Systematic Reviews and Meta-Analyses was utilized as a guide for choosing appropriate studies for the present review.

Initially, 274 articles were retrieved from several databases (213 from MEDLINE, 33 from SAGE Knowledge, 19 from Scopus®, six from PubMed, and three from Google Scholar). The titles and abstracts of the retrieved studies were screened for relevance against the review question. After screening the titles and abstracts of 274 articles, 233 articles were excluded because they were not relevant to the research question of the study, 30 articles were assessed for eligibility, and eight full-text articles were excluded later by the researcher because five articles were not related to the study topic and three articles the sample includes patients. Finally, 22 full-text articles remained for inclusion in this review **(Fig. 1).**

Data Extraction. Data were extracted from the selected studies and organized into a matrix table (table 1). The extracted information covered study reference, country, aim, design, sample size, participant characteristics (including gender and mean age), assessment tool(s), main findings/results, and limitation(s).

Results

The relationship between the sleep quality and depression among nursing professionals has been extensively studied and highlighted in academic research. This literature review critically analyzes 22 relevant studies conducted between 2018 and 2022, focusing on the correlation between the quality of sleep and depression in nurses. These studies were carried out in a variety of global locations, including China, Japan, and Saudi Arabia. This review compiles the insights derived from these studies, offerning a comprehensive understanding of the current perceptives on this correlation.

From a methodological perspective, the studies employed varied in their approaches, including cross-sectional designs and others adopting prospective cohort designs. The number of participants in each study varied, with a range of 240 to 816 subjects. However, the gender distribution among the participants was as follows: 15 studies included both males and females, two studies only included males, and five studies only included females. The average age of the participants was 34.15 years.

A variety of instruments was used for the collection of data on sleep quality, depressive symptoms, and related factors. The Pittsburgh Sleep Quality Index and the Center for Epidemiologic Studies Depression Scale were frequently used in many of the studies, due to their reliability as measurement tools [*Hsieh, H. F. et al., 2021*]. These instruments are widely accepted and validated for assessing sleep quality and depression.

Nevertheless, other tools, such as the Beck Depression Inventory, Self-Compassion Scale (SCS), and Patient Health Questionnaire-9 (PHQ-9) were also used. It should be emphasized that the methodologies varied across the studies reviewed and each had its own set of limitations [*Kurebayashi, Y. 2020*]. The majority of the studies depended on self-reported measures, which could potentially lead to response biases. Moreover, the use of cross-sectional designs does not allow for the establishment of causal relationships. In this review, a categorization matrix was utilized by the researchers to sort the studies by their respective themes, which helped in identifying recurrent patterns from the chosen studies. Once these themes were recognized, they helped in framing the pri-

TABLE 1.

Summary of included studies and extracted data.
Data extracted from selected studies

Study reference	Country of study	Study design	**Total sample**	Gender	**Mean age (years)**
Wangsan et al., 2022	**Thailand**	**Cross-sectional analytical study**	**622**	**Male**	**37.30**
Aim of the study	To determine whether nurses' poor sleep quality (PSQ) is related to their shift work schedules.				
Tool	A self-reported questionnaire comprising personal characteristics, job characteristics, characteristics of shift work, and sleep quality.				
Main findings/results	In the study, nurses at a university hospital frequently reported poor sleep quality (PSQ). Compared to other shift patterns, backward shiftwork had the highest association with PSQ (P=0.001).				
Limitations	Single-site study. Several aspects (such as sleep apnea) were not assessed. Information bias resulted from the participants' self-reported data.				
Tosun A, et al., 2022	Turkey	Cross-sectional and correlational design	142	Male/Female	27.25
Aim of the study	The objective here is to elucidate the sleep quality and levels of depression experienced by nurses during the COVID-19 pandemic and explore the interrelationship between these two factors.				
Tool	PSQI/ Beck Depression Index				
Main findings/results	Sleep quality among nurses was poor (64.8%), and While (33.1%) of the study subjects had depression. There is a statistical relationship between PSQI and age, marital status, smoking, and educational level (P<0.005).				
Limitations	Minimal sample size; single-site study				
Nazari N et al., 2022	Iran	Cross-sectional analytical study	680	Male/Female	32.85
Aim of the study	To address the knowledge gap regarding the association between COVID-19 psychological discomfort and sleeplessness.				
Tool	(ISI)/(DBAASS) /The Neuroticism Subscale of the Big Five Inventory				
Main findings/results	The study revealed that mild to moderate clinical insomnia was identified in 35.8% (n=253) of the nursing staff. Furthermore, the data demonstrated that the psychological distress induced by the COVID-19 pandemic was a significant predictor of insomnia (β=0.47, SE=0.02, P<0.001, t=13.27, 95% CI 0.31-0.46).				
Limitations	For online data collection, nurses without an internet connection could not participate.				
Tucker P et al., 2021	UK	Prospective cohort study	50,633	Male/Female	43.20
Aim of the study	Examined the link between working shift rotations—with or without night work—and the use of prescription sleep aids.				
Tool	The data were connected to information from the national registry on refilled prescriptions for hypnotic and sedative drugs.				
Main findings/results	These results suggest that rotating shift workers, namely those who work nights, are more likely to experience clinically significant sleep problems due to circadian disruption and age.				
Limitations	NA**				
Pang Y et al., 2021	China	Cross-sectional study	282	Male/Female	31.61
Aim of the study	To explore factors associated with anxiety and depression among nurses fighting COVID-19 in China.				
Tool	Generalized Anxiety Disorder-7/ (PHQ-9)/ Chinese version of the 25 Items to Assess Resilience.				
Main findings/results	An individual's level of anxiety and depression may be accounted for by their resilience, coping mechanisms, and sleep hygiene. An individual's level of anxiety and depression can be explained by resilience, coping mechanisms, and sleep quality (P=0.005).				
Limitations	It was a cross-sectional study that used convenience sampling and only evaluated signs of anxiety and depression.				

