

Effects of Nurses' Burnout on Patients' Safety

Descriptive Literature Review

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Abstract

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Title of the thesis Effects of Nurses' Burnout on Patients' Safety Descriptive Literature Review		
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Abstract <p>This thesis aimed to explore how nurses' burnout affects patient safety by critically assessing the existing literature. A total of 655 articles were identified and extracted for review from various electronic databases, with the main sources including PubMed, Ovid Medline, and CINAHL. These articles were screened based on their title, abstract, and full text. Inclusion and exclusion criteria were also applied, and only 18 of these articles proceeded to be used for further review in this thesis, which fully satisfied the search criteria set by the author of this thesis. Findings from the 18 different articles showed that nurses' burnout causes a major effect as medication errors, increases patient illness, and Death. Nurses experiencing burnout are likely to mishandle medications, prescriptions, and distribution. They view these processes as simple and repetitive, which do not require critical thinking, which in turn leads to medication errors and adverse patient reactions.</p>		
Keywords Nurses' Burnout, patients' safety, treatment outcomes, effects, care quality		

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1 Introduction

Nursing plays an essential role in the maintenance of the well-being of society, with nurses acting as key members and frontliners in providing support, holistic care, facing patients' illnesses, and often charged with making important clinical decisions when physicians are not present. The nursing profession entails an autonomous and a collaborative approach to delivering care to individuals, families, communities, and groups of all ages, well or sick, and in all settings, leading to health promotion, illness and disease prevention, and the holistic care of the sick, disabled, and palliative care to dying people. (WHO, 2023).

Being a nurse is a rewarding achievement for each one. Health care workers face numerous work difficulties due to the nature of their work. This involves decision-making and exposure to difficult situations like heavy workload, low salary, and long shift hours, which are the major causes of burnout. (Kosydar-Bochenek J et. al.2024.).

As a result of heavy and intense workload and many duties on nurses, burnout becomes a common phenomenon faced by nurses. Burnout is described as a syndrome associated with emotional tiredness, influencing work performance and low interest in the job, affecting the physical and emotional performance of nurses, which intend affects care services provided to patients and their safety (Lyndon, 2015.). Moreover, nurses are entitled to various duties, including caring for patients with empathy and patience, particularly in a highly stressful environment with limited resources and a lot of work. (De Oliverira et al. 2019).

Nurses may suffer from burnout syndrome, an occupational health condition that can decrease job satisfaction. Nursing workers may, however, improve the quality of patient care and their job performance with appropriate prevention. As a result, evaluating the present situation and gaining a global perspective on recent events are crucial. (Quesada-Puga et al.2024.).

This thesis aimed at exploring how nurse burnout affects patient safety by critically assessing the existing literature. Nurse burnout, characterized by emotional fatigue and reduced personal effectiveness, is a significant challenge in the healthcare environment. The research thus aims to investigate how it affects patients' safety, considering the quality of care and increased frequency of medical errors. The purpose is to evaluate the impact of nurses' burnout on patients' safety through a descriptive literature review. The research question is: What are the effects of nurse burnout on patient safety?

LAB UAS is one of the higher educational institutions specialising in innovation, business, healthcare, and various industries, with major departments in healthcare. It is in the Finnish cities of Lahti, Lappeenranta, and with some courses online, offering studies in business, design, fine arts and visual communication, technology, tourism and hospitality, and healthcare and social services. (LAB University of Applied Sciences 2025a.)

It is the sixth largest university of applied sciences in Finland, with over 10,400 students and 560 lecturers and RDI experts. The healthcare nursing department offers programs in the likes as registered nursing, public health nursing, and paramedics, alongside others. (LAB University of Applied Sciences 2025 a)

This thesis would be important to the university as it will impact the revision of the nursing curriculum with major units added for more education of students on working conditions-related matters. The review will positively impact the consideration of collaboration between LAB UAS, healthcare organizations, and other stakeholders. Lastly, this thesis will impact schools to potentially carry out further, broader-scale research on nurses' burnout related to a wide range of factors aside from patient safety.

2 Nurses' Burnout

2.1 Nursing and nursing care

Nursing as a discipline and a profession is fundamentally concerned with care, well-being of individuals, families, and communities, and health promotion (American Nurses Association, 2021). Solid foundation of historical compassionate services and evolving alongside advancements in clinical and medical science, nursing has transitioned from basically task-oriented practice to a complex system of knowledge-driven profession. In today's world, modern nursing requires a specialised blend of clinical expertise, ethical reasoning, critical thinking, and effective communication skills. (Padilha et al. 2025.).

To become a nurse in Finland, one must study at a university of applied sciences. The degree programme lasts for 3.5 years and consists of 210 credits. Upon completion of the nursing studies, students are required to take the national exams. The competence focuses on patient-centred and holistic approach. The exams were introduced in 2021 (*yleSHarviointi – 2020.*).

Health care professionals perform their work under a code of ethics. Nurses spend most of their time caring for patients. Trust and rapport are the key attributes to nurse-patient relationship. Nurses work in various roles and have a duty to assess their competence. Effective nursing care entails a strong therapeutic bond between the nurse and patient, with necessary factors as trust, respect, empathy, and kindness (Olson & Stokes, 2016.).

2.2 Burnout

The term burnout is a syndrome characterized by reduced personal accomplishment, emotional, mental, and physical exhaustion, and depersonalisation, that has not been properly managed. WHO classifies burnout as a state of vital exhaustion (WHO, ICD-11, 2020.). Depersonalization entails a negative, detached, and cynical attitude towards one's work and services, rendering negative and poor services to recipients. Vital exhaustion, as used by WHO, explains the feeling of being overextended and depleted of physical, emotional, and mental resources, while reduced personal accomplishment refers to a decrease in the feeling of success and competence in one's work (Maslach and Leiter, 2016.).

