v. 3, n. 1, 2023

International Journal of Health Science

INFLUENCE OF SHIFT WORK ON THE QUALITY OF LIFE OF INTENSIVE CARE NURSES: SCOPING REVIEW

Daniela Penas Moreira
https://orcid.org/0000-0002-9567-2090

Iria Flávia Ribeiro Feitosa Marinho
https://orcid.org/0000-0002-0416-7700

Joao Paulo da Silva Gonçalves
https://orcid.org/0000-0001-6437-0690

Jose Pedro Pacheco Freire
https://orcid.org/0000-0003-1037-4500

Rui Filipe Costa Barbosa
https://orcid.org/0000-0003-2706-9609

Joao Filipe Fernandes Lindo Simoes
https://orcid.org/0000-0002-4989-2252

Abstract: This review aimed to identify the implications of shift work in the context of intensive care on the quality of life of nursing professionals, more specifically, to determine the factors, biological or social, affected by the condition of rotating schedules and how these factors interfere with the professional's quality of life. A Scoping Review (SR) was developed based on a research question that guided the research in three databases, using the descriptors "DeCS" and "MeSH"; and taking into account the defined inclusion and exclusion criteria. After applying these criteria and corresponding assessment of the quality of the studies, a final sample of 4 articles was obtained. After the global analysis of the articles, it was possible to verify that shift work directly affects five dimensions of the quality of life of the Intensive Care nursing professional, namely sleep, cognitive efficiency, socialization, emotional health and mental health. Thus, it was found that nurses who work the night shift are predisposed to poorer sleep quality and a higher level of fatigue at the end of the shift, thus increasing the likelihood of errors occurring when providing care.
Keywords: Nurse; Intensive Care Unit, Quality of Life, Rotating Schedule, Shift and Critical Ill.

INTRODUCTION

According to the Ministry of Health (2013), cited by the Order of Nurses (2018), Intensive Care Medicine is a multidisciplinary area that addresses the prevention, diagnosis and treatment of severe, potentially reversible, acute illness in patients who present failure of one or more vital functions, eminent or established. Thus, Intensive Care Units (ICUs) are defined as "places qualified to assume full responsibility for patients with organ dysfunctions, supporting, preventing and reversing failures with vital implications" (MINISTÉRIO DA SAÚDE, 2003 *apud* ORDEM DOS ENFERMEIROS, 2018, p.1).

Regarding the users hospitalized in these units, they are critically ill as they are people "whose life is threatened by failure or imminent failure of one or more vital functions and whose survival depends on advanced means of surveillance, monitoring and therapy" (COSTA, 2012), that is, they are patients who depend on medical procedures such as mechanical ventilation or the use of vasoactive therapy, making stricter surveillance essential by a multidisciplinary team with knowledge of its functions, acting with appropriate methodology. These are patients who mostly come from the operating room or the emergency department, but they can also be admitted from internal medicine or other services (PAULETTI *et al.*, 2017).

The care provided to these patients is highly qualified and provided continuously, responding to the affected needs and allowing the maintenance of basic life functions, preventing complications, with the objective of their full recovery (ORDEM DOS ENFERMEIROS, 2018). In this sense, given the increasing complexity of equipment, techniques and procedures used in this service, it is imperative that ICU nurses obtain specific and specialized training. Cintra, Nishide, Nunes (2003) refer that the ICU nurse assumes responsibility for caring for the patient, both in emergency cases and in life support. This must be able, regardless of the diagnosis or clinical context, to care for all patients, using a holistic approach that ensures their care and integrity. The requirements of the UCI, combined with a broad base of scientific knowledge and specializations, mean that nurses need to integrate their technical and intellectual skills into their daily practice (VARGAS; BRAGA, 2006).

Within the ICU environment, the nursing professional's practice is affected by factors that trigger stress, such as dealing with situations of life or imminent death, together with the suffering of the patient and his family (NETO *et al.,* 2013). At the same time, within an ICU, the nurse must be aware of any factor that jeopardizes the hemodynamic stability of the patient, requiring permanent surveillance (MARQUES; SILVA, 2020). This way, the provision of care is continuous 24 hours a day, requiring a distribution of work hours by shifts (GARCIA *et al.,* 2022), which conditions the way of working, leading to changes in the circadian rhythm and sleep pattern. This rotation of schedules can generate a conflict in the synchronization of biological rhythms, representing a physical, psychological and social risk factor, with direct or indirect implications on the quality of life and health of nurses, which may condition the quality of care provided.

