


STUDY OF THE CORRELATION BETWEEN WORKING HOURS AND SELF-MEDICATION PRACTICED BY NURSES

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ABSTRACT

The professional practice of nurses is strongly associated with long working hours, and this negatively influences their physical, mental, and psychological well-being, therefore, some resort to self-medication as an alternative to relieve symptoms. This work is an integrative literature review of articles published between 2013 and 2023. The search was conducted

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using the PICO strategy and Boolean operators, using the Pubmed, Lilacs, Scielo, and Virtual Health Library databases. A total of 276 articles were found, of which 12 original articles were included according to eligibility level. The exclusion criteria were incomplete articles, those that had another variable besides self-medication, reviews, case reports, duplicates, and articles that did not cover the subject. Among nurses, a strong association was observed between self-medication and long working hours, as the practice alleviates numerous stressors, mainly fatigue, sleep, and pain. Additionally, this behavior is directly linked to the availability of drugs and self-confidence due to knowledge of the drugs and their effects. It was identified that women were more likely to use the medication, mainly due to their double workload, both professional and domestic. The work of a nurse requires attention and dexterity, which are impaired by poor-quality sleep and exhausting workloads. Thus, self-medication provides immediate relief to the professional, but with the risk of masking more serious health problems. Therefore, there is a clear need for a minimum wage with adequate workload, awareness campaigns regarding long working hours, and programs that facilitate medical consultations to optimize the care and health of workers.

Keywords: Workday. Self-medication. Nurses.

INTRODUCTION

The 1988 Brazilian Federal Constitution establishes that the working hours should not exceed 8 hours per day and 44 hours per week (BRASIL, 1988). Working hours that exceed this period may be detrimental to the worker's life. Data from the World Health Organization (WHO) have shown that long working hours have increased cases of deaths due to heart diseases (CURI, 2021) and strokes (DESCATHA et al., 2020). In the hospital setting, professional practice can expose employees, especially nursing staff, to potential physical, psychological, and social health risks, particularly due to long work shifts (SILVA et al., 2019). Psychologically, nurses exhibit negative feelings about themselves and life in general. Regarding social damage, they may experience difficulties in family and social relationships and perceive isolation (SILVA et al., 2019). Given this scenario, some professionals may resort to self-medication as an alternative for symptom relief during work activities.

In 1988, the WHO defined self-medication as the selection and use of medicines, including teas and traditional products, by individuals to treat self-diagnosed diseases or symptoms (MELO et al., 2021). Some symptoms may be related to pre-existing conditions that are not being properly treated (RIBEIRO; OLIVEIRA; SPOLIDORO, 2018). However, self-medication can be an incorrect and dangerous form of self-care for immediate relief or treatment, as in some cases, it is based solely on the patient's assumption (RIBEIRO; OLIVEIRA; SPOLIDORO, 2018). Additionally, some medications can cause structural and functional changes in cells. In the case of antidepressants, their use may be enough to cause dependence and lead to an initial stage of addiction (SOUZA et al., 2015).

Among nursing professionals, this practice may begin during academic training, as evidenced by Gama and Secoli (2017). In a study conducted with nursing students, the authors observed that self-medication was influenced by relatives and friends (36.4%), the use of previous prescriptions (30.7%), prior knowledge of medications used (15.9%), and media advertisements (12.5%). A study conducted in Portugal reinforces this by showing that healthcare students feel confident in using medication on their own, including antibiotics, and cite pre-existing pain and illnesses as reasons for this practice (PEREIRA et al., 1994). The most commonly used medications included paracetamol and dipyrrone (48.8%), followed by cephalexin (6.0%) and B-complex vitamins (8.3%). Among antimicrobial agents, the most used were cephalexin (55.6%), amoxicillin (22.2%), ampicillin (11.1%), and azithromycin (11.1%) (OLIVEIRA; TEXEIRA, 2015).

With little variation in the social profile, self-medication is more prevalent among women, older age groups, individuals with low physical activity, alcohol consumers, and those with health insurance (GAMA; SECOLI, 2017). The determining factors for this behavior are related to stress, the risk of contamination in the hospital environment, and risky health behaviors (GAMA; SECOLI, 2017).