Burnout goes beyond just being a personal problem to a systemic issue with organizational consequences, with linkages to decreased job satisfaction, reduced productivity, increased absenteeism and backlogs, and poor work performance (Al Ma'mari et al., 2020). According to Chatterjee and Wroth (2019) burnout can negatively affect an individual's mental and physical health, with an increased risk of cardiovascular disease, anxiety, depression, and substance abuse.

2.3 Nurses' Burnout

The nursing profession is a demanding field, and this can hurt mental and physical health, with an increased risk of cardiovascular disease, anxiety, depression, and substance abuse. Nurses' burnouts consist of three features, which include depolarization, emotional exhaustion, and reduced personal accomplishment. (Sullivan et al. 2022.).

There are several factors that play a significant role in the causation of nurse burnout. These factors are inclusive of a lack of support from supervisors, inadequate staffing levels, longer shifts, limited opportunities for professional development, and poor communication. Studies show that nurses in general experience a high level of stress due to high expectations and a toxic work environment resulting from sick and dying patients whom they care for. (Tsolakidis et al., 2022.).

3 Impact of Nurses' Burnout

Nurse burnout is not a new phenomenon, but its prevalence is on the rise with the increasing demands within the healthcare settings. Burnout is attributed to factors such as staff shortages, high patient-to-nurse ratios, long work hours, and emotional strain within these phenomenon resulting from long-term exposure to workplace stress that has not been effectively managed (WHO, 2019). Besides affecting nurses, the impact of burnout extends.

A common symptom of nurse burnout is emotional exhaustion. Usually, nurses have feelings of being overwhelmed, fatigued, and detached from their work. Emotional exhaustion is a key factor contributing to decreased work performance and, hence, reduced patient care quality. Additionally, it can lead to depersonalization, where nurses develop attitudes towards their patients, seeing them as tasks rather than individuals in need of compassionate care. Depersonalization is associated with a decline in communication and empathy, which are essential in the provision of patient-centred care. In the long run, it can lead to increased medical errors, poor adherence to safety protocols, and poor clinical decision-making skills. (Guo et al. 2018.).

Furthermore, burnout is intensified by a reduced sense of personal achievement, causing nurses to have a feeling of professional dissatisfaction, hence leading to higher absenteeism rates, a strong desire to leave their profession, and lower levels of engagement in patient care. These nurses are also less likely to collaborate effectively with other healthcare workers, thus increasing the likelihood of errors during care provision. (Li et al., 2024.).

Collectively, these factors increase the risk of compromising the quality and safety of patient care. Burnout also has serious consequences for healthcare organizations by increasing turnover rates and thus higher recruitment and training costs. Additionally, it has been linked to higher infection rates within hospitals, increased medication errors, and even patient mortality, thus demonstrating its direct impact on patient safety. Ultimately, nurse burnout has a significant impact on the whole healthcare system. When the nurses' well-being is affected, there is a direct effect on the quality of care, which eventually impacts patient safety and overall effectiveness of the healthcare system. (Li et al., 2024.).

4 Research Methodology

4.1 Literature Review

Literature review is a method, amongst others, of conducting academic research. Winchester and Salji (2016) described it as the collection of existing information or data and literature on a subject of concern and its critical analyses. This method allows a better understanding of complex issues within the health care sector as it helps identify the patterns, similar findings, and gaps across different studies already conducted. (Aveyard, 2019).

In this thesis, descriptive literature review enabled a detailed overview of the relationship between nurse burnout and patient safety outcomes, especially lower health care quality, medical errors, and lower patient satisfaction Paré et al., (2015). Burnout is also influenced by organizational, psychological, and environmental factors and patient safety outcomes, which are multifaceted, thus making this study design relevant.

Additionally, most non-empirical studies usually focus on specific research questions and have very strict inclusion criteria. Descriptive literature reviews, however, include studies with diverse study designs, hence a wider range of evidence. They inform nursing practice, guide the development of policies and evidence-based insights that can inform future research, nursing education, and management within healthcare settings (Aveyard, 2019).

Literature from previous related studies, exploring the detailed relationship between nurses' burnout and safety of patients, cutting across exhaustion, reduced personal accomplishment, depersonalisation, which has over the years become an unavoidable call for concern in the healthcare system on global levels, was utilized. (WHO, 2019). It encompassed empirical evidence and management linking nurses' burnout to diverse patient safety indicators, inclusive of medication errors, hospital-acquired diseases and infections, patient falls, and overall adverse situations, to evaluate strategies for both nurses' and patients' wellbeing enhancement.

4.2 Inclusion Criteria and Exclusion Criteria

To ensure studies relevance and validity, inclusion criteria were developed before searching for articles. Studies that involved nurses in various healthcare settings were included. The focus was on how nurse burnout affects patients' safety, which included outcomes such

as medical errors, healthcare quality, and patient satisfaction. Only peer-reviewed articles published from 2015 onwards and available in full text to LAB students were included.

The studies also ought to be written in the English language. The inclusion and exclusion criteria (table 1.) were important to the study as they ensured that it was focused, of high quality, and was directly applicable to the thesis objectives.

Table 1: Summary of Inclusion and Exclusion criteria.