Table 1. (Continuation)

Study reference	Country of study	Study design	Total sample	Gender	Mean age (years)
Min A., 2021	**Korea**	**Observational study**	**82**	**Male/Female**	**26.79**
Aim of the study	To investigate depression and anxiety as potential mediators between perceived stress and sleep quality in healthcare professionals.				
Tool	Fatigue Modeling as a Tool for Managing Fatigue				
Main findings/results	Compared to other shifts, nurses had shorter sleep duration, poorer sleep quality, and more significant sleep latency before night shifts. Prior to day shifts, exhaustion was at its height. In addition, Participants with alertness ratings below 70 observed a sharp drop in alertness that was highly influenced by poor sleep and exhaustion.				
Limitations	NA**				
Luo Y et al., 2021	**China**	**An online survey using snowball sampling**	**588**	**Male/Female**	**31.61**
Aim of the study	To investigate how sadness and anxiety act as potential mediators between perceived stress and sleep quality in healthcare professionals.				
Tool	Sleep Quality Questionnaire/ Perceived Stress Scale/ PHQ-9				
Main findings/results	During the COVID-19 crisis, poor sleep and high perceived stress levels were prevalent. Reducing perceived stress may aid to ease the symptoms of anxiety and depression. Anxiety and depression were significantly associated with sleep quality (r=0.42, p 0.001).				
Limitations	Due to environmental and resource limitations, the snowball sampling used in this study might have needed to have been sufficiently representative. The pandemic situation was also a limitation.				
Lu L et al., 2021	**China**	**Multi-center cross-sectional study**	**1,847**	**Male/Female**	**32.4**
Aim of the study	This involves investigating the commonness of sleep disruptions, their connections with demographic and clinical traits, and their impact on the quality of life.				
Tool	World Health Organization (WHO) quality of life Brief Version/ basic demographic characteristic				
Main findings/results	Nurses in Chinese psychiatric facilities frequently experience sleep disturbances. In the physical (F[1, 1,846]=219.12, P0.001), psychological (F[1, 1,846]=72.18, P0.001), social (F[1, 1,846]=37.57, P0.001), and environmental (F[1, 1,846]=95.45, P0.001) categories, Quality of Life was considerably worse for nurses who reported sleep disturbances.				
Limitations	Since this was a cross-sectional study, it was impossible to establish a causal relationship between sleep disturbances and demographic and clinical features. Moreover, because the study was limited to major psychiatric hospitals, the results might not be applicable or extendable to other healthcare establishments, including primary mental health facilities.				
Jeong Y, Min A, 2021	**Korea**	**Cross-sectional survey**	**263**	**Male/Female**	**26.15**
Aim of the study	To ascertain how attitudes towards seeking help and sleep quality could moderate the correlation between depressions and missed nursing care.				
Tool	Beck Depression Inventory II, Attitudes Toward Seeking Professional Psychological Help-Short Form, and PSQI				
Main findings/results	The study found that 37.6% of participants exhibited mild depression. Moreover, depression (r=0.18, P=0.004) and poor sleep quality (PSQ, r=0.23, P=0.001) exhibited a significant positive correlation with delayed nursing care. A positive relationship was observed between depression and PSQ (r=0.35, P<0.001). Conversely, attitudes towards seeking help showed a negative correlation (r=-0.14, P=0.023).				
Limitations	NA**				
Hwang E,Yu Y, 2021	**Korea**	**Descriptive online survey**	**300**	**Female**	**37.78**
Aim of the study	To evaluate how depression and sleep quality affect work-family conflict in married female nurses working in a general hospital.				
Tool	Work-family conflict Scale/ sleep quality/CES-D				
Main findings/results	According to the study, work-family conflict among married female nurses was worsened by lower sleep and more severe depression (P=0.005).				
Limitations	Self-selection bias could not be ruled out since the questionnaire was self-reported. The study solely included Koreans; thus, applying these findings internationally was impossible. This study did not compare differences in depression or sleep quality but sought to determine factors impacting Work-Family Conflict.				