According to Araújo, Soares, Henriques (2009), the term Quality of Life (QoL) is popularly used, but not always comprehensively. These authors state that for many people, a good QoL is confused with a "good life", taking into account the material aspect. However, it is currently seen from a broader perspective, comprising aspects such as security, happiness, leisure, health, a stable financial condition, love and work (VILARTA; GONÇALVES, 2004 *apud* ARAÚJO; SOARES; HENRIQUES, 2009). Thus, this condition is achieved through satisfaction and personal, social and professional achievement, making work a key element in achieving well-being.

In the hospital environment, this work is carried out by different areas of activity, namely, interpersonal relationships between professionals and users, and instrumental (ARAÚJO; SOARES; HENRIQUES, 2009). In order for nursing professionals to obtain satisfaction and, consequently, quality of life, it is important that they are provided with adequate conditions for the development of their activities. Current conditions imply working hours that require the performance of a multitude of repetitive functions, at an excessive pace, among other aspects, which can lead to absenteeism at work, affecting the productivity and QoL of nurses (ARAÚJO; SOARES; HENRIQUES, 2009).

Recognizing the need for better working conditions for nurses, highlighting the importance that professional satisfaction and good quality of life have on their performance (MARGALHO *et al.,* 2018), there is a need to further reflect and explore this topic due to its impact on the quality of life of these professionals. This is a subject that must be better debated in order to develop lines of critical thinking that improve the conditions of the activity for the nursing team and help to make nursing team managers aware of the importance of this issue for the benefit of patient and professional safety, as well as the quality of care in clinical practice.

Therefore, throughout this Scoping Review, we propose to answer the research question "What are the implications of shift work on the quality of life of intensive care nurses?", constructed based on the PICO methodology. Based on this question, the general objective was to identify the implications of shift work, within the context of intensive care and its influence on the quality of life of nurses.

METHODOLOGY

The present study is a Scoping Review that consists of a process, with methodological rigor, that promotes the construction of new knowledge, within a specific theme, making possible the evolution of lines of action and thought addressed in the review itself (SOUSA *et al.,* 2017).

This type of study is an investigation method that allows the search for material, within databases, its critical evaluation, through systems that validate the information and the synthesis of available scientific evidence, speeding up the transfer of new knowledge about the topic/problem addressed. Within the area of Nursing, the use of this research method becomes central to the continuous improvement of clinical practice and the evolution of the profession, giving it more visibility and relevance in the field of current health (SOUSA *et al.,* 2017).

As previously mentioned, a research question was formulated using the PICO methodology, which represents an acronym for Participant, Intervention/Phenomenon of Interest, Comparison/Context and Outcomes (SANTOS; PIMENTA; NOBRE, 2007). As can be seen in Table 1, the investigated object was the population of Nurses; the scenario of interest studied was the impact caused by shift work, within the context of Intensive Care Units. Finally, the result of the research was the identification of the implications that shift work has on the nurse's quality of life. (Table 1)

Next, a set of descriptors was identified using Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH). You descriptors identified were : "nurs*", "shift work schedule", "rotating shift work", "shift*, "ICU", "intensive care unit", "critical care", "critically ill" and "quality of life". Using the Boolean expressions AND and/or OR, search keys were constructed, specific to each searched database, as shown in Table 2. This search was carried out using the databases indicated in the table and constituted the first phase of the Review process. (Table 2)

The Review process followed the methodology suggested by Aromataris, Mon (2021), which is schematically presented in the Diagram of Main Items for Reporting Systematic Reviews and Meta-Analyses (PRISMA). (Figure 1)

As mentioned, in a first phase, called Identification, databases were used to identify the initial number of articles (737). This search was performed on April 10, 2022, obtaining 27 articles in PubMed, 694 articles in SCOPUS and 16 articles in Web of Science. Then, in the Selection phase, duplicate documents (n=22) were removed, which reduced the sample to 715 articles. After reading the title and abstract, some articles that did not meet the Inclusion and Exclusion Criteria (shown in Table 3) were eliminated, resulting in the exclusion of 639 articles. (Table 3)

In the Eligibility phase, of the 76 selected articles, 40 of them were not available, ending up being automatically excluded. Of the remaining 16, after reading them completely, 12 did not correspond to the objectives of the study and ended up being eliminated, either because they were Integrative Literature

PICO Components	Description
Population	Nurses
Interest	Impact caused by shift work
Context	Intensive Care Units
Outcome	The implications that shift work has on the quality of life of nurses

Table 1. PICO methodology used in the construction of the research question.