In the hospital setting, nursing professionals report that the availability of medication is related to ease of access, as it is stored in their work environment and under their responsibility. This is also linked to their self-confidence due to their extensive knowledge of drugs and their effects (OLIVEIRA; TEXEIRA, 2015). It has been shown that approximately 30% of nurses are more likely to become chemically dependent on medications and develop work-related syndromes compared to other professionals (OLIVEIRA; TEXEIRA, 2015). Considering the importance of nurses in healthcare practice and the risks associated with self-medication among these professionals, this study aims to identify the main triggers of this practice and its association with working hours. In this regard, the study seeks to analyze the correlation between self-medication and nurses' working hours.

METHODOLOGY

This is an integrative literature review conducted between February and May 2023 in the databases of Latin American and Caribbean Literature in Health Sciences (LILACS), Scientific Electronic Library Online (SciELO), National Library of Medicine (NLM) – PubMed, and Virtual Health Library (BVS).

The integrative review model was chosen due to its broad capacity to synthesize information from previous studies to find high-quality results that reflect changes in the field. This type of study is characterized by defining the theme and objective, establishing criteria for article inclusion, identifying relevant information from selected articles, selecting articles, analyzing results, and presenting the review (GANONG, 1987).

The study was based on the following guiding question: *“What is the correlation between working hours and self-medication among nurses?”* To formulate this question, the PICO strategy was used, an acronym in English where *P* represents person or population, *I* represents the intervention being considered, *C* represents comparison, and *O* represents outcomes. This strategy is based on evidence-based research, which breaks down and characterizes clinical problems that arise in research, care, or education

(SANTOS, PIMENTA, and NOBRE, 2007). However, although frequently used, this model does not always fit different healthcare contexts, leading to some variations in alternative models (SOUSA et al., 2018).

For this study, the adapted PICo strategy was used, where *P* represents Population, *I* represents Interest, and *Co* represents Context. This process is recommended for constructing clear study objectives in qualitative reviews, making it easier for readers to understand the study's focus and scope (JOANNA BRIGGS INSTITUTE, 2014). The use of the PICo strategy is outlined in Table 1.

Table 1. Implementation of the PICo Strategy

Acronym (Definition)	Description
P (Population)	Nurses
I (Phenomenon of Interest)	Correlation between self-medication and working hours
Co (Context)	Work activities performed by nurses

Source: Adapted from Joanna Briggs Institute (2014).

For this review, searches were conducted for scientific articles published in Portuguese and English between 2013 and 2023 using the following descriptors: working hours, self-medication, and nurses obtained from DeCS and their respective English translations, with the aid of Boolean operators "AND" and "OR." Original articles published in the last ten years emphasizing the correlation between self-medication and nurses' working hours were included. Duplicate articles, literature reviews, case reports, meta-analyses, and articles that did not align with the study's objective were excluded.

During the study, a more detailed reading on the topic was conducted, along with an analysis of relevant approaches that aligned with the research objective. If the articles met the established criteria, a full reading was performed, and the included data were tabulated to eliminate studies that did not meet the inclusion criteria.

The risks involved in this research included article generalization, data misinterpretation, research mismanagement, and poor reading comprehension. To minimize these errors, ten adapted screening questions and an analysis of the level of evidence of the articles (OXMAN, COOK, and GUVATT, 1994) were used. The questions are presented in Table 2.

Table 2. Adapted Screening Questions

Adapted Screening Questions
Does the study have a focused question?
Does the review include the right type of study?
Did the reviewers attempt to identify all possible databases?
Did they assess the quality of the included studies?
Was the type of result combination relevant?
How are the results presented, and what is the main outcome?
Are the results accurate?
Can the results be applied to the local population?
Were all important results considered?
Should policy or practice change based on the findings in this review?

Source: Oxman, Cook, and Guvatt (1994).

At this stage, the studies were evaluated through a detailed reading, appreciation, and summarization based on recommended theoretical frameworks. Following this, the integrative review was presented in a clear and easy-to-understand manner, avoiding ambiguities or inconsistencies. Data were organized using a table created with Microsoft Word 2019 and Microsoft Excel 2019, including the following items: year of publication, title, author, database, objective, and study design.

From the 276 articles found in the LILACS, SciELO, BVS, and PubMed databases, 230 were excluded for not meeting inclusion criteria or due to duplication. After reading titles and abstracts, 19 articles were pre-selected and read in full, as shown in Table 3.

Table 3. Article Identification, Exclusion, and Pre-selection

Database	Identified Articles	Excluded	Title and Abstract Reading	Excluded	Pre-selected Articles
LILACS	40	30	10	6	4
SciELO	16	10	6	3	3
PubMed	147	129	18	11	7
BVS	73	61	12	7	5
TOTAL	276	230	46	27	19

Source: MARTINEZ; SA, 2023.