TABLE 1. (Continuation)

Study reference	Country of study	Study design	**Total sample**	Gender	**Mean age (years)**
Hsieh H et al., 2020	Taiwan	Cross-sectional survey	248	Female	32.98
Aim of the study	To scrutinize the association between perceived stress and depression among psychiatric nurses, considering multiple parallel mediators such as sleep quality and work overload.				
Tool	Chinese PSQI/ Brief Stress Scale (BSS)/ CES-D/ Occupational Burnout Inventory				
Main findings/results	Depression was common among nurses working in psychiatric wards, and they can be significantly reduced by increasing sleep quality and reducing professional fatigue. Depressive symptoms among nurses were significantly influenced by stress. The standardized total effect of stress influenced depressed symptoms through the mediating effects of sleep quality and work burnout (z=3.125, P 0.001).				
Limitations	NA**				
Feng H 2021	China	Cross-sectional survey	3,206	Male/Female	33.1
Aim of the study	To determine the relationship between night shift work, sleep quality and health in Chinese nurses and to examine the quality of their sleep.				
Tool	PSQI and CMI				
Main findings/results	Night shifts were harmful to nurses' health and sleep patterns. There were increased sleep difficulties and physical problems among night shift nursess.				
Limitations	The study was cross-sectional, and the sample size was large.				
Chueh K. et al. 2021	Taiwan	Cross-sectional study	119	Female	31.6
Aim of the study	To identify the psychological distress elements connected to sleep problems in female nurses.				
Tool	Occupational Stress Indicator–2, Beck Anxiety Inventory, Beck Depression Inventory-II, and PSQI				
Main findings/results	There were notable variations in sleep disruptions based on different levels of overall health (t=3.12, P=0.002), life stress (t=3.34, P=0.001), anxiety (t=4.08, P<0.001), and depression (t=5.07, P<0.001). Furthermore, anxiety and depression of more than moderate levels were reported by 20.2% and 11.7% of the nursing staff, respectively.				
Limitations	The results could not be used to infer conclusions about the causal association between depressions, general health, and sleep disorders because of the cross-sectional study design.				
Almhdawi K et al., 2021	Jordan	Cross-sectional design	597	Male/Female	32.1
Aim of the study	To examine the quantity and quality of sleep and any other contributing factors among Jordanian hospital nurses.				
Tool	PSQI, NMQ and DASS				
Main findings/results	High levels of mental health symptoms, PSQ, and musculoskeletal pain concerns were reported by nurses. The average PSQI score of the participants was 7.8 (3.7), and 68% reported poor sleep. Stress (95% CI: 0.13 to 0.19, 0.15, P 0.001)				
Limitations	The self-reported nature of the study might have led to a certain level of subjectivity. The study's ability to account for all potential confounding factors and the risk of misclassification was restricted.				
Shin S. & Kim S, 2021	South Korea	Descriptive correlationaldesign	64	Male/Female	26.77 ± 2.50
Aim of the study	To scrutinize the sleep patterns of hospital nurses by using a wearable electronic device and to understand how rotating day and night shifts, along with lifestyle factors, affect sleep efficiency.				
Tool	Alcohol Use Disorder Identification Test and Fitbit Charge 3™ (Fitbit Inc.)				
Main findings/results	The effects of shift work schedules and lifestyle on sleep efficiency were studied by utilizing wearable electronic devices to monitor the sleeping habits of hospital psychiatric nurses per their shift routines. Compared with nurses who did not work night shifts, nurses who worked night shifts had reduced sleep efficiency, shorter total sleep durations, and more significant sleep onset latency. Psychiatric nurses who worked more than three consecutive night shifts had worse sleep patterns than non-shift workers and nurses who worked only two consecutive night shifts.				
Limitations	Caution must be exercised when applying the results since the participants were nurses employed at nearby general hospitals. Each nurse's daily schedule, menstrual cycle, stress level, and satisfaction or worry at work were not taken into account. In addition, whether the nurses worked shifts varied depending on the department.				