Data base	Search key
PubMed	"(((Nurs *") AND (((“Shift Work Schedule”) OR (“Rotating Shift Work”)) OR (“Shift*”))) AND ((((“ICU”) OR (“critical care”)) OR (“Intensive care unit”)) OR (“critically ill”))) AND (“Quality of Life”)"
SCOPUS	"(ALL (nurs *) AND ALL (“ Shift Work Schedule” OR “Rotating Shift Work “ OR “Shift*) AND ALL(“ intensive AND care AND unit “ OR “ ICU “ OR “ critical AND care “ OR “ critically ill “) AND ALL (“Quality of Life”))"
web of science	(ALL (nurs *) AND ALL (“shift work schedule”) OR ALL (“rotating shift work”) OR ALL (“shift*”) AND ALL (icu) OR ALL (“critical care”) OR ALL (“intensive care unit”) OR ALL (“critically ill”) AND ALL (“quality of life”)) AND (LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2020) OR LIMIT-TO (PUBYEAR, 2019) OR LIMIT-TO (PUBYEAR, 2018) OR LIMIT-TO (PUBYEAR, 2017) OR LIMIT-TO (PUBYEAR, 2016) OR LIMIT-TO (PUBYEAR, 2015) OR LIMIT-TO (PUBYEAR, 2014) OR LIMIT-TO (PUBYEAR, 2013) OR LIMIT-TO (PUBYEAR, 2012)) AND (LIMIT-TO (LANGUAGE, “English”) OR LIMIT-TO (LANGUAGE, “Spanish”) OR LIMIT-TO (LANGUAGE, “Portuguese”)) AND (LIMIT-TO (SUBJAREA, “NURS”))

Table 2. Search Keys used in the databases.