Inclusion criteria	Exclusion criteria
Articles that directly focused on investigating burnout and its impact on patients	Articles that not directly focused on investigating the burnout of nurses and the impact on patient safety and outcomes.
Articles published on other healthcare domains as pharmacists, medical lab scientists, physicians	Articles that were not published on other healthcare domains as pharmacists, medical lab scientists, and physicians.
Articles published after 2015.	Articles published before 2015
Articles that were accessible to Lab students	Articles that were not accessible to Lab students
Articles with full text	Articles without full text.

4.3 Data search and collection

Data search was done using various databases, and it consisted of: PubMed, CINAHL, and Ovid Medline. The key words used consisted of “Burnout” AND “Nurses “AND “causes” AND “Effects, Burnout” AND “effects” “impact” AND “nurses” AND “patient safety” Burnout” AND “nurses” “patient safety” AND “effects the articles selected were only in English and not more than 10 years. The rest of the search was done based on title, abstract, and full text. On first search, a total of 204 articles were found from PubMed, and 351 articles on CINAHL and 100 articles from Ovid Medline total of 40, 38, and 19 articles were left on each site, respectively, after the title reviews

Table 2: Data Search Process

Database	Search words
PubMed	"Burnout" AND "Nurses" AND "causes" AND "Effects"
CINAHL	"Burnout" AND "effects" AND "impact" AND "nurses" AND "patient safety"
Ovid Medline	"Burnout" AND "nurses" AND "patient safety" AND "effects"

The abstracts of the remaining articles were screened by the author of this thesis, decreasing the number that matched closely the inclusion criteria and search words 28, 20, and 7, on PubMed, CINAHL, and Ovid Medline, respectively. Finally, after reviewing their abstracts, the full texts of the articles were analysed, and 9 articles from PubMed, 5 from CINAHL, and 4 from Ovid Medline fully satisfied the article search criteria, which gave a total of 18 articles that were used for the literature review.

A total of 655 articles were found and extracted for review from various electronic databases, with the main sources inclusive of PubMed, Ovid Medline, and CINAHL. These articles were screened based on their title, abstract, and full text. After careful study, only 18 articles proceeded to be used for further reviewing in this study, which fully satisfies the search criteria set by the author of this research. As shown in Figure 1.