Table 1. *(Continuation)*

Study reference	Country of study	Study design	**Total sample**	Gender	**Mean age (years)**
Nashwan A et al., 2021	**Qatar**	**Cross-sectional comparative study**	**200**	**Male/female**	**Aged 20–30 years, 31–40 years, above 40 years**
Aim of the study	To investigate the differences in nurses' characteristics according to COVID-19 facility designation and differences in their eating habits, social connections, quality of life, sleep, depression, anxiety, and stress.				
Tool	International Statistical Institute . DASS-21, OSSS-3 and WHO QOL-BREF				
Main findings/results	Whether they are assigned to a COVID-19 institution, nurses' quality of life overall in Qatar is good. Even though there was no appreciable difference between nurses working in COVID-19 facilities and those working in non-COVID-19 facilities regarding sleep quality, stress, anxiety, depression, or eating habits, more stress-reduction techniques must be implemented and kept up.				
Limitations	Most responses were collected from one COVID-19 institution. There was potential for bias in selection. Over 1,500 nurses received the invitation by corporate email; however, only a tiny number responded because they were too overwhelmed or needed more interest in the survey. The tools used were not previously verified in Qatar.				
Park C. et al, 2020	Korea	Cross-sectional design	20	Female	28.6
Aim of the study	The mediation of the relationship between sleep disturbance and depression in gray matter structure.				
Tool	Pittsburgh Sleep Disturbance Index, Zung Self-Rating Depression Scale, MRI scan.				
Main findings/results	An intervening structural change in the postcentral and superior temporal gyrus contributed to the emergence of depression after sleep disturbance. To fully explain the clinical alterations brought on by sleep disruption, we propose that neuroanatomical abnormalities be considered. Shift workers reported more severe sleep disturbance (t [31] = 4.1428, P=0.0002) and depressive symptoms (t [31] =4.1132, P=0.0003) than daytime nurses.				
Limitations	The study included all participants to develop a mediation model. There may not have been an underlying connection between shift work and the intervening role of gray matter volume.				
Kurebayashi Y, 2020	**Japan**	**Cross-sectional design**	**404**	**Male/Female**	**40.2**
Aim of the study	To examine whether these findings apply to psychiatric nurses.				
Tool	PSQI-Japanese version (PSQI-J)/ SCS (Japanese version)				
Main findings/results	No correlation between sleep quality and self-compassion was observed when self-focus was considered. Rumination could affect how well psychiatric nurses sleep, so cutting back on it might help. (r=0.651, P 0.001) More ruminating was linked to a more significant negative SCS score.				
Limitations	As a cross-sectional study, it was impossible to draw firm conclusions on the causes of sleep problems, self-compassion, or self-focus.				
An Y et al., 2020	**China**	**Cross-sectional online survey**	**1,103**	**Male**	**32.20**
Aim of the study	To examine the prevalence of depressive symptoms among nurses during the COVID-19 pandemic.				
Tool	PHQ-9				
Main findings/results	The overall prevalence of depression among emergency department nurses was 43.61%. Depression was common among nurses working in the emergency department during the COVID-19 pandemic. Working in a tertiary hospital and being a current smoker were significantly associated with depression (P<0.005).				
Limitations	NA**				
Furihata R, et al., 2020	Tokyo, Japan	Cross-sectional study	2,482	Female	31.2 ± 8.9
Aim of the study	To explore whether depression among Japanese female hospital nurses are correlated with a composite sleep health score.				

Table 1. *(Continuation)*

Study reference	Country of study	Study design	**Total sample**	Gender	**Mean age (years)**
Tool	Depression-related symptoms and sleep quality were assessed. Satisfaction, daytime sleepiness, mid-sleep time, efficiency, and length were used to rate sleep quality. Adding all the "poor" categories produced a composite sleep health score. Depression was defined as having a down mood, losing interest, or at least one of those symptoms.				
Main findings/results	Poor efficiency and daytime sleepiness were significantly correlated with interest decline. At the same time, there was a strong correlation between having at least one depressive symptom and low satisfaction, daytime drowsiness, mid-sleep time, and efficiency. Depressed mood was substantially correlated with low satisfaction levels, daytime drowsiness, sleep in the middle of the night, and efficiency.				
Limitations	The study's definition of depressed symptoms was based on two critical diagnostic signs for depression. The presence of other mental diseases and a history of depression were not assessed. A self-reported questionnaire used in the past was used to evaluate sleep problems. The validity and reliability of the test items used to evaluate the five aspects of sleep health were not established by any prior research.				
Ibrahim A. et al., 2019	**Saudi Arabia**	**Cross-sectional design**	**977**	**Male/Female**	**32**
Aim of the study	To evaluate the relationship between sleep quality and depression among expatriate nurses.				
Tool	DASS-21				
Main findings/results	Among expatriate nurses, there was a significant correlation between sleep duration and depression Sleep duration and depression (any and degree) were related (P<0.05).				
Limitations	As the DASS-21 is not a diagnostic instrument for depression, and sleep data were not evaluated using a validated scale, the estimations may not be entirely accurate.				
Dai C et al., 2019	**China**	**Cross-sectional design**	**865**	**Male/Female**	**32.49**
Aim of the study	To assess depression and sleep quality in nurses working night shifts compared to those working only day shifts.				
Tool	PSQI and HADS				
Main findings/results	Chinese nurses who work night shifts may experience higher rates of depression due to the night shift's impact on their ability to sleep. After controlling for age, the status of marriage, job hours, and job position, night shift work was unrelated to the prevalence of depression (OR=1.832; 95% CI, 1.232–2.724, P=0.003).				
Limitations	The association between working the night shift and poor sleep quality and depression could not be established because the study was cross-sectional. Nurses working night shifts were less experienced, had lower positions, and worked more hours. These factors introduced selection bias.				

Note: **BDI** – Beck Depression Inventory; **CES-D** – Center for Epidemiologic Studies Depression Scale; **DASS-21** – Depression Anxiety Stress Scale – 21 items; **DBAASS** - Dysfunctional Beliefs and Attitudes About Sleep Scale; **HADS** – Hospital Anxiety and Depressive Scale; **ISI** – Insomnia Severity Index; **MRI** – Magnetic Resonance Imaging; **NMQ** – Nordic Musculoskeletal Questionnaire; **PHQ-9** – Patient Health Questionnaire-9; **PSQI** – Pittsburgh Sleep Quality Index; **QOL** – Quality of Life; **SCS** – Self-Compassion Scale; **WHO QOL-BREF** – World Health Organization Quality of Life – Brief Version, OSSS-3 - Oslo Social Support Scale

mary argument for this review. Following are some of the recurring themes observed from the studies included in this review.

