HOSPITAL ETHICAL CLIMATE AND ITS IMPACT ON MISSED NURSING CARE: SYSTEMATIC REVIEW AND META-ANALYSIS

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Abstract

Background: Missed nursing care refers to the essential patient care that is not provided or is delayed. Evidence suggests that missed nursing care is a pervasive problem impacting negatively on the quality of care. It has been noted that missed nursing care is associated with an increased risk of hospital-acquired infections and mortality. Often, missed nursing care requires nurses to choose a care option over others, which presents ethical dilemmas, the resolution of which, is partly influenced by the prevailing institutional work climate. The existing ethical work climate may restrain nurses from executing what they perceive to be the right ethical decision.

Aim: The study aims to meta-analytically explore the impact of hospital ethical climate on missed nursing care.

Materials and methods: The literature was systematically reviewed and meta-analyzed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria.

Results: Six studies were selected; these studies covered a sample of 968 nurses. All studies were quantitative, cross-sectional design with low negative correlation between missed nursing care and ethical climate.

Conclusions: All of the included studies indicate that a relationship between the ethical climate and missed nursing is established, however, the meta-analysis of the studies shows that the relationship between ethical climate and missed nursing care is a low negative correlation and there could be other variables that might be more influential in determining the level of missed nursing care, other than the ethical climate.

Keywords: Ethical Climate, Hospital Ethical Climate, Missed Nursing Care, Nursing Care Left Undone

Introduction

Among the causes of patient harm is inadequate quality of nursing care (Recio-Saucedo et al., 2017). The delay or the failure of nurses to execute their clinical, emotional, or administrative nursing care duties may result in errors that negatively impact patient safety (Suhonen et al., 2018). The term missed nursing care is used to describe the nursing care left undone (Recio-Saucedo et al., 2017). Missed nursing care refers to essential patient care that is not provided or delayed (Kalisch et al., 2009; Tubbs-Cooley et al., 2019). Evidence suggests that missed nursing care is a pervasive problem impacting negatively on the quality of care (Suhonen et al., 2018; Recio- Saucedo et al., 2018). It has been noted that missed nursing care is associated with an increased risk of hospital-acquired infections and mortality (Papastavrou et al., 2013; Cho et al., 2015; Recio- Saucedo et al., 2017).

The organizational and the broader socio-political factors influence nursing practice and impact the prioritization of care by nurses (Vryonides et al., 2018). Often, missed nursing care requires nurses to choose a care option over others, which presents ethical dilemmas the resolution of which is partly influenced by the prevailing institutional work climate (Higgins et al, 1984; Kohlberg, 1984). The prevailing organizational practices and procedures that affect nurses' moral obligations and decision-making are referred to as ethical work climates. Predominant ethical work climates include egoism, benevolence, and principle (Victor & Cullen, 1988). An egoistic work climate influences moral decision-making that focuses on self-interest, which refers to the interest of an individual or that of the organization. A benevolent work climate favors the consideration of other people and the organizational collective in moral decision-making. A principled ethical work climate influences moral decision-making that focuses on rules and procedures within the organization and other constraints associated with the existing legal system and professional organization (Victor & Cullen, 1988). The existing ethical work climate may restrain nurses from executing what they perceive to be the right ethical decision (Jameton, 1984; Tschudin, 2003; Badolamenti et al., 2017).

Problem statement

The problem to be addressed in the proposed study is the issue of missed nursing care and its relationship with the hospital's ethical climate. The focus on missed nursing care is informed by the potential adverse effects that the prioritizing of care by nurses could have on the delivery of quality care and patient safety (Papastavrou et al., 2013; Cho et al., 2015; Recio-Saucedo et al., 2017). Given that nurses are educated to care for patients, the constraints within the working environment may negatively influence their capacity to deliver care according to their ethical perspective (Suhonen et al., 2018). The prevailing ethical climate within hospitals is perceived to be a contributing factor influencing the moral decisions nurses make when prioritizing care (Victor & Cullen, 1988). Therefore, understanding how predominant ethical climates within hospitals relate to missed nursing care could be vital in enhancing the quality of care and patient safety.