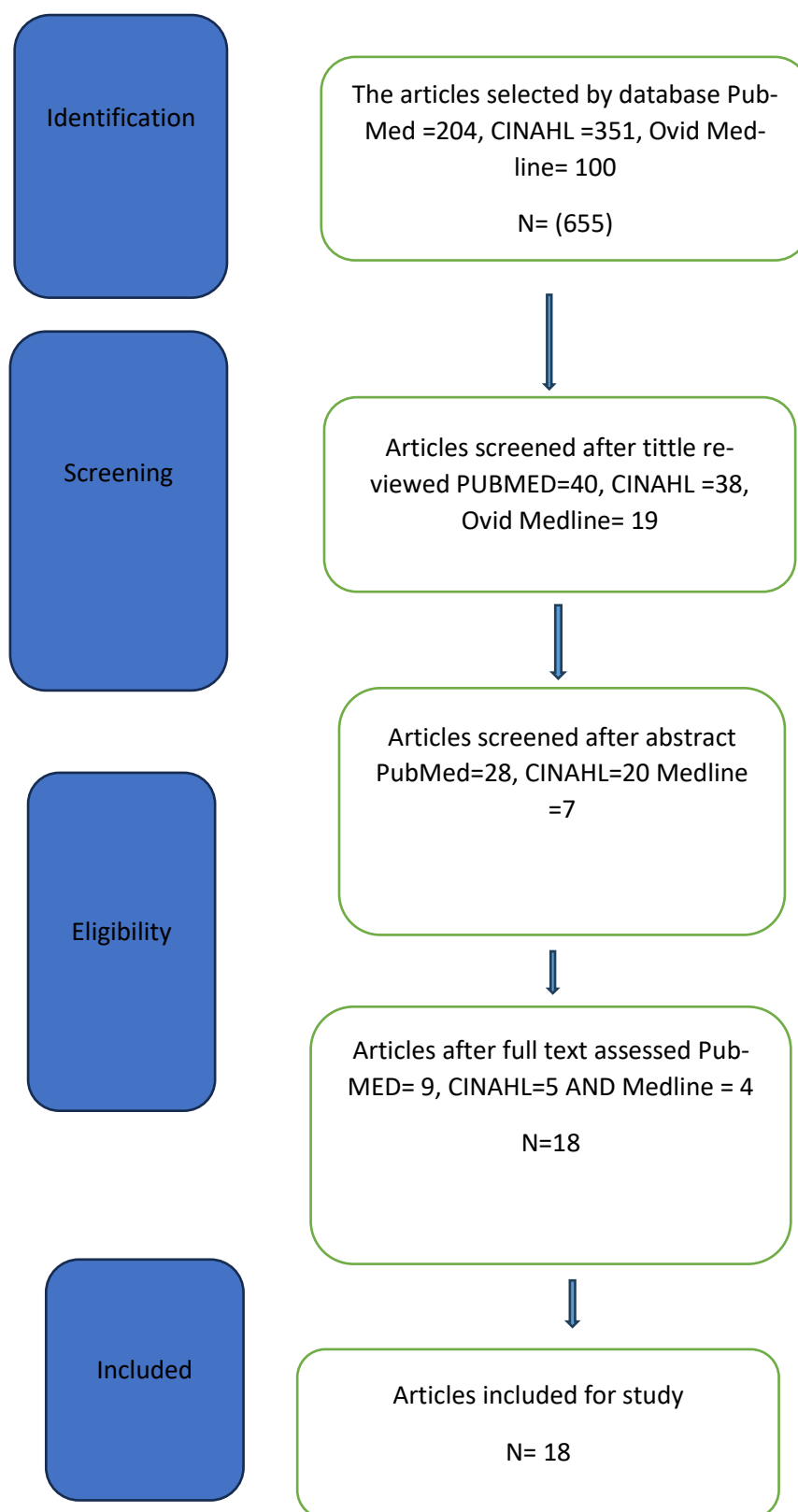


Figure 1: Prisma Chart of article selection

4.4 Data Analyses

Data analysis is a systematic method of examining, transforming, and modelling data to find important insights. It entails making informed decisions, solving problems, and setting realistic goals. Nowadays, big organizations, businesses, and individuals depend on data. (Hasan, 2024). According to Dye and Jacobs, (2017), content analysis is a research methodology used for structuring existing data from unstructured texts and summarizing them into organized systemized data, which can potentially answer the research questions.

This thesis used thematic data analysis. It is the most common method of data analysis; Thematic data analysis is qualitative research used to summarise and synthesize existing data. Thematic analysis is important method for research seeking the views of the people. This method is widely used in different fields. The analysis has different key aspects including flexibility, coding and themes. (Mcleod, 2024.).

The preexisting data from the 18 selected and used articles have been analysed thematically, and descriptively, identifying potential factors causing nurses burnout from all the articles and structuring / grouping them in well-organized files with colour codes, making it possible to create a relationship between these factors and how they affect the safety of patients.

5 Results

5.1 Organizational Factors and Their Effects on Patients' Safety

Findings from these 18 articles were grouped into two main categories: common causes of burnout among nurses, which included both organizational and individual or personal effects. These effects were further subcategorized into three inclusive as shown on the flow chart (figure 2.).

Figure 2 outlines and describes a layout flow chart of grouped factors that were commonly found in all 18 reviewed articles. These findings included effects or factors that arise from the health establishments or organizations for nurses who experienced burnout, including Workload and staffing, working hours, and work environment. These factors are an occupational hazard affecting both nurses and patients. Burnout is linked with poor patient safety and quality of care.(Jun et al., 2021.).