Factors Contributing to Poor Sleep Quality. Numerous researches have persistently pointed out the high incidence of subpar sleep quality in nursing professionals. For example, a study by *Wangsan et al.* (2022) sought to determine the primary factors contributing to poor sleep quality among nurses. Their findings highlighted that certain shift work patterns, notably rotating or night shifts, had a significant negative correlation with sleep quality. In a similar vein, *Tosun et al.* (2022) examined the sleep quality of nurses during the COVID-19 pandemic.

Their observations indicated that the pandemic severely affected sleep quality, leading to increased instances of insomnia among nurses. Collectively, these studies underscore the considerable difficulties nurses encounter in sustaining good sleep quality and signal the necessity for targeted interventions and support systems to tackle this issue. These find-

ings hint at the influence of external aspects such as work schedules and challenging conditions on the deteriorating sleep quality among nurses [*Tucker P. et al.*, 2021]. In a separate study, *Nazari et al.* (2022) carried out a cross-sectional survey among frontline nurses during the pandemic, unearthing various factors connected with insomnia and underlining the detrimental effect of demanding work conditions on sleep quality [*An et al., 2020*]. These outcomes stress the requirement for interventions and strategies aimed at enhancing sleep quality among nurses, particularly those engaged in shift work or in challenging circumstances.

Factors Contributing to Nursing Depression. The high occurrence of depression among nurses has been highlighted in multiple studies. For example, a study led by *Pang et al.* (2021) investigating nurses tackling COVID-19 in China delved into the predictive factors for anxiety and depression. It discovered that aspects such as a scarcity of adequate personal protective equipment and an increased workload were linked to higher levels of anxiety and depression. In another cross-sectional study performed in Korean hospitals by *Jeong & Min* (2021), a notable connection was observed between depression, attitudes towards seeking help, sleep quality, and instances of omitted nursing care, thereby underlining the impact of depressive symptoms on nurses' ability to provide effective patient care. Furthermore, research by *Chueh et al.* (2021) analyzed psychological distress and sleep problems among female nurses, with a particular focus on anxiety and depression. The study found a significant link between anxiety and depression, emphasizing the interrelatedness of mental health issues and sleep disorders. The documented prevalence of depressive symptoms among nurses highlights the critical need to recognize and address mental health concerns in the nursing profession.

Association between Sleep Quality and Depression. The existing body of research consistently underscores the connection between sleep quality and depression among nurses. For example, a study by *Luo et al.* (2021) probed the mediating roles of anxiety and depression on the relationship between perceived stress and sleep quality among healthcare professionals engaged in the COVID-19 response. This investigation unveiled a substantial correlation between perceived stresses and both anxiety and depression, negatively influencing sleep quality. In a concurrent study, *Lu et al.* (2021) scrutinized sleep disturbances and their relationship with quality of life among psychiatric nurses in China. The research outcomes pointed towards a significant link between sleep disturbances and a decline in overall quality of life, stressing the harmful consequences of suboptimal sleep on holistic well-being.

These discoveries imply a bidirectional relationship between sleep quality and mental health, suggesting that enhancements in one dimension could positively influence the other.

Impact of Work-Related Factors. Occupational factors play a crucial role in influencing both the quality of sleep and the incidence of depression among nurses. In an observational study conducted by *Min et al.* (2021) focusing on rotating-shift nurses in Korea, the interplay between sleep, fatigue, alertness, and working hours was explored. The study found that longer work hours and inconsistent shift schedules were linked to heightened sleep disturbances, fatigue, and a decrease in alertness among nurses. Similarly, *Hsieh et al.* (2021) examined the correlation between stress, depression, sleep quality, and job burnout among psychiatric nurses. Their research concluded that higher stress levels and job burnout were tied to poorer sleep quality and an increase in depression. To improve the sleep quality and mental health of nurses, it is of paramount importance to address job-related factors such as efficient workload management, careful shift planning, and the implementation of stress reduction strategies.

Measures and Intervention to Support Sleep Quality. Numerous studies have continually emphasized the need for measures and supportive mechanisms to enhance sleep quality and handle depression among nurses. For example, *Hwang & Yu* (2021) investigated the effect of sleep quality and depression on work-family conflict among married female nurses. Additionally, *Park et al.* (2020) explored the link between sleep disturbance-related depression and diminished brain volume in nurses working shifts. Various research pieces have recommended interventions to promote sleep hygiene, furnish psychological support, and establish workplace initiatives to mitigate the negative consequences on nurses' well-being.

To summarize, existing research collectively illuminates the prevalent problems of suboptimal sleep quality and increased depression within the nursing community. These findings consistently reveal a robust relationship between sleep quality and depression. Factors related to work, such as shift schedules, workload, and stress levels, profoundly impact both sleep quality and depression. These outcomes underline the pressing need for measures and support to address these issues, including education, alterations in the workplace, and psychological support.

Limitations. The studies included in this review have several limitations that should be acknowledged. Firstly, using self-reported data in some studies introduces subjectivity and potential reporting bias while assessing work conditions needs to be more comprehensive.

Secondly, caution should be exercised when generalizing the findings to nurses working in mental health settings, as the participants primarily came from local general hospitals, and the specific challenges of mental health settings may differ significantly. Additionally, most studies employed a cross-sectional design, limiting the ability to establish causal relationships between working the night shift and poor sleep quality and depression. Furthermore, the characteristics of night shift nurses, such as younger age, lower job positions, and longer working hours, compared to non-night shift nurses, may introduce biases and influence participant selection. These limitations underscore the importance of considering these factors when interpreting the results and designing future research.