Significance of the study

A meta-analysis is needed for studying ethics climate and nurses' missed care in hospital sittings because it provides the opportunity for a wide range of studies to gather in one place, which gives a detailed picture of the topic. Meta-analysis increases the statistical power of the study by combining data from various sources. It helps to find out the important things that may not be shown in the individual studies because of the sample size limitations. As to the research on ethical climate and missed care, the meta-analysis should be undertaken so that the result can be generalized to a higher level, meaning that ethical climate affects other hospital settings as well or in general.

By conducting meta-analysis, researchers can explore differential effects among ethical climate and nursing missed care where causal relationships may be examined through the assessment of strength and direction of correlations across multiple studies. Thus, this can lead to a better comprehension of how the ethical behavior of organizations affects the general behaviors of nurses in the hospitals. Summarizing, the undertaking of a meta-analysis over the bond between ethical climate and nursing missed care is of high importance for our nursing profession and health care improvement practices.

Research question.

To what extent does an association exist between ethical climate and missed nursing care among nurses working in hospital settings?

Background

Ethical Climate

Work climate is defined as perceived typical organizational practices and procedures (Schneider, 1975). Ethical work climate refers to the perceived organizational characteristics that relate to and affect the moral obligations of the employees (Victor & Cullen, 1988). Historical examples of ethical work climates include the support for conflict resolution given by Renwick (1975) and the acceptability of aggression given by Lewin et al. (1939).

According to Victor and Cullen (1988), the ethical climate is organization-dependent and is distinct from the employee's perceptions and evaluations regarding moral obligations. Victor and Cullen (1988) also argued that the ethical work climate is well known by the organization's employees but their evaluating and perceptive understanding of ethical climate may differ.

The focus on the ethical work climate is informed by evidence suggesting that an individual's moral and ethical behavior is not determined entirely by their own characteristics but is influenced by social factors (Higgins et al., 1984). In research involving the moral decisions made by soldiers to pull the trigger, Kohlberg (1984) noted that the institutional context of the army influenced the decision-making criteria.

The ethical climate of an organization is influenced by its culture, rules, policies, and principles. There is a wide variation in nurses' perceptions of this concept depending on the type of ward they work in, their daily routines, and the new guidelines that have been implemented (Ghaly, 2016; Simha & Cullen, 2012). The ethical climate of an organization is the perception that is held by the employees about the organization as a whole, which has a direct impact on their attitudes and behaviors. Moreover, the ethical climate plays a significant role in influencing decision-making and behavior regarding ethical issues (Olson, 1998). The three classes of ethical theory that underpin the understanding of ethical work climate include egoism, benevolence, and principle (Victor & Cullen, 1988). Benevolence is characterized by "teleological consideration of the wellbeing of others." Organizational employees who are benevolent show little awareness of laws or rules and show minimal regard to rules or principles when making moral decisions (Victor & Cullen, 1988). The assessment of benevolence focuses on the identity of organizational members and distinguishes the existing boundaries for the concerns of the members (Victor & Cullen, 1988). The analysis for benevolent work climate focuses on consideration of other people such as friendship or the consideration of the organizational collective such as teamwork. The assessment of benevolence also takes into consideration other units outside the organization such as social responsibility (Victor & Cullen, 1988).

A principled ethical work climate is characterized by reasoning that is determined by the adherence to rules and laws. Organizational employees who are principled show less sensitivity to the effect of moral decisions on others (Victor & Cullen, 1988). The assessment of the principle work climate is focused on how an individual makes moral decisions based on principles within the organizations such as rules and procedures or those outside the organizations such as the legal system and professional organization (Victor & Cullen, 1988).

An egoistic work climate is characterized by moral reasoning influenced by self-interest. The assessment of the egoistic work climate is characterized by the identification of self where the needs and preferences of the individuals are considered. The assessment of egoistic work climate can also focus on organizations' interests such as corporate profits and strategic advantages (Victor & Cullen, 1988).

Hospitals with a positive ethical climate may impart greater professionalism, fewer burnouts, and fewer work-related stresses to their employees, in addition to increasing adherence to ethical rules and enhancing organizational commitment to ethical behavior (Sabriyeh et al., 2013; Tehranineshat et al., 2020). Maintaining and improving the ethical climate of the workplace is a key factor in improving the quality of employee performance at the workplace. Making ethical decisions cannot be achieved without principles; making ethical decisions without principles cannot be considered ethical in any way (Ghaly, 2016).