Table 4 presents the total number of articles selected for the integrative review after full-text reading.

Table 4. Total Number of Articles Selected for Review

Database	Pre-Selected	Excluded	Selected for Review	
			Absolute Frequency	Relative Frequency (%)
LILACS	4	1	3	25.0
SciELO	3	1	2	16.7
PubMed	7	3	4	33.3
BVS	5	2	3	25.0
TOTAL	19	7	12	100

Source: MARTINEZ; SA, 2023.

Of the selected articles, 25% (n=3) were from the year 2020, 16.7% (n=2) from 2022, 16.7% (n=2) from 2021, and the remaining 41.7% covered the years 2019, 2018, 2016, 2015, and 2013. According to the Scientific Evidence Pyramid, most articles were classified as level IV (91.7%), followed by level II (8.3%). Level IV articles present expert opinions based on clinical experience, descriptive studies, or expert committee reports, whereas level II evidence is obtained from at least one well-controlled and randomized study. All articles were considered valid and of high quality for the proposed integrative review.

RESULTS

The articles were analyzed according to: year of publication, title, authors, database, objective, and study design, as shown in Table 3.

Table 3. Selected Articles for Review. BD - Database

Year	Title (Author)	BD	Objective	Study Design
2020	Conceptions of self-medication among nursing professionals (MACHADO; SILVA; PEDER, 2020)	BVS	To determine the prevalence of self-medication among nursing professionals, as well as to assess their epidemiological profile and the factors associated with self-medication.	Cross-sectional, descriptive, and quantitative study. Conducted through questionnaires with nursing professionals in both public and private sectors in Nova Aurora – PR.
2018	The impact of shift work on eating patterns and self-care strategies used by experienced and inexperienced nurses (GIFKINS; JOHNSTON; LOUDOUN, 2018)	PubMed	To examine differences and similarities in food choices and dietary patterns of nurses exposed to different shift work schedules, as well as how they adapt their eating habits to better manage fatigue and sleep loss.	A qualitative methodology was used to study and gather in-depth information on nurses' daily work routines. A case study approach allowed for the investigation of Australian nurses with both limited and extensive shift work experience.

2021	Nurses' Perceptions of Workload in Pediatric Intensive Care (LEBET et al., 2021)	PubMed	To explore the perceptions of pediatric intensive care unit (PICU) nurses regarding their workload when caring for critically ill patients and managing protocolized therapies.	This study was embedded in a multicenter randomized clinical trial. Nurses from 35 participating PICUs completed an initial survey containing questions about their perceptions of the overall PICU workload.
2020	Stressful workplace factors, inadequate sleep, and musculoskeletal pain in nursing unit managers (SIGURSTEINSDÓTTIR et al., 2020)	PubMed	The objective of this study was to examine the correlation between stressful workplace factors, inadequate sleep, and pain/discomfort in three body areas.	Descriptive cross-sectional study. The questionnaire was electronically sent to all female nursing unit managers (NUMs) in Iceland via the research outcome survey system.
2020	When and how do hospital nurses cope with daily stressors? A multilevel study (MARTÍNEZ-ZARAGOZA et al., 2020)	PubMed	To identify the momentary predictors of problem-focused coping, emotion-focused coping, social support-seeking, and avoidance coping strategies during nurses' workdays.	Descriptive, qualitative, correlational, and two-level study with repeated measures. A random cohort of 113 nurses was recruited from the wards of two university hospitals in Spain.
2022	Factors related to musculoskeletal pain in hospital nurses: a cross-sectional study (COIMBRA et al., 2022)	SciELO	To analyze the relationship between musculoskeletal pain and sociodemographic and occupational variables among hospital nurses.	Cross-sectional, descriptive research with 83 nurses from a hospital in Rio Grande do Sul. Sociodemographic and occupational characteristics related to pain were assessed using descriptive and inferential statistics.
2013	Work hours and health behaviors among public hospital nurses (FERNANDES et al., 2013)	SciELO	To analyze gender differences in the description of professional, domestic, and total work hours and assess their association with health-related behaviors among nurses.	A qualitative cross-sectional study was conducted in 18 public hospitals in Rio de Janeiro. Data collection was based on questionnaires. Nurses providing direct patient care (n=2279) were included.
2021	Night work, sleep quality, and illness in nursing workers (CATTANI et al., 2021)	LILACS	To analyze factors associated with sleep quality and illness among nursing workers working night shifts.	A qualitative and correlational cross-sectional study was conducted in a teaching hospital in Rio Grande do Sul, with a representative sample of night shift nursing workers.
2016	Use of psychotropics by nurses: their relationship with work (VIEIRA et al., 2016)	LILACS	To identify whether nursing professionals use psychoactive medication, assess work overload, and examine their knowledge of occupational risk factors.	A qualitative, descriptive, exploratory study conducted at a philanthropic hospital in Campo Mourão, Paraná. Seventeen nurses participated in the study.
2015	Self-medication: the neglect of self-care among professionals in the mobile	LILACS	To analyze the consumption and knowledge of self-medication among	A descriptive study with a mixed-methods approach was conducted with 100% of the professionals in the