Conclusion

The studies considered in this literature review offer a significant understanding into the association between sleep quality and depression in nurses. The body of research consistently underscores a substantial link between subpar sleep quality and heightened depression among nursing professionals. The findings accentuate the need to address sleep quality as a key determinant of advocating mental health and preventing depression within the nursing field. However, there exists a discernible void in the literature concerning targeted intervention strategies to effectively alleviate mental health issues, particularly depression, and enhance the quality of life for psychiatric nurses by dealing with disruptions in their sleep patterns. More research is necessary to devise interventions tailored to the unique needs of psychiatric nurses, bearing in mind the specific challenges and stressors encountered in their professional setting. By bridging this gap, we can boost the mental wellness and overall quality of life among psychiatric nurses, which will ultimately result in improved patient care and job satisfaction within this vital profession [*Nashwan A. et al., 2021*].

***Gap in Knowledge*.** The literature review on the association between sleep quality and depression among nurses revealed several common themes and research gaps. While numerous studies have examined this relationship in various countries, including China, Japan, Saudi Arabia, and others, research is needed specific to nurses working at Eradah and Mental Health Complex in Jeddah. The existing studies used different designs, sample sizes, and measurement tools to assess sleep quality, depression, and related factors. However, most studies relied on self-report measures and had limitations, such as using cross-sectional designs that hindered establishing causal relationships.

The common themes identified in the reviewed studies include the high prevalence of poor sleep quality among nurses, the significant occurrence of depression, the association between sleep quality and depressive symptoms, the impact of work-related factors on sleep quality and mental health, and the need for interventions and support to address these challenges.

However, the literature gap lies in need for further research specifically focusing on nurses at Eradah and Mental Health Complex in Jeddah.

Therefore, future research should aim to fill this gap by investigating the association between sleep quality and depression within this specific population. By examining the unique challenges nurses face at Eradah and Mental Health Complex, such as their work schedules, workload, and the impact of stressful situations, researchers can provide

targeted interventions and support systems to improve sleep quality and mental well-being among these nurses. Additionally, longitudinal designs and objective measures in assessing sleep quality and depression would strengthen the evidence base and allow for a better understanding of the causal relationships between these variables.

Therefore, conducting research specifically on sleep quality and depression among nurses at Eradah and Mental Health Complex in Jeddah will contribute to addressing the research gap and provide valuable insights for developing interventions and support mechanisms tailored to the needs of this specific population.

REFERENCES

1. *Almhdawi, K. A., Alrabbaie, H., Obeidat, D. S., Kanaan, S. F., Alahmar, M. R., Mansour, Z. M., & Oteir, A. O. (2021).* Sleep quality and its predictors among hospital-based nurses: a cross-sectional study. Sleep Breath, 25(4), 2269-2275. doi:10.1007/s11325-021-02333-z.
2. *An, Y., Yang, Y., Wang, A., Li, Y., Zhang, Q., Cheung, T., Xiang, Y. T. (2020).* Prevalence of depression and its impact on quality of life among frontline nurses in emergency departments during the COVID-19 outbreak. J Affect Disord, 276, 312-315. doi:10.1016/j.jad.2020.06.047.
3. *Arimon-Pagès, E., Torres-Puig-Gros, J., Fernández-Ortega, P., & Canela-Soler, J. (2019).* Emotional impact and compassion fatigue in oncology nurses: Results of a multicentre study. *European Journal of Oncology Nursing*, *43*, 101666.
4. *Athar, M.E., Vahid, M.K.A. & Ashouri, A. (2020)* The Influence of Shift Work on the Quality of Sleep and Executive Functions, Journal of Circadian Rhythms, 18(1).
5. *Bae, S.-H., & Fabry, D. (2014).* Assessing the relationships between nurse work hours/overtime and nurse and patient outcomes: systematic literature review. Nursing outlook, 62(2), 138-156.
6. *Cavanagh, N., Cockett, G., Heinrich, C., Doig, L., Fiest, K., Guichon, J. R., ... & Doig, C. J. (2020).* Compassion fatigue in healthcare providers: A systematic review and meta-analysis. *Nursing ethics*, *27*(3), 639-665.
7. *Chueh, K. H., Chen, K. R., & Lin, Y. H. (2021).* Psychological Distress and Sleep Disturbance Among Female Nurses: Anxiety or Depression?. *Journal of transcultural nursing: official journal of the Transcultural Nursing Society*, *32*(1), 14–20. https://doi.org/10.1177/1043659619881491.
8. *Dai, C., Qiu, H., Huang, Q., Hu, P., Hong, X., Tu, J., Chen, F. (2019).* The effect of night shift on sleep quality and depressive symptoms among Chinese nurses. Neuropsychiatric Dis Treat, 15, 435-440. doi:10.2147/NDT.S190689.
9. *Deng, X., Liu, X., & Fang, R. (2020).* Evaluation of the correlation between job stress and sleep quality in community nurses. Medicine, 99. 4
10. *Fang, H., Zhao, X., Yang, H., Sun, P., Li, Y., Jiang, K., Qiao, H. (2018).* Depressive symptoms and workplace-violence-related risk factors among otorhinolaryngology nurses and physicians in Northern China: a cross-sectional study. BMJ open, 8(1), e019514.
11. *Feng, H. L., Qi, X. X., Xia, C. L., Xiao, S. Q., & Fan, L. (2021).* Association between night shift and sleep quality and health among Chinese nurses: A cross-sectional study. J Nurs Manag, 29(7), 2123-2131. doi:10.1111/jonm.13351.
12. *Ferrari, A. J., Charlson, F. J., Norman, R. E., Patten, S. B., Freedman, G., Murray, C. J., . . . Whiteford, H. A. (2013).* Burden of depressive disorders by country, sex, age, and year: findings from the global burden of disease study 2010. medicine, 10(11), e1001547.
13. *Furihata, R., Satish, K., Otsuki, R., Murata, S., Suzuki, M., Jike, M., Uchiyama, M. (2020).* Association between reduced serum BDNF levels and insomnia with short sleep duration among female hospital nurses. Sleep medicine, 68, 167-172.
14. *Gao, Y. Q., Pan, B. C., Sun, W., Wu, H., Wang, J. N., & Wang, L. (2012).* Depressive symptoms among Chinese nurses: prevalence and the associated factors. Journal of advanced nursing, 68(5), 1166-1175.