Missed Nursing Care

The focus on missed nursing care is informed by the potential adverse effects that the prioritizing of care by nurses could have on the delivery of quality care and patient safety (Papastavrou et al., 2013; Cho et al., 2015; Recio-Saucedo et al., 2017). Among the causes of patient harm is the inadequate quality of nursing care (Recio-Saucedo et al., 2017). The delay or the failure of nurses to executive their clinical, emotional, or administrative nursing care duties may result in errors that negatively impact patient safety (Suhonen et al., 2018). The term missed nursing care is used to describe the nursing care left undone (Recio-Saucedo et al., 2017). The first overview of missed nursing care was presented by Kalisch (2006). Missed nursing care was defined as "any aspect of required patient care that is omitted (either in part or in whole) or delayed" (Kalisch et al., 2009).

Missed nursing care refers to the essential patient care that is not provided or that is delayed (Kalisch et al., 2009; Tubbs-Cooley et al., 2019). Evidence suggests that missed nursing care is a pervasive problem impacting negatively on the quality of care (Suhonen et al., 2018; Recio-Saucedo et al., 2017). It has been noted that missed nursing care is associated with an increased risk of hospital-acquired infections and mortality (Papastavrou et al., 2013; Cho et al., 2015; Recio-Saucedo et al., 2017).

Although nurses are educated in the science and art of caring, they work in a regulated profession where they are accountable for the provision of care and personally responsible for the associated individual errors of commission and omissions (Suhonen et al., 2018). Therefore, missed nursing care refers to the omission of care (Kalisch et al., 2009). One of the earliest studies on missed nursing care highlighted reasons such as understaffing, poor utilization of available staff resources, ineffective teamwork, and delegation, and denial (Kalisch, 2006). When missed nursing care involves choosing one care option over the other, nurses face ethical dilemmas (Suhonen et al., 2018). According to Kalisch et al. (2009), it is important to focus on aspects associated with missed nursing care because of the threats to patient care. Evidence suggests that nursing practice is not only influenced by micro-level factors that involve individual decisions but also by the meso-level factors that include

organizational aspects and the macro-level factors that include aspects associated with the broader socio-political framework (Vryonides et al., 2016).

The challenges within the regulated environment that include the cost of care, austerity measures and the increasing needs of patients sometimes directly influence the capacity of nurses to provide satisfactory care based on their ethical perspective (Suhonen et al., 2018). Such challenges demand nurses to prioritize and choose the nursing care activities to deliver (Suhonen et al., 2018). Choosing specific nursing care over the other may results in missed nursing care associated with errors of commission (Suhonen et al., 2018). It is also pertinent to note that missed nursing care can have adverse effects on nurses. In particular, these effects include reduced job satisfaction, a more likely tendency to leave the profession, and a more intense sense of moral distress (Jones et al., 2015).

Aim of the study

The study aimed to meta-analytically explore the impact of hospital ethical climate on missed nursing care.

Methods

Research design.

The literature was systematically reviewed and meta-analyzed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria.

Inclusion Criteria

Studies that satisfied the following criteria were included in the systematic review and meta-analysis:

1. Quantitative studies, cross-sectional design.

2. Studies that correlate ethical climate and missed nursing care among staff nurses.

3. Studies published within between 2006 and 2024.

Exclusion Criteria:

Studies that did not meet the outlined criteria included qualitative studies, dissertations, discussion papers, narratives, editorials, and secondary data. The mentioned criteria were used to determine suitable studies for the purpose of the systematic review and meta-analysis.

Search strategy.

The search was carried out in March and April 2024. The researchers created a frame to search the key terms. The following operators and Medical Subject Headings (MeSH) were used for the search ("Ethical climate" OR "Hospital ethical climate") AND ("Missed nursing care" OR "nursing Care left undone"). PubMed, ProQuest, and Google Scholar were the used databases to search for articles. The search findings are restricted to full-text articles.