	emergency service (SILVA et al., 2015)		professionals working in the Mobile Emergency Service.	Mobile Emergency Service (SAMU) in Cajazeiras-PB. Data collection was done through a questionnaire composed of ten questions, which underwent a pilot test.
2022	Impact of rotating shifts on lifestyle patterns and perceived stress among nurses: a cross-sectional study (CHIANG et al., 2022)	BVS	To evaluate correlations between work schedule characteristics, lifestyle patterns, and perceived stress among hospital nurses.	This qualitative cross-sectional study included 340 nurses from two hospitals in Taiwan. Final data from 329 nurses on work schedule characteristics, lifestyle patterns, and stress were analyzed.
2019	How do nurses cope with shift work? A qualitative analysis of open-ended survey responses (SAVIC et al., 2019)	BVS	This article explores common strategies employed by nurses to cope with shift work.	A descriptive qualitative survey was conducted with 449 shift-working nurses in Melbourne, Australia. Responses to open-ended questions about coping strategies were analyzed using a framework approach for thematic analysis.

Source: MARTINEZ; SA, 2023

DISCUSSION

CHARACTERISTICS OF THE NURSES' PROFILE

Of the 12 articles selected for this integrative review, 41.7% share narratives that outline a common profile of nurses, about self-medication associated with the workday. In these, it was identified that the professionals working there are mostly female, aged 30 to 50, married and with children (MACHADO; SILVA; PEDER, 2020; SILVA et al., 2015; COIMBRA et al., 2022; VIEIRA et al., 2016; CHIANG et al., 2022).

According to the data obtained, there is convergence with the profile found in Furtado's study, which demonstrates nursing as a profession with a high insertion of women. The age group profile found that 66.7% were between 31 and 50 years old and 18.5% were over 50 years old (CARRILO et al., 2013). Another relevant point is the working hours summarized among the results. Most nurses have a weekly workload of 36 to 40 hours, with reports of having another employment relationship and being responsible for more than one care unit during their working hours (MACHADO; SILVA; PEDER, 2020; CATTANI et al., 2021). These data converge with a previous study, where it was found that the working hours of 160 nursing professionals in a hospital network in Rio Branco, Acre, were between 30 and 40 hours per week (44%) (MUNIZ et al., 2005). Given the above,

most nurses (65%) classified time overload as the most important component of their workload, followed by cognitive (22%) and psychological (13%) overload. Work performance was the most chosen factor contributing to workload, followed by cognitive demand, time pressure, effort, and physical demand (LEBET et al., 2021). Despite the category's efforts to reduce working hours and become less aggressive, most professionals continue to work 40 hours a week.

It is important to address the disparity pointed out in studies between men and women. Men's personal working hours are considerably shorter, due to fewer domestic work responsibilities among them. However, when analyzing the impact of work on the female group, domestic activity is a relevant factor, because even with this "leaving home" in the historical-political context towards the formal labor market, women continue to be the main ones responsible for household chores and childcare (BARROS; GRIEP; ROTEMBERG, 2009).

Some studies have shown that the overload generated by the double exposure of domestic and professional work, when associated with other factors, can be detrimental to the health of nurses (SAVIC et al., 2019). Thus, the influence of the workplace and its organization can be seen as a direct or indirect mechanism of action on the psychological and physical disorders of workers, which can become a failure to satisfy needs that lead to self-medication.

SELF-MEDICATION: PROFESSIONAL INCONSISTENCY OR OPTION FOR RELIEF?

Studies associated with self-medication show that exhaustion favors physical and mental illness, which results in suffering at work and a warning sign for diseases. It was observed that multiple employment relationships are considered a matter of survival, particularly among those who work on-call, due to the low wages that force nurses to supplement their income (BARROS; GRIEP; ROTEMBERG, 2009). Additionally, nurses reported body pain and musculoskeletal problems associated with physical and mental exhaustion (CATTANI, et al., 2021).