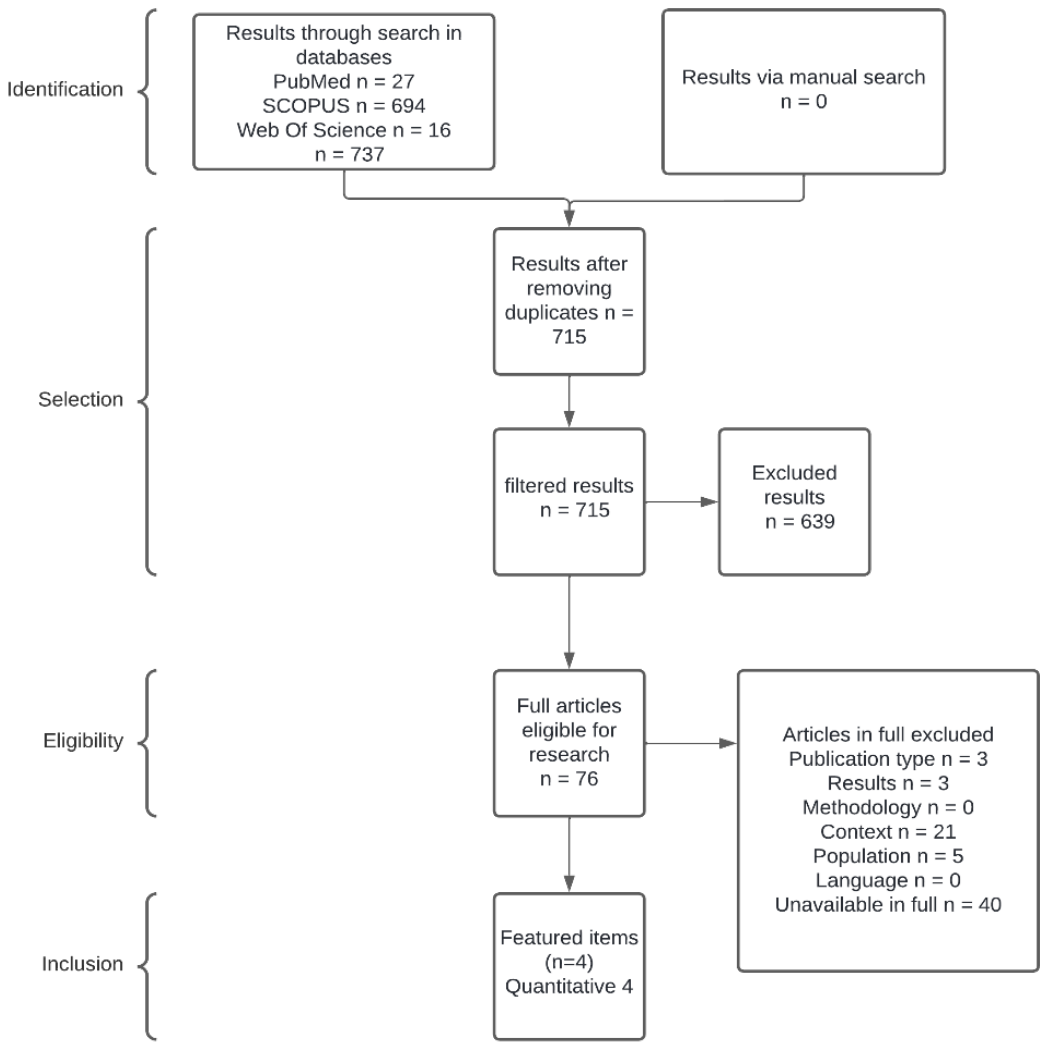

Figure 1. PRISMA diagram

Inclusion criteria	Exclusion Criteria
– Publication date greater than 2012; – Articles published in Portuguese, English or Spanish; – Articles related exclusively to the field of nursing.	– Articles whose target population is not nurses; – Articles whose context is not UCI; – Articles without free access and full text; – Integrative and Systematic Literature Reviews; – Articles that do not address the subject under study or that the objectives do not match; – Present a quality of less than 50%, assessed using the "Checklist for assessing the quality of quantitative studies" of the Kmet, Lee, Cook (2004) scale ("Standard Quality Assessment")

Table 3. Inclusion and Exclusion Criteria for selecting articles.

Article	Quality Level - Evaluator 1	Quality Level - Evaluator 2	Average
Effects of a 12-hour shift on mood states and sleepiness of Neonatal Intensive Care Unit nurses (Ferreira et al., 2016)	50%	58%	54%
Rotating Shifts Negatively Impacts Health and Wellness Among Intensive Care Nurses (Imes & Chasens, 2019)	69%	73%	71%
Sleep, quality of life and mood of nursing professionals of Pediatric Intensive Care Units (Guerra et al., 2016)	75%	75%	75%
The effects of three consecutive 12-hour shifts on cognition, sleepiness, and domains of nursing performance in day and night shift nurses: A quasi-experimental study (James et al., 2021)	75%	79%	77%

Table 4. Classification of articles according to the "Standard Quality Assessment" (KMET; LEE; COOK, 2004).

Reviews, or because the target population were not nursing professionals, or because the context was not an ICU or because the results are not what you are looking for.

Finally, in the Inclusion phase, the number of final qualitative and quantitative articles was identified. After all the exclusions made in the previous phases, the result includes 0 qualitative articles and 4 quantitative articles (n=4).

After selecting the articles, according to the different stages of sample construction, it was necessary to proceed with the evaluation of the quality of the articles by two of the authors of the work, which were subsequently confronted, in order to minimize possible errors. The selected articles were evaluated and classified according to the "Standard Quality Assessment" by Kmet, Lee, Cook (2004), considering:

– Values <50%: poor quality;

– Values between 50% and 75%: moderate quality;

– Values between 75% and 100%: high quality.

The quality levels assigned by each of the evaluators, as well as their average, are shown in Table 4.

As can be seen in Table 4, two of the evaluated documents are of moderate quality and the other two of high quality. Given that none of the articles is of poor quality, it was decided to use the four articles in carrying out the Scoping Review.

The analysis of the profile of the respective studies included in this review was carried out with the support of a data extraction table, which includes the identification of their authors, the title of the article, the year in which it was carried out, the country of origin, the participants, its objectives, the results observed and the conclusions obtained.

RESULTS

GLOBAL CHARACTERIZATION OF ARTICLES

The information that resulted from the analysis of the articles included in this Review is shown in Table 5. From the sample of four selected articles, all (100%) were carried out in the American continent (Brazil (n=2) and United States of America (USA) (n=2). Regarding the year of publication, two were carried out in 2016, one in 2019 and another in 2021. As for the language in which the articles were published, only one is in Portuguese, while the other three are in English. With regard to the characterization of the participants and the context where the articles were carried out, the study by James *et al.* (2021) included 94 participants, in which all nurses working 12-hour day or night shifts were eligible. In the study by Imes & Chasen (2019), 23 participants were included, recruited from six intensive care units (ICU). The study by Ferreira *et al.* (2016) included 70 participants, nurses from neonatal intensive care units. Most nurses were female (97%) and, on average, had 6 years of professional experience and 5 months of work in the ICU. The study by Guerra *et al.* (2016) included a sample of 168 nurses, and the research was carried out between November 2012 and April 2014 in pediatric and neonatal ICUs of five university hospitals. All selected studies followed a quantitative methodology and used sociodemographic forms or questionnaires as a data collection instrument. Each of the studies also adopted assessment scales as measurement instruments, selecting them according to their sociodemographic and cultural reality.