Screening of articles

The initial step in the data handling process is the screening of titles and abstracts of all papers that were obtained as a result of the search strategy for relevance and all those that were clearly not relevant were discarded. In case the outcome may not have been obviously irrelevant, the entire text was downloaded. Then, the two members of the review team scrutinized the studies in respect to the inclusion and exclusion criteria in the second step. Any conflicts on whether a certain study was added or not was resolved by the reviewers through discussion. The quality assessment tool for quantitative research by The Joanna Briggs Institute (JBI) was used to verify the quality of included studies as the third step in the data handling process.

Data extraction

The suitable records were downloaded and exported to an Excel spreadsheet file which was later used for in-depth reading. The following data were considered for extraction: (a), authors; (b), year of publication; (c), country of the study, (d), sample size; (e), study design; (f), main results; (g), intervention details; (h) outcome measures; (i), limitations.

The PRISMA diagram depicts the procedure of comprising, examining, and choosing the studies. From each of the databases, there were 299 titles and abstracts imported and saved in the MS Excel spreadsheet. After 33 duplicates were removed by Mendeley software, 266 Full-text reports, assessed for relevance were reviewed. Of the studies, 209 of those were omitted because the articles were not proper and out of the research scope. 11 articles were assessed for eligibility; 5 papers were excluded as they did not correspond to the research objectives. In the end, 5 studies were selected for the final meta-analysis (Figure 1).

Quality appraisal/evaluation

The quality assessment tool for quantitative research by The Joanna Briggs Institute (JBI) was used to verify the quality of included studies as the third step in the data handling process.

Acceptable quality ranges were found in the studies that were part of the quality evaluation (see Table 1). However, significant biases were detected due to the fact that several studies did not specify confounding factors and how to correct for them.

Results

Search outcomes.

After applying the inclusion and exclusion criteria and the critical evaluation of the obtained studies, six studies were selected. These studies cover a sample of 968 nurses. The following publishing years refer to the selected studies: one in 2016, three in 2022, and two in 2023. In details, the selected studies include two studies conducted in Iran, and one study in Cyprus, Egypt, Korea, and Brazil.

The study by Vryonides et al. (2016) examined how various ethical climates in cancer care organizations in Cyprus are connected to the omission of care from nursing staff. It was also revealed that missed care was significant in the instrumental/independence ethical climate but was less significant within the caring, rules/law and code ethical climate. The authors also propose that if the levels of caring, rules and law and code are increased, then the levels of missed nursing care may be reduced, but further research is required.

Abdrbo and Bayoumy (2022) conducted a study in regards to Relationship between Ethical Climate and Missed Nursing Care at Teaching Hospitals in Cairo. The authors explain the way in which the ethical climate of the hospitals affects the practices of missed nursing care. Altogether, it was well documented within the study that ethical climate has a positive correlation with missed nursing care demonstrating the possible need for the imperative to consider and increase the assessment of ethical climate in a bid to reduce missed care occurrences.

The study by Amini, Lehdarboni & Hanifi (2022) examined the relationship between the ethical climate in hospitals and the quality of nursing care for cancer patients in Zanjan and Rasht Cities of Iran. They concluded that ethical climate was significantly associated with missed nursing care; therefore, it was established that guidelines and rules can enhance the quality of nursing care in cancer units.

A study in Brazil by Oliveira et al. (2022), identified specific reasons for omission related to labor resources, material resources, communication, ethical aspects, and management style/institutional leadership. It also showed that there were relationships between lack of care and factors like the medical emergencies of patients, lack of equipment or supplies, language barrier, ethical dilemmas, and the desire to work. The results indicate the necessity of identifying the rationale of the lack of nursing care and its relationship with the outcomes of the patients.

In a study done by Dehghani et al, (2023) the relationship between ethical leadership perceived by the nurses, and missed nursing care in Iran was explored. Results revealed that ethical leadership is an important factor in minimizing missed nursing care. This study also brought into light the need to encourage ethical leadership among the nursing managers with the view of improving the quality of patient care and minimizing the missed nursing care.

The study done by Noh et al. (2023) in Korea also supported the notion that ethical climate influences the quality of care in health facilities particularly from the nurse's perspective. Evidently, care tasks were left undone in a lesser extent in hospitals with a positive ethical climate for nurses. The study indicates that improving the ethical climate of a hospital could be useful in decreasing missed nursing care. However, in order to achieve it, administrators must develop and maintain high standards of ethical values.