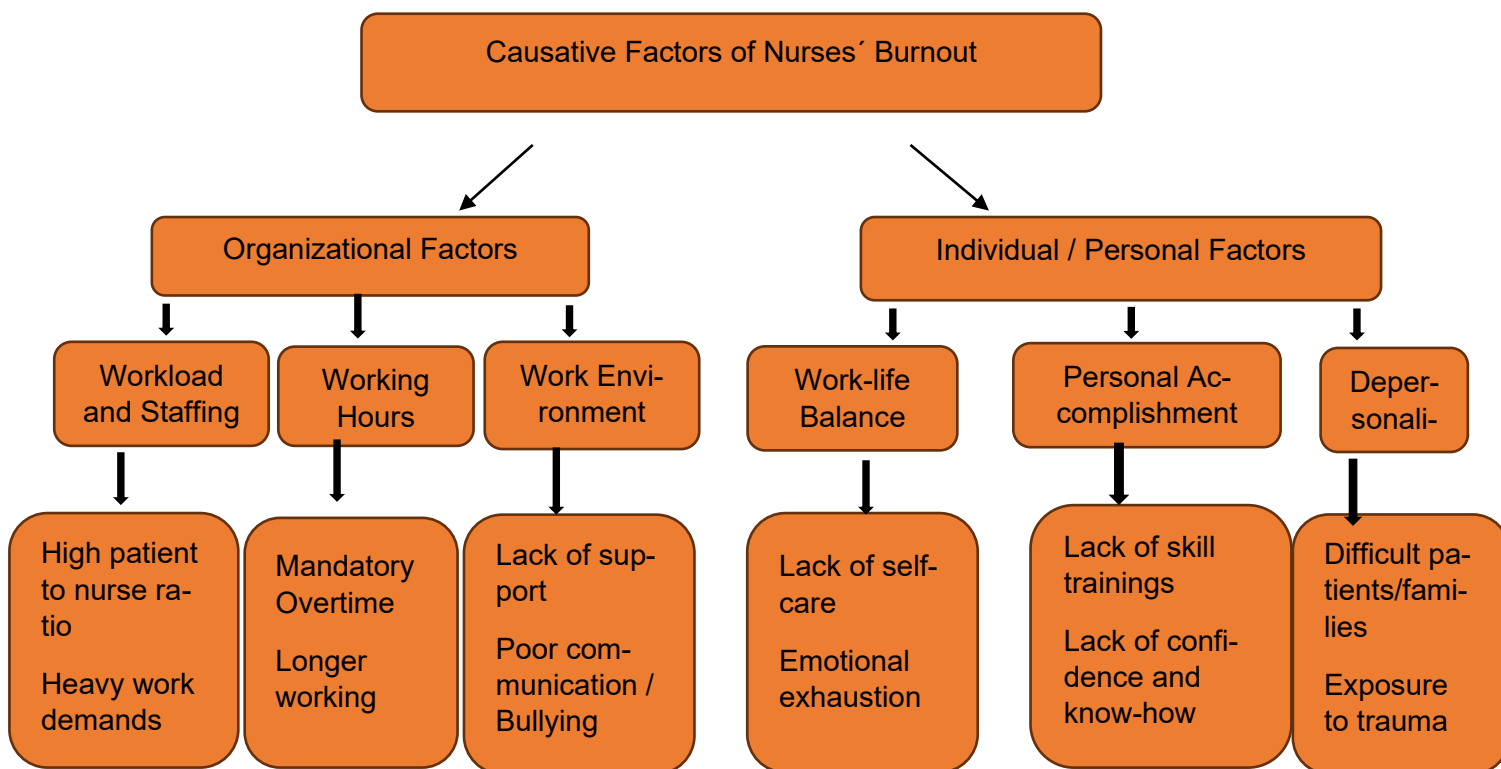


Figure 2: Flow chart of Factors causing burnout among nurses

5.1.1 Workload and staffing

High patient-to-nurse ratio, leading to an unbalanced number of patients per nurse, causes the workload of a single nurse handling several patients to be very tiresome. This heavy work easily increases fatigue among nurses, lowers patient concentration as the work on a single patient is done in a hurry to create time to attend to other patients on the schedule, and forgetfulness among nurses to attend to all patients. These can potentially cause job dissatisfaction and physical wear-out of nurses. This burnout results in adverse events among patients and increases morbidity and mortality among these patients (Mihdawi et al., 2020.).

Studies examining the effect of workload and a lower staff ratio consistently showed a correlation with burnout in nurses and, consequently, adverse patient outcomes. These results are like findings by Dall'Ora et al., (2020), which showed that nurses experience higher burnout when taking care of a higher number of patients at the same time.

5.1.2 Working hours

Studies by Sova'riova' Soo'sova' (2021), showed that nurses' burnout is more possible with increased weekly working hours than normal, where nurses are expected and demanded to work longer extra hours which leaves them with mental and physical fatigue. Also, it stated that increased number of working hours, cause nurses to lose focus and this tempers with hospital patient safety, increasing the possibility of mistakes and medical errors done by nurses during patient care. Nurses working 12 – 16 hours or more shifts are prone to medical errors and mistakes in patient care and hospital safety compared to nurses with basic 8 – 9 hours normal shifts (Rodrigues, Santos & Sousa, 2017). Mandatory overtime work by nurses which causes inadequate rest affected their service delivery to patients, a common phenomenon during the pandemic, which led to increased mortality among patients (Nantsupawat et al., 2023.).

Similarly, results from Al Ma'mari et al., (2020), demonstrated that nurses with more than 40 hours of work per week were more likely to make mistakes, which directly affect patients

and jeopardize their overall health and safety. Long working hours, including mandatory overtime, contribute to nurses' burnout with extended shifts leading to reduced care attention and patient alertness, which all greatly compromise a nurse's ability to offer effective and safe care to patients. Also, accumulated sleep deprivation resulting from prolonged

working hours increases burnout symptoms and impairs proper and correct decision-making ability. Research by Im, et al., (2023), suggests that nurses with extended working hours are more likely to make medication errors in medication administration, treatment plan decisions, and patient monitoring. Therefore, interventions aimed at reducing working hours to appropriate daily working hours are essential to avoid burnout and hence enhance patient safety (Jun et al., 2021)

5.1.3 Work environment

A negative work environment creates stress for nurses, causing them to feel undervalued, unsupported, and insufficient in their duties and performance. These can lead to depression, anxiety, exhaustion, and less compassionate minds in nurses, which are hallmarks for burn out (Kakemam et al., 2021).

Studies by Flynn et al., (2024) showed that a negative work environment greatly affects nurses and causes an increase in adverse events in patients from poor patient care. Also, nurses practicing in high-intensity settings with stricter leadership and bullying from administrators or colleagues tend to deliver less compassionate care to patients, causing increased patient morbidity and slow treatment progression, due to burnout. (Rodrigues et al., 2017.).

An environment characterized by a lack of psychological safety promotes the effects of burnout in nurses. Studies have shown that nurses working in uncivil environments with psychological instability and poor staff treatment experience higher rates of burnout and turn to lose concentration and passion for patient care and safety prioritization which affects these patients negatively, due to feelings of detachment from work (Al Sabei et al., 2020) Promoting a supportive work environment with proper staff treatment and collaboration, with effective communication tends to foster patient safety as burnout among nurses is reduced in such work environment (Galletta et al., 2021).

5.2 Individual / Personal Factors and Effects on Patients' Safety

These factors include personal factors that lead to burnout among nurses, not necessarily originating from the health establishment or place of work, and these factors pose potential threats to compromising the quality of care offered to patients by nurses. The factors included work-life balance, personal accomplishment, and depersonalization. (Tsolakidis et al., 2022.).

Individual or personal factors significantly impact patient safety. It is important for organizations to address these issues on time to prevent burnout, which leads to poor analysis and decision-making in health care. The nurses' fatigue and stress contribute to lower patient care and job dissatisfaction within the health care setting.(Rodrigues et al., 2017.).

5.2.1 Work-Life Balance

Analysing the existing literature confirmed that work -life balance impacts significantly, nurses' burnout on patients' safety. Studies consistently showed that nurses with an imbalanced work-life, a lack of equilibrium between their personal lives and their professional lives, were at increased risks for depersonalization, emotional exhaustion, and reduced personal accomplishment, which are all prone factors of nurses' burnout. For instance, Adriaenssens (2015) found that an increase in job demands, alongside low job control, contributed directly to burnout among intensive care nurses, highlighting the detrimental effects of an imbalanced workload. Similarly, Ryu (2021) demonstrated that work-life conflict was a predictor of emotional exhaustion among Australian nurses and across diverse healthcare settings. These findings highlight the significant role of a good work-life balance in ensuring nurses' well-being, better patient outcomes, and overall safety.

Also, Galletta et al. (2016) demonstrated that work-family conflicts impact nurses' health and job performance and outcomes, which in turn affect the quality of care offered to patients, putting their safety in jeopardy.