THE INFLUENCE OF SHIFT WORK ON THE QUALITY OF LIFE OF INTENSIVE CARE NURSES

The study by Guerra et al. (2016) reports that poor sleep quality and excessive daytime sleepiness are factors common to ICU professionals, regardless of the shift. Through the *Epworth Sleepiness Scale* (ESS), it was found that there is a predominance of severe sleepiness for the night shift (59.09%) and excessive daytime sleepiness for the day shift (46.87%). On the other hand, regarding sleep quality, it is possible to observe a predominance of poor sleep quality, both in nurses who work morning shifts and in those who work night shifts.

Regarding quality of life, no relevant statistical relationship was presented for the 3 groups under study, although the only exception was observed in the social domain. Also in terms of mood, there was no statistical significance for levels of anxiety and depression, and most of the individuals in the study did not have these pathologies.

The article by Ferreira et al. (2016) shows that when comparing the results of the *Karolinsha Sleepiness Scale* (KSS) and *The Brunel Mood Scale* (BRUMS) at the beginning of the shift, associations were found between the quality of the last sleep and quality of life. But when comparing the results between the beginning and end of the shift, there was no significant difference in the KSS values between day and night nurses. Nurses who work day shifts had less sleepiness at the end of work compared to the beginning, in comparison to nurses who work night shifts. Furthermore, only the group of night nurses

Author/Year	Country/ Database	Title	Goals	Participants	Results	Conclusions
Imes & Chasens (2019)	USA Scopus	**Rotating Shifts Negatively Impacts Health and Wellness Among Intensive Care Nurses**	- Examine the health and well-being implications of nurses who work in shifts.	- 23 nurses	- The results of this study show that shift turnover negatively affects the health and well-being of nurses.	- This study demonstrates how sleep-related impairment, which was greater in night work, is highly correlated with greater fatigue, greater emotional distress and worse cognitive abilities; - Practices and policies that promote healthy sleep behaviors in health professionals must be emphasized.
James, Elkins-Brown, Wilson, James, Dotson, Edwards, Wintersteen, Stevens & Butterfield (2021)	USA Scopus	**The effects of three consecutive 12-hour shifts on cognition, sleepiness, and domains of nursing performance in day and night shift nurses: A quasi-experimental study**	- Establish the average, dispersion and individual variation of the measures of cognition, sleepiness and performance of the work activity; - Detect significant differences in these measures depending on the type of shift and the number of consecutive shifts; - Assess the extent to which variation in performance domains can be explained by variation in measures of cognition or sleepiness, as a function of shift type, number of consecutive shifts, or both.	- 94 nurses	- For the six performance domains, in the conjugated score, there were no significant differences in averages between groups or conditions. - For the seventh, communication skills were lower for night nurses than for day nurses. - After three consecutive shifts, sustained attention and predicted cognitive effects decreased; - Predicted cognitive efficacy was particularly low for fatigued night nurses relative to other conditions.	- Nurses maintained their performance levels for all domains after three consecutive shifts. - Individual differences in predicted cognitive efficacy may explain the variation in performance by shift type for communication skills, but for no other performance domains. - These factors may interest researchers in the development of fatigue mitigation strategies for night nurses. - The results also suggest that more sensitive analyzes may be needed to capture other significant effects of long, consecutive shifts.

Guerra, Oliveira, Terreri & Len (2016)	Brazil Scopus	**Sleep, quality of life and mood of nursing professionals of Pediatric Intensive Care**	- Assess sleep, quality of life and mood of nursing professionals in pediatric intensive care units	- 168 nurses	- The sample consisted of 168 professionals, with a prevalence of neutral typology (57.49%). - There was no statistical significance regarding sleep, despite the results showing poor sleep quality and excessive daytime sleepiness for the three shifts. - Quality of life did not reveal statistical significance, but in the field "functioning of the social role" of the night shift, a lower result was observed ($p<0.007$). - There was no statistical significance regarding levels of anxiety and depression.	- The results suggest that these professionals may have sleep problems, but do not have lower quality of life results or mood disorders. - Probable explanations for these results may include an adaptation to your type of work over time.
Ferreira, Moreira, Guo & Noce (2017)	Brazil Scopus	**Effects of a 12-hour shift on mood states and sleepiness of Neonatal Intensive Care Unit nurses**	- Evaluate the effect of a 12-hour shift on mood and sleepiness at the beginning and end of the shift.	- 70 nurses	- When comparing the test results at the beginning of the shift, associations were found with previous quality of sleep and quality of life. When comparing the beginning and end of the shift, different KSS results are observed in the group of all nurses and in the night shift group. Significant fatigue results were observed in shift groups.	- A good night's sleep has positive effects on nurses' moods both at the beginning and at the end of the shift. - The self-perception of a good quality of life positively influenced the test results at the beginning and end of the shift. - Adequate fluid intake led to better test scores.