This scenario leads to inadequate medication practice. A study conducted with 50 professionals, including nurses and nursing technicians, in Nova Aurora, Paraná, identified the main reasons related to self-medication. For 54% of professionals, the double shift was the main reason, 50% highlighted the lack of time to go to a consultation and 38% responded that daily practice was a stimulating factor (MACHADO; SILVA; PEDER, 2020).

In addition to the lack of time, some nurses find it difficult to access healthcare and many prefer to rely on the knowledge acquired and the availability of medications, seeking immediate solutions to alleviate pain symptoms without compromising the pace of the workday (RIBEIRO; OLIVEIRA; SPOLIDORO, 2018). Similar to this approach, Fernandes et al. (2013) argue that knowledge is associated with academic training, as it allows self-confidence and safety in practice. In addition to masking the disease, self-medication can put nurses' health at risk and aggravate problems.

Performing work activities under the effects of pain, tiredness, fatigue, and sleep implies a deficit in the care provided (SIGURSTEINSDÓTTIR et al., 2020). Sleep quality has been cited by several authors as a factor that is detrimental to nurses' health, relating to body pain, biological disorders, and bad mood, as well as physical changes such as tachycardia, circulatory problems, and back pain (CATTANI et al., 2021; HASAN; TUMAH, 2018). There are reports of dependence on medications and alcohol to help induce sleep; and the use of caffeine to maintain alertness during the shift (DORRIAN et al., 2006). The work of a nurse requires high attention, dexterity, and responsibility, which can be impaired by poor quality of sleep and exhausting workloads. A study in hospitals in the United States found an average weekly workload of 35 hours for nurses and concluded that in addition to the lack of professionals available for care, the excessive workload is associated with patient mortality (TRINKOFF et al., 2011).

MAIN MEDICATIONS REPORTED

The results of this study demonstrate the use of medications without medical indication as an alternative for stress peaks, long working hours, and pain during work activities. Among the most mentioned medications are dipyrone, paracetamol, antihypertensives, ibuprofen, nimesulide, and buscopan, as well as psychoactive and muscle relaxants (MACHADO; SILVA; PEDER, 2020; VIEIRA et al., 2016), with a prevalence of the use of analgesics (TOMASI et al., 2007). In 71.9% of cases, the use of only one medication was reported in the last seven days, while the remaining 28.2% reported having used two or more medications (BARROS; GRIEP; ROTEMBERG, 2009).

In addition to contributing to headache relief, analgesics are associated with a high prevalence of musculoskeletal disorders (LEITE; SILVA; MERIGHI, 2007). This is alarming, since the excessive use of analgesics by nurses may be a reflection of poor working conditions, with minimal rest, which results in fatigue and the need for self-medication.

CONCLUSION

The findings of this study have a relevant function when referring to the category of workers studied, providing a personal and professional overview of the factors that lead to the practice of self-medication.

Self-medication is driven mainly by the high weekly workload of the professional, which can exceed 44 hours per week. This occurs mainly due to the lack of a minimum wage for the category, which forces the nurse to have more than one occupation, including outside the profession, and without a formal contract. A decent minimum wage, with an adequate number of hours, would not lead the professional to this exorbitant work situation to survive. Still, on the subject of the high number of hours worked, studies show that the quality of care ends up being compromised, and it is common for nurses to work in pain and sleep. The work activity demands attention and skill, which makes this diagnosis serious, as it not only puts one's own life at risk but also the lives of patients. Therefore, awareness campaigns in the hospital environment warning about long working hours and excessive shifts should be carried out.

Although the practice of self-medication by nurses is initially treated as hypocrisy, it is observed that the environment in which the professional is inserted directs them towards this path. In the case of women, there is an even greater impact caused by domestic commitments. However, it is important to emphasize that this behavior has been around since graduation. Therefore, institutions, professors, and disciplines need to advance in raising awareness among students to curb the practice so that it does not continue until the professional stage. It is also necessary to create a culture that does not normalize long hours, excessive shifts, and varied work shifts, in addition to reinforcing the importance of good quality sleep, nutrition, and physical activity. It is also essential to have programs that facilitate medical consultations for nurses and provide incentives, such as paid time off or vacations, for attending the consultation. Self-medication puts nursing professionals at risk for their health since the practice can mask more serious illnesses and lead to substance abuse, leading to chemical dependency. This lack of time for professionals causes them to neglect their health while helping the health of others. It is necessary to take care of those who care.

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