5.2.2 Personal Accomplishments

Nurses experience a lack of personal accomplishments when they feel they are unable to do their jobs well or are unable to complete their duties and tasks on time. This usually occurs when nurses have to complete tasks not directly related to their job description or nursing role (Bekker, Coetzee, Klopper, & Ellis, 2015). According to AL Ma'mari, Sharour, Al Omari, (2020), personal accomplishment has a positive effect on patient safety, with lower medical errors.

Nurses experiencing psychological burnout from a lack of personal accomplishment tend to exhibit negative attitudes when offering care services to patients, affecting their job performances, compared to nurses with decreased burnout who are seen to be competent in their jobs, confident about their service delivery, and have a high level of personal accomplishment

5.2.3 Depersonalization

This core dimension of burnout is characterized by a cynical and detached attitude towards patients, where they are being treated as objects rather than humans by nurses (Leiter & Maslach, 2017). This detachment by nurses arises as a coping mechanism for nurses undergoing chronic work stress and emotional demands, but it has significant effects on the quality of care offered to patients by nurses.

Also, verbal abuse and complaints from patients and their families were associated with increased burnout of nurses facing resource insufficiency, leading to negative feelings towards their jobs. This negatively affects their engagement to their jobs and causes poor performance, and adverse patient outcomes (Rouhi, Ahmadi, & Majidi, 2021).

6 Summary and Discussion

6.1 Discussion and conclusion

This research aimed at exploring the effects of nurses' burnout on patients' safety. It was a descriptive literature review reviewing articles from globally, cutting across research and articles from various databases and sources from different countries and continents. The factors that cause burnout among nurses were divided into two main categories; organizational factors and personal factors, and their respective effects on patients' safety were analysed simultaneously.

The organizational factors that potentially lead to nurses' burnout were further subdivided into three main groups; workload and staffing, working hours and work environment, which were all reviewed for causing burnout and leading to poor or adverse effects on the safety and wellbeing of patients such as increased morbidity and mortality rates, slower treatment progress, increased infections, medical errors and poor patient care mistakes, detached patient care and lack of communication between nurses and patients and their families. In the same light, the personal factors causing burnout among nurses, which negatively affect patient safety and outcomes, were also reviewed in three subcategories: work-life balance, depersonalization, and personal accomplishment, and the negative impact on the safety of patients was reviewed alongside these burnout causative factors.

The findings from the literature review consistently showed a significant association between nurses' burnout and compromised patient outcomes and safety. Higher levels of emotional exhaustion, depersonalization, and low staffing/work overload were correlated with higher risks of medication errors, low patient satisfaction scores, and other adverse events as increased deaths and illness. Similarly, research by Leiter and Maslach, (2015) demonstrated that nurses experiencing increased levels of depersonalization were prone to exhibiting detached and cynical approaches towards patients, which led to reduced communication and a decrease in healthcare provision quality delivered by these nurses to patients. These findings highlight the tangible and harmful impacts of burnout on nurses' ability to provide effective and safe patient care.

Further analysis illustrated that the work environment plays a vital role in burnout and patient safety. Inadequate levels of staffing, fewer nurses handling a larger number of patients, +heavy workloads, and a lack of managerial support were key mediating factors. Additionally, the introduction of opportunities for professional development for nurses to increase and develop their skills, recognition for hard work, and appraisals, was found to diminish the negative effects of burnout on the outcome and safety of patients (Jin et al., 2015.)

These findings showed the significance of the organizational factors in increasing the risk of nurses' burnout.

1. What are the effects of nurse burnout on patient safety?

Furthermore, based on findings from the 18 different articles, burnout causes a major effect on medication errors. Nurses experiencing burnout are prone to mishandling medications, prescriptions, and distribution. They view these processes as simple and repetitive, which do not require critical thinking, which in turn leads to medication errors and detrimental patient reactions (Im, Song, & Kim, 2023; Sovariova Soosova, 2021).

Despite the findings supporting a negative impact of nurses' burnout on patient safety, some other studies noted other factors as staff salary differences, which can potentially lead to diverse outcomes and can greatly affect how nurses offer care to patients (Tsolakidis et al., 2022).

6.2 Ethical Considerations

This thesis was a descriptive literature review-based examination that did not require direct contact with humans, but however, adhered to ethical principles of research. The study mainly focused on existing literature with particular attention to the ethical use of secondary data. Plagiarism was avoided by citing all used sources, maintaining confidentiality of data from relevant studies, acknowledging the limitations of the review, and objectively presenting and interpreting the results and findings. (Miteu, 2024).

The data sources were well reviewed, taking into consideration the effects of nurses' burnout on patient safety. The author also included research on how nurse burnout impacts patient safety. Additionally, the author also included studies that stated they were ethically approved and adhered to the required ethical principles, including consent and confidentiality. (Siddaway et al., 2019).

6.3 Suggestions for further research

Nursing, being a physically, mentally, and psychologically demanding profession, is prone to having burnout syndrome if proper care and precaution are not put in place. These burnouts come unaware and uncontrollably to many nurses worldwide. The burnouts affect patients directly or indirectly as an increase in adverse events in patients, increased morbidity and infection rates, and increased, slow, or non-progressive patient treatment outcomes.

The difference in study approaches across the articles, using diverse methodologies and conducted in different healthcare settings and geographical locations, solidifies the overall conclusion that nurses' burnout affects and compromises patients' safety. There is therefore a need for future and further research on this topic to improve the treatment outcome of patients.