Table 5. Global characterization of the information extracted from the articles included in the Scoping Review.

had individuals at the two highest levels of the scale and reported significantly higher levels of sleepiness.

The article by Imes & Chasens (2019) states that health and well-being are directly affected by working during the night shift, with the most significant differences relating to fatigue after performing the night shift in relation to the morning shift, greater sleep-related impairment, lower satisfaction with social roles, and lower overall physical health. Another important aspect in this study was the importance of fluid intake during the shift, with advantages in reducing drowsiness and positive advantages in the six mood states, namely tension, depression, anger, vigor, fatigue. and the confusion.

Regarding the study by James *et al.* (2021), the *Creighton Competency Evaluation Instrument* (C-CEI ®) was used, and there were no significant main effects, nor interactions related to the type of shift, in 6 of the 7 evaluated competences (evaluation, clinical thinking, patient safety, decision-making, situational awareness, and skill). With regard to transformed communication, there was a small significant effect, with day nurses having a higher score than night nurses. Regarding sustained attention, there was a significant effect on the night shift regarding the average reaction time, with participants responding faster when at rest than when fatigued. Likewise, there was a significant effect on the night shift regarding the number of errors committed, given that they made fewer errors at rest than when tired. As for the predicted cognitive effectiveness, there were significant results regarding their interaction, on the predicted cognitive effectiveness. These results showed that night nurses were a little less cognitively effective compared to day nurses while resting, but drastically less cognitively effective compared to fatigued day nurses.

DISCUSSION

In general, the four studies do not agree on specific differences in Sleep Quality between day and night shifts. After the global analysis of the articles included in this review, it is possible to verify that shift work directly affects five dimensions of the quality of life of the Intensive Care nursing professional: Sleep Quality, Cognitive Effectiveness, Liquid Intake, Socialization and Emotional Health. The results referring to these dimensions were enlightening in relation to the influence of shift work on the quality of life of nurses in the ICU.

The four studies selected for this review address, in the ICU context, the influence of shift work on nurses' quality of life. Cross-sectionally, all analyzed studies expose the importance of good sleep habits and circadian rhythm in quality of life, in a global way.

The selected articles also address, within the dimension of sleep quality, how the rotation of schedules, regardless of the shifts, affects it. In this type of work schedule organization, most of the problems faced are due to the inversion of the professionals' sleep/wake cycle and, consequently, interference in their decision-making and actions. According to Bamonde *et al.* (2020), nurses who work in shifts have more sleep, physical and mental disorders, compared to nurses with a regular day shift. It can also be observed that night shift work, in particular, alters the circadian cycle which, by a snowball effect, alters the natural sleep-wake patterns of your biological clock (MARGALHO *et al.*, 2018).

Shift Work Disorder (PTT) is characterized by complaints of insomnia or excessive sleepiness that occurs in relation to scheduled work hours during the usual period of sleep (THORPY, 2012). Thus, shift work is responsible for the deregulation of normal

biological rhythms, coercing the professional's organism to adaptation efforts that can lead to exhaustion, with consequences on health, family and social life, and consequently on the ability to work (NETO, 2014).

In the study carried out by James *et al.* (2021), it is confirmed that the highest levels of sleepiness, which cause more lapses in attention and, consequently, more errors in the provision of care, are seen in night shifts. This is also in line with the study by Imes, Chasens (2019) which relates the sleep deprivation felt during night shifts, with cognitive abilities, that is, memory and concentration, showing a great deterioration of them over time. Both studies by Imes, Chasens (2019) and James *et al.* (2021) agree with the fact that, in shifts of 12 consecutive hours, the rate of errors committed in the provision of care increases as the shift elapses.

Another dimension of quality of life affected by shift work is Cognitive Effectiveness. In the study by James *et al.* (2021) it was possible to verify that after three consecutive night shifts, sustained attention and cognitive effectiveness decreased. Cognitive efficacy was particularly low in nurses who work night shifts, finding them with a higher level of burnout than day nurses, who were substantially more cognitively effective throughout the shift.

Likewise, the study by Imes, Chasens (2019) demonstrates how sleep deprivation is felt during night work, which is highly related to greater fatigue, greater emotional distress and affected cognitive skills (memory and concentration), effects that may also have relevant implications in terms of safety and quality of care.