15. *Griffiths, P., Recio-Saucedo, A., Dall'Ora, C., Briggs, J., Maruotti, A., Meredith, P., .Group, M. C. S. (2018).* The association between nurse staffing and omissions in nursing care: a systematic review. Journal of advanced nursing, 74(7), 1474-1487.

16. *Hsieh, H. F., Liu, Y., Hsu, H. T., Ma, S. C., Wang, H. H., & Ko, C. H. (2021).* Relations between Stress and Depressive Symptoms in Psychiatric Nurses: The Mediating Effects of Sleep Quality and Occupational Burnout. Int J Environ Res Public Health, 18(14). doi:10.3390/ijerph18147327

17. *Hwang, E., & Yu, Y. (2021).* Effect of Sleep Quality and Depression on Married Female Nurses' Work-Family Conflict. Int J Environ Res Public Health, 18(15). doi:10.3390/ijerph18157838.

18. *Ibrahim, A. M., Basha, A. C., Saquib, J., Zaghloul, M. S., Al-Mazrou, A. M., & Saquib, N. (2019).* Sleep duration is associated with depressive symptoms among expatriate nurses. Journal of Affective Disorders, 257, 658–661. https://doi.org/10.1016/j.jad.2019.07.073.

19. *Jeong, Y. M., & Min, A. (2021).* Depression, Help-Seeking Attitude, Sleep Quality, and Missed Nursing Care Among Nurses in Korean Hospitals: A Cross-Sectional Study. Journal of Nursing Scholarship. 54: 135-135. doi:10.1111/jnu.12647

20. *Kalisch, B. J., Landstrom, G. L., & Hinshaw, A. S. (2009).* Missed nursing care: a concept analysis. Journal of advanced nursing, 65(7), 1509-1517.

21. *Kurebayashi, Y. (2020).* Effects of self-compassion and self-focus on sleep disturbances among psychiatric nurses. Perspect Psychiatr Care, 56(2), 474-480. doi:10.1111/ppc.12458.

22. *Langlieb, A. M., & DePaulo Jr, J. R. (2008).* Etiology of depression and implications on work environment. Journal of occupational and environmental medicine, 391-395.

23. *Letvak, S., Rohm, C. J., & McCoy, T. (2012).* Depression in hospital-employed nurses. Clinical Nurse Specialist, 26(3), 177-182.

24. *Letvak, S., Ruhm, C. J., & Gupta, S. N. (2012).* Nurses' presenteeism and its effects on self-reported quality of care and costs. American Journal of Nursing, 112(2), 30-38.

25. *Liu, Q., He, H., Yang, J., Feng, X., Zhao, F., & Lyu, J. (2020).* Changes in the global burden of depression from 1990 to 2017: Findings from the Global Burden of Disease study. Journal of psychiatric research, 126, 134-140.

26. *Lu, L., Lok, K. I., Zhang, Q., Zhang, L., Xiang, Y., Ungvari, G. S., . . . Xiang, Y. T. (2021).* Sleep disturbance and its association with quality of life among psychiatric nurses in China. PeerJ, 9, e10659. doi:10.7717/peerj.10659.

27. *Luo, Y., Fei, S., Gong, B., Sun, T., & Meng, R. (2021).* Understanding the Mediating Role of Anxiety and Depression on the Relationship Between Perceived Stress and Sleep Quality Among Health Care Workers in the COVID-19 Response. *Nature and Science of Sleep, 13*, 1747.

28. *Melnyk, B. M., & Fineout-Overholt, E. (2022).* Evidence-based practice in nursing & healthcare: A guide to best practice: Lippincott Fifth, North American edition (January 12, 2023) 936P,

29. *Min, A., Hong, H. C., Son, S., & Lee, T. (2021).* Sleep, fatigue and alertness during working hours among rotating-shift nurses in Korea: An observational study. J Nurs Manag, 29(8), 2647-2657. doi:10.1111/jonm.13446.