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Appendix 1: Summary of Reviewed Articles

Author, Date, Title	Purpose of the study	Study Design	Key Findings
AL Ma'mari, Q., Sharour, L. A., & Al Omari, O., 2020, Oman. Fatigue, burnout, work environment, workload and perceived patient safety culture among critical care nurses.	To find out whether fatigue, workload, burnout, and the work environment can have an effect of patient safety among critical care nurses in Oman.	A cross-sectional predictive design.	As main result of the study was that fatigue, emotional exhaustion, and depersonalisation negatively affect patient safety. Another outcome is that work environment and personal accom-

			plishment have positive influence on safety culture among critical care nurses.
Adriaenssens, J., De Gucht, V., & Maes, S. (2015). Determinants and prevalence of burnout in emergency nurses	To explore the prevalence of burnout in emergency nurses and (2) to identify specific (individual and work related) determinants of burnout	Systematic review	Burnout rates in emergency nurses are high. Job demands, job control, <u>social support</u> and exposure to traumatic events are determinants of burnout, as well as several organizational variables. Consequently, specific action targets for hospital management are formulated to prevent turnover and burnout in emergency nurses
Bekker, M., Coetzee, S. K., Klopper, H. C., & Ellis, S. M. 2015, South Africa. Non-nursing tasks, nursing tasks left undone and job satisfaction among professional nurses in South African hospitals.	To identify the relationship between non-nursing tasks, nursing tasks left undone and job satisfaction among professional nurses in South Africa.	A cross-sectional survey design	Professional nurses conduct many non-nursing tasks, and therefore leave several important nursing tasks left undone, causing job dissatisfaction amongst professional nurses.
De Oliveira S., M. de Alcantara Sousa., L., V., Vieira Gadelha., M. do S.,	To identify the strategies for the prevention	An integrative review of the literature	The actions used to cope with burnout were, for the most

<p>& do Nascimento., V. B. (2019). Prevention Actions of Burnout Syndrome in Nurses: An Integrating Literature Review. <i>Clinical Practice and Epidemiology in Mental Health</i></p>	<p>of burnout syndrome in nurses; and discuss the results for future interventions that can decrease burnout in these professionals</p>		<p>part, effective, with some demonstrating greater success than others. From the 30 reviewed studies, the results did not obtain satisfactory improvement in burnout in only three interventions: 1) Systematic nursing supervision; 2) Basic nursing care; and 3) Psycho-oncological training program.</p>
<p>Jun, J., Ojemeni, M. M., Kalamani, R., Tong, J., & Crecelius, M. L. (2021). Relationship between nurse burnout, patient and organizational outcomes: Systematic review. <i>International Journal of Nursing Studies</i>,</p>	<p>To systematically and critically appraise the current literature to examine the associations between nurse burnout and patient and hospital organizational outcomes.</p>	<p>Systematic study review</p>	<p>Nurse burnout is an occupational hazard affecting nurses, patients, organizations, and society at large. Nurse burnout is associated with worsening safety and quality of care, decreased patient satisfaction, and nurses' organizational commitment and productivity. Traditionally, burnout is viewed as an individual issue. However, reframing burnout as an organizational and collec-</p>

			<p>tive phenomenon affords the broader perspective necessary to address nurse burnout</p>
<p>Mihdawi M, Al-Amer R, Darwish R, Randall S, Afaneh T. (2020). The Influence of Nursing Work Environment on Patient Safety. Workplace Health & Safety</p>	<p>To examine the relationship between patient safety practices and the nursing work environment</p>	<p>A cross-sectional study design</p>	<p>This study provided empirical results about perceived patient safety culture in relation to nursing work environment among nurses. It is paramount to focus on specific dimensions of the nursing work environment, such as staffing and resources adequacy, nurses' participation and advancement, and communication style to improve the quality of care provided to the patients. Taking into account</p>

			that nursing is a science and art that deals with patients on a continuous basis, the provision of care should be combined with a positive work environment that empowers nurses to improve patients' outcomes.
Im, C., Song, S., & Kim, K. 2023, Korea. The associations of psychological burnout and time factors on medication errors in rotating shift nurses in Korea	To describe relations between psychological burnout and time factors on hospital nurses' medication errors	A cross-sectional survey design	Medication errors among nurses are common among nurses experiencing psychological burnout, shorter lunch time and longer weekly overwork. Work time management should be considered as human factor to satisfy the needs of nurses and reduce burnout.
Nantsupawat, A., Wichaikhum, O., Abhicharttibutra, K., Sadarangani, T., & Poghosyan, L. 2023, Thailand, the relationship between nurse burnout,	To determine the relationship between nurse burnout, missed nursing care, and quality of	Descriptive correlational study	Burnout is associated with missed nursing care and poor quality of care following the COVID-19 pandemic

missed nursing care, and care quality following COVID-19	care during COVID-19.		
Rodrigues CCFM, Santos VEP, Sousa P., 2017, Brazil. Patient safety and nursing: interface with stress and Burnout Syndrome	To analyse research articles related to stress and burnout in nursing care and patient safety in the hospital environment	Integrative literature review	Stress and burnout among nurse professionals as well as lack of organisational support lead to unsafe patient care
Flynn, C., Watson, C., Patton, D., & O'Connor, T. (2024). The impact of burnout on paediatric nurses' attitudes about patient safety in the acute hospital setting: A systematic review. <i>Journal of Pediatric Nursing</i> , 78, e82–e89.	This article seeks to explore the impact of burnout on paediatric nurses	Descriptive cross sectional	Burnout negatively effects on patient safety and cause the higher frequency of adverse events and increase in medication errors. The overall perception of safety was positively related to teamwork within hospital units and no penalties to error. Medication errors correlated positively with organizational learning and continuous safety improvement and negatively with staffing.