Another direct consequence of these schedules is the social life of professionals. Difficulties in maintaining daily interactions with the family are observable, demonstrating a negative influence on the level of marital relations and childcare; as well as the preservation of social contacts and the practice of leisure activities in free time. Nurses' family members will have their own schedules, perhaps even incompatible with the health professionals, limiting the opportunity to spend more time together. In addition, the accumulated tiredness after a week of work with rotating hours and several night shifts, can make the health professional's mood more depressed or irritable, making living with them less appealing. According to Guerra *et al.* (2016), despite the levels of global quality of life being within the average, night shift professionals have lower levels in the functioning of the social role, compared to the other groups. Lower satisfaction with social roles and lower overall physical health was also perceived after night shifts compared to day shifts (IMES; CHASENS, 2019). Martins, Martins (1999), who studied the relationship between shift work and marital relationships, came to the conclusion that these working conditions reduce the quality of their relationships, increasing the probability of divorce.

As in the previous point, these professionals are also less willing to cook healthy meals, giving preference to foods rich in fat and easier to cook. This point can be related to the previous one, given the fact that the existence of family support, with a morning work routine, is an added value in the division of domestic tasks. Given the increased likelihood of divorce, this support may not exist in many nurses' daily lives. Thus, after difficult shifts and with an altered circadian rhythm, these professionals tend to eat less nutritious meals, opting for faster and easier ones. This gives rise to multiple complications, namely Diabetes Mellitus, cardiovascular diseases, Cerebral Vascular Accidents (CVAs), peptic ulcers and inflammatory

bowel diseases (IMES; CHASENS, 2019). It must be noted the importance of good oral hydration in maintaining the health of each individual, given that, and although the hydration levels of nurses in different shifts were not evaluated, the study by Ferreira *et al.* (2017) found evidence of the importance of fluid intake during the shift, realizing the advantages of adequate fluid intake, such as reducing professional drowsiness and positive influences on the six mood states: tension, depression, anger, vigor, fatigue and confusion.

In preparing this review, some limitations are highlighted, namely, the restriction of access to certain databases and articles, due to the fact that these are not free or because the articles are not available in their entirety. In addition, many of the results obtained during the research corresponded to articles that did not fit the research question and/or the objectives defined for this study, limiting the final sample of studies under analysis.

CONCLUSION

Through the analysis of selected scientific articles, we can state that shift work interferes with several dimensions of the professional's life, affecting their quality of life.

After analyzing each aspect of the nurse's quality of life, and realizing what changes can come from shift work, we can see that nurses who work the night shift are predisposed to a worse quality of sleep and a higher level of fatigue at the end of the shift, thus increasing the probability of making mistakes when providing care, due to lapses in attention, which would otherwise be avoided. It was also possible to conclude that the cognitive effectiveness of nurses is impaired by sleep deprivation and tiredness, as these negatively affect memory and concentration. We also concluded that the lack of time and willingness to cook, of nurses who perform the night shift, increases the consumption of high-fat foods, harming their health and that adequate oral hydration reduces professional drowsiness and positively influences the different states of humor. Finally, a decrease in the functioning of the social role was observed in nurses after night shifts due to lack of time for social activities and lower overall physical health.

From the point of view of occupational health, and taking into account that nurses cannot stop working in shifts, it is imperative to implement measures to improve the quality of life of nurses and help them deal with shift work, such as construction of more constant rotating schedules that take into account the performance of the nursing team during these hours, thus adjusting a better work plan for the service. The lack of adjustment in the usual hours of the nursing team is an issue that currently needs further investigation and reflection, as we know about the existence of the biological clock and the mechanisms capable of altering it, one of them being work in rotating shifts and especially, in terms of locations, critical care units, with repercussions on emotional state. This way, the workplace itself must also consider feeding the night shift team, offering healthier and more diversified small meal options, within the nutritional scope. Finally, the need for greater psychological support, considering not only the rotation of shifts, but also the specificity of Intensive Care, is imperative to maintain a good cognitive efficiency of nursing professionals.

It is added that Nurses with a diminished quality of life will be more tired and less motivated to perform their duties, experiencing dissatisfaction, anxiety and complacency for not visualizing, in the future, a perspective of advancement. Thus, this behavior can generate a wave of conformism, which can increase professional negligence and influence the quality of care provided.

REFERENCES

ARAÚJO, G. A.; SOARES, M. J. G. O.; HENRIQUES, M. E. R. DE M. Qualidade de vida: percepção de enfermeiros numa abordagem qualitativa. **Revista Eletrônica de Enfermagem**, v. 11, n. 3, p. 635–641, 2009.