30. *Mollayeva, T. Mollayeva, T., Thurairajah, P., Burton, K., Mollayeva, S.; Shapiro, C.M.; & Colantonio, A. (2016)* The Pittsburgh sleep quality index as a screening tool for sleep dysfunction in clinical and non-clinical samples: A systematic review and meta-analysis, Sleep Medicine, 16, p. S62. Available at: https://doi.org/10.1016/j.sleep.2015.02.15.

31. *Nashwan, A. J., Villar, R. C., Al-Qudimat, A. R., Kader, N., Alabdulla, M., Abujaber, A. A., Ali, R. (2021).* Quality of life, sleep quality, depression, anxiety, stress, eating habits, and social bounds in nurses during the coronavirus disease 2019 pandemic in Qatar (The PROTECTOR Study): a Cross-Sectional, Comparative Study. Journal of Personalized Medicine, 11(9), 918.

32. *Nazari, N., Sadeghi, M., Samusenkov, V., & Aligholipour, A. (2022).* Factors associated with insomnia among frontline nurses during COVID-19: a cross-sectional survey study. BMC Psychiatry, 22(1), 40. doi:10.1186/s12888-022-03690-z.

33. *Nwani, C. D., Lakra, W. S., Nagpure, N. S., Kumar, R., Kushwaha, B., & Srivastava, S.*

K. (2010). Toxicity of the herbicide atrazine: effects on lipid peroxidation and activities of antioxidant enzymes in the freshwater fish Channa punctatus (Bloch). International journal of environmental research and public health, 7(8), 3298-3312.

34. *Pagatpatan Jr, C., & Arevalo, J. E. (2016).* Systematic literature search strategies for the health sciences. Improving Health Systems' Resilience and Research, 48. Systematic Literature Search Strategies for the Health Sciences, June 2016, The Philippine journal of nursing 86(1):48-55

35. *Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., . . . Brennan, S. E. (2021).* The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews . BMJ 2021; 372 doi: https://doi.org/10.1136/bmj.n71

36. *Pang, Y., Fang, H., Li, L., Chen, M., Chen, Y., & Chen, M. (2021).* Predictive factors of anxiety and depression among nurses fighting coronavirus disease 2019 in China. Int J Ment Health Nurs, 30(2), 524-532. doi:10.1111/inm.12817

37. *Park, C. H., Bang, M., Ahn, K. J., Kim, W. J., & Shin, N. Y. (2020).* Sleep disturbance-related depressive symptom and brain volume reduction in shift-working nurses. Sci Rep, 10(1), 9100. doi:10.1038/s41598-020-66066-x.

38. *Shin, S., & Kim, S. (2021).* Rotating between day and night shifts: Factors influencing sleep patterns of hospital nurses. Journal of Clinical Nursing, 30(21-22), 3182-3193.

39. *Suhonen, R., & Scott, P. A. (2018).* Missed care: A need for careful ethical discussion. Nursing Ethics, 25(5), 549–551. https://doi.org/10.1177/0969733018790837.

40. *Qiu D, Yu Y Li R-Q, Li Y-L, Xiao S-Y (2020)* Prevalence of sleep disturbances in Chinese healthcare professionals: a systematic review and meta-analysis. Sleep Medicine Volume 67, March 2020,p. 258-266. https://doi.org/10.1016/j.sleep.2019.01.047

41. *Tosun, A., Tosun, H., Ödül Özkaya, B., Erdoğan, Z., & Gül, A. (2022).* Sleep Quality and Depression Level in Nurses in COVID-19 Pandemic. OMEGA - Journal of Death and Dying, doi:10.1177/00302228221123159.

42. *Tucker, P., Harma, M., Ojajarvi, A., Kivimaki, M., Leineweber, C., Oksanen, T., . . . Vahtera, J. (2021).* Association of rotating shift work schedules and the use of prescribed sleep medication: A prospective cohort study. J Sleep Res, 30(6), e13349. doi:10.1111/jsr.13349

43. *Wang, Q. Q., Lv, W. J., Qian, R. L., & Zhang, Y. H. (2019).* Job burnout and quality of working life among Chinese nurses: A cross-sectional study. Journal of nursing management, 27(8), 1835-1844.

44. *Wangsan, K., Chaiear, N., Sawanyawisuth, K., Klainin-Yobas, P., Simajareuk, K., & Boonsawat, W. (2022).* Which Shiftwork Pattern Is the Strongest Predictor for Poor Sleep Quality in Nurses? Int J Environ Res Public Health, 19(21). doi:10.3390/ijerph192113986.

45. *Williams, A. B., Dzierzewski, J. M., Griffin, S. C., Lind, M. J., Dick, D., & Rybarczyk, B. D. (2020).* Insomnia disorder and behaviorally induced insufficient sleep syndrome: prevalence and relationship to depression in college students. *Behavioral sleep medicine*, *18*(2), 275-286.

46. *Yılmaz, G., & Üstün, B. (2018).* Professional Quality of Life in Nurses: Compassion Satisfaction and Compassion Fatigue. *Journal of Psychiatric Nursing/Psikiyatri Hemsireleri Dernegi*, *9*(3).

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