<p>Tsolakidis, G., Fountouki, A., Kotrosiou, S., Diamantidou, V., & Theofanidis, D. 2022. Nursing Staff Burnout: A Critical Review of the Risk Factors</p>	<p>To investigate the risks and factors that contribute to burnout in nursing staff.</p>	<p>Cross sectional Descriptive Study</p>	<p>It has been recognized by many studies that a positive workplace climate for nurses can play a key role in preventing burnout. A positive working ethos includes supportive relationships between nurses, the head of unit, medical staff, and overall positive leadership style, within an optimum teamwork spirit to prevent or diminish burnout.</p>
<p>Dall’Ora, C., Ball, J., Reinius, M. <i>et al.</i> Burnout in nursing: a theoretical review. (2020).</p>	<p>To determine what is known (and not known) about the causes and consequences of burnout in nursing, and how this relates to theories of burnout</p>	<p>Theoretical reviews draw on empirical studies</p>	<p>Patterns identified across 91 studies consistently show that adverse job characteristics are associated with burnout in nursing. The potential consequences for staff and patients are severe. Maslach’s theory offers a plausible mechanism to explain the associations observed. However incomplete measurement of</p>

			burnout and limited research on some relationships means that the causes and consequences of burnout cannot be reliably identified and distinguished, which makes it difficult to use the evidence to design interventions to reduce burnout.
Galetta et al., (2016). Working and Environmental Factors on Job Burnout. A Cross-sectional Study on Nurses	To investigate some psychosocial factors related to burnout, moderate/high emotional exhaustion, cynicism and professional inefficacy	A cross-sectional study design	In effect, burnout is different from stress not only because of consequences at individual-level such as dissatisfaction, anxiety and tension, but also for the negative impact on interpersonal relationships, which generates cynicism and emotional detachment towards patients.
Bagnasco, A., Dasso, N., Rossi, S., Timmins, F., Watson, R., Aleo, G., Catania, G., Zanini, M., & Sasso, L. (2020). A cross-sectional multisite	To explore Italian paediatric nurses' reported burnout and its relationship to their perceptions of safety	A cross-sectional study	The association between reported burnout and perception of safety and risk of adverse events in Italian paediatric

<p>exploration of Italian paediatric nurses' reported burnout and its relationship to perceptions of clinical safety and adverse events</p>	<p>and adverse events.</p>		<p>nurses has been reported for the first time. Nurses reporting burnout are at greater risk of intensely negative perceptions of clinical safety and adverse events. This is an important finding as perceptions can influence practice and behaviours. Quality measures in children's clinical environments need to go beyond obvious indicators to examine nurses' well-being as this also influences quality and safety</p>
<p>Ryu, I. S., & Shim, J. (2021). The Influence of Burnout on Patient Safety Management Activities of Shift Nurses: The Mediating Effect of Compassion Satisfaction. <i>International Journal of Environmental Research and Public Health</i></p>	<p>The study is determined to investigate the contribution of burnout compassion satisfaction and patient safety management activities.</p>	<p>A cross-sectional survey design</p>	<p>The cs works as mediator between PSMA and burnout</p>

<p>Kakemam, E., Chegini, Z., Rouhi, A., Ahmadi, F., & Majidi, S. 2021. Burnout and its relationship to self-reported quality of patient care and adverse events during COVID-19: A cross-sectional online survey among nurses.</p>	<p>To assess nurses' burnout and its association with their perceived quality of patient care and occurrence of adverse events (AEs) during COVID-19</p>	<p>A cross-sectional online study</p>	<p>Findings confirmed the assumption that a higher degree of burnout is correlated with a perceived higher number of AEs and reduced perceived patient care quality.</p>
<p>Fengyan et al., (2025). Assessing the Impact of Burnout on Nurse Safety Behaviors and Patient Safety Competence: A Latent Profile Analysis Study.</p>	<p>To examine the association between burnout, nurse safety behaviors, and patient safety competency among nurses working in cancer hospitals using person-centered and variable-centered methodologies.</p>	<p>A cross-sectional online survey</p>	<p>This study identified three heterogeneous latent profiles of burnout among cancer hospital nurses and highlighted the significant impact of excessive working hours and lack of safety training on burnout across different job titles and income levels. Additionally, it verified the mediation effect of patient safety competency between burnout profiles and nurse safety behaviours.</p>

<p>Al Sabei, S. D., Labrague, L. J., Miner Ross, A., Karkada, S., Albashayreh, A., Al Masroori, F., & Al Hashmi, N. 2020. Nursing Work Environment, Turnover Intention, Job Burnout, and Quality of Care: The Moderating Role of Job Satisfaction. <i>Journal of Nursing Scholarship</i>, 52(1), 95–10</p>	<p>(a) To assess predictors of the turnover intention, burnout, and perceived quality of care among nurses working in Oman, and</p> <p>(b) To examine the potential moderating role of job satisfaction on the relationship between work environment and nurse turnover intention.</p>	<p>A cross-sectional design</p>	<p>Job satisfaction and the quality of the work environment have been reported as significant work-related factors impacting nurse retention outcomes. Participation in hospital affairs, a foundation for quality of care, and staffing adequacy were predictors of burnout among nurses and perceived quality of care. Logistic regression analysis revealed that working in a favourable environment was associated with less turnover intention, but only when job satisfaction was high.</p>
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