AROMATARIS E, M. Z. **JBI Manual for Evidence Synthesis**. [s.l.] JBI, 2020.

BAMONDE, J. *et al*. O Impacto do trabalho por turnos na saúde dos enfermeiros: revisão integrativa. **Revista de Investigação & Inovação em Saúde**, v. 3, n. 2, p. 101–110, 22 dez. 2020.

DE SOUSA, L. M. M. *et al*. A metodologia de revisão integrativa da literatura em enfermagem. **Revista investigação em enfermagem**, v. 21, n. 2, p. 17–26, 2017.

FERREIRA, T. S. *et al*. Effects of a 12-hour shift on mood states and sleepiness of neonatal intensive care unit nurses. **Revista da Escola de Enfermagem**, v. 51, n. 1, 2017.

GARCIA, I. M. *et al*. PERFIL CRONOBIOLÓGICO DE ENFERMEIROS DE DIFERENTES TURNOS EM HOSPITAL UNIVERSITÁRIO PÚBLICO NO BRASIL. **International Journal of Development Research**, v. 12, n. 4, p. 55321–55324, abr. 2022.

GUERRA, P. C. *et al*. Sleep, quality of life and mood of nursing professionals of Pediatric intensive care Units. **Revista da Escola de Enfermagem**, v. 50, n. 2, p. 284–291, 1 mar. 2016.

IMES, C. C.; CHASENS, E. R. Rotating Shifts Negatively Impacts Health and Wellness Among Intensive Care Nurses. **Workplace Health and Safety**, v. 67, n. 5, p. 241–249, 1 maio 2019.

JAMES, L. *et al*. The effects of three consecutive 12-hour shifts on cognition, sleepiness, and domains of nursing performance in day and night shift nurses: A quasi-experimental study. **International Journal of Nursing Studies**, v. 123, 1 nov. 2021.

KMET, L. M.; LEE, R. C.; COOK, L. S. **STANDARD QUALITY ASSESSMENT CRITERIA for Evaluating Primary Research Papers from a Variety of Fields**. 2004. Disponível em: https://era.library.ualberta.ca/items/48b9b989-c221-4df6-9e35-af782082280e/view/a1cffdde-243e-41c3-be98-885f6d4dcb29/standard_quality_assessment_criteria_for_evaluating_primary_research_papers_from_a_variety_of_fields.pdf.

MARGALHO, C. *et al*. Impacto do trabalho por Turnos no Stresse Ocupacional dos Enfermeiros- Revisão Integrativa da Literatura. **Revista Portuguesa de Saúde Ocupacional**, v. 6, p. 1–7, 31 dez. 2018.

MARQUES, C. C. D. G.; SILVA, S. D. B. O perfil humanista do enfermeiro que atua na unidade de terapia intensiva. **Revista da JOPIC**, v. 5, n. 9, p. 15–30, 2020.

MARTINS, P.; MARTINS, A. C. O regime de horário de trabalho e a vida social e doméstica: Satisfação e estratégias de coping – Um estudo numa amostra de enfermeiros. **Análise Psicológica**, v. 17, n. 3, p. 529-546, 1999.

NETO, A. C. DE F. A. *et al*. Qualidade de vida e nível de atividade física de profissionais de saúde de unidades de terapia intensiva. **Revista Brasileira de Atividade Física e Saúde**, p. 711–719, 2013.

NETO, V. S. B. **As Consequências do Trabalho por Turnos Estudo de caso em organizações no Distrito de Setúbal**. Setúbal: Instituto Politécnico de Setúbal, 2014.

ORDEM DOS ENFERMEIROS. Funções do enfermeiro especialista em enfermagem médico-cirúrgica nas unidades de cuidados intensivos/serviços de medicina intensiva. 2018.

SANTOS, C. M. D. C.; PIMENTA, C. A. D. M.; NOBRE, M. R. C. The PICO strategy for the research question construction and evidence search. **Revista Latino-Americana de Enfermagem**, v. 15, n. 3, p. 508–511, 2007.

THORPY, M. J. Classification of Sleep Disorders. **The American Society for Experimental NeuroTherapeutics**, 2012.http:/doi.org/10.1007/s13311-012-0145-6

VARGAS, D. DE; BRAGA, A. L. O Enfermeiro de unidade de tratamento intensivo: refletindo sobre seu papel. **Revista Fafibe On Line**, v. 2, n. 2, p. 1–6, 2006. Disponível em: http://www.unifafibe.com.br/revistasonline/arquivos/revistafafibeonline/sumario/10/19042010093459.pdf