Meta-analysis results

• **Data transformation**

Correlation Coefficients were taking from each study and were transformed using Fisher's Z transformation. After that, Effect Size Standard Error was computed. The main outcome of the study was to assess the relationship between ethical climate and missed nursing care (Lenhard & Lenhard, 2014; Friedman, 1968).
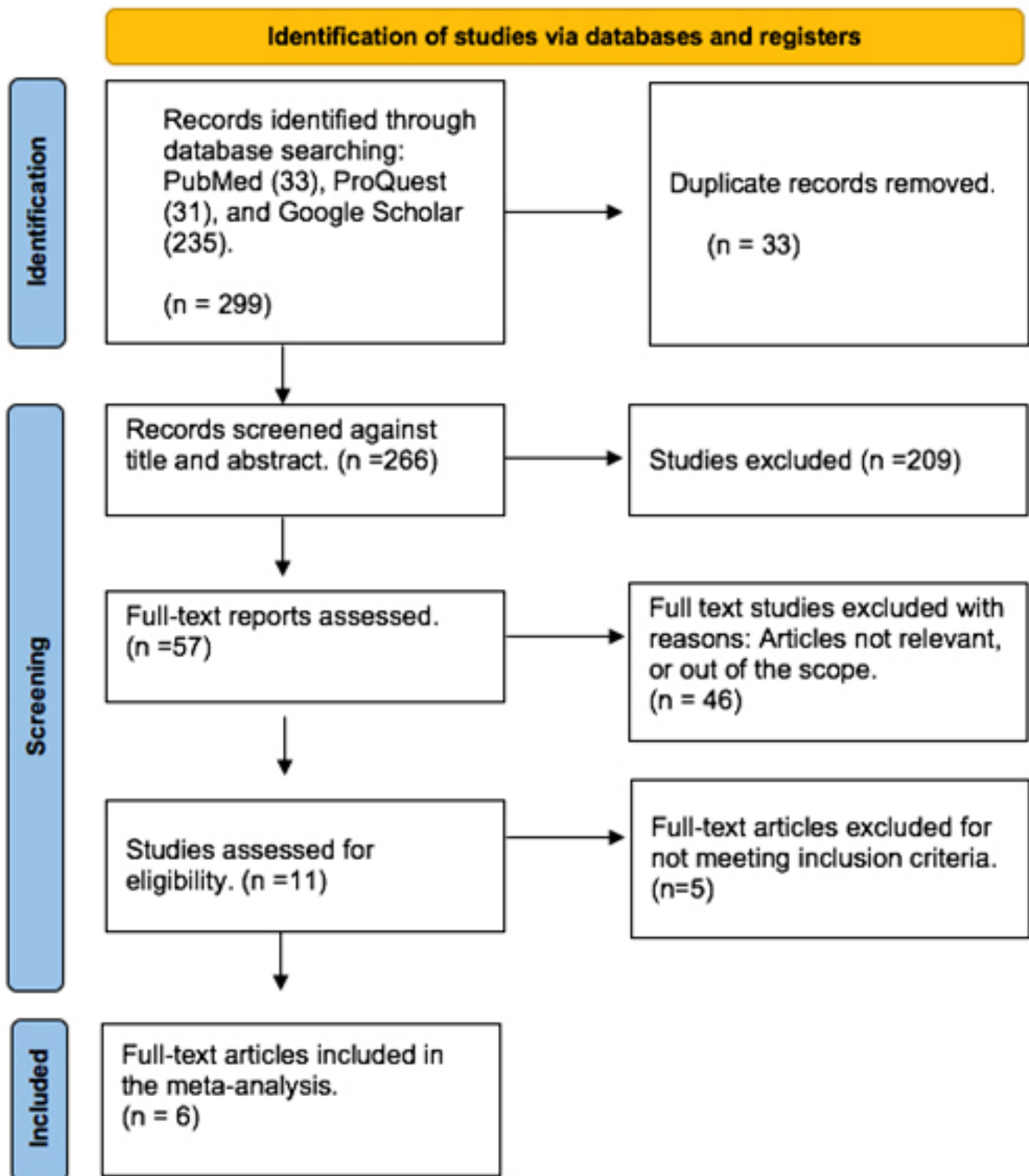
• **Analysis Plan**

Data were analyzed using Review Manager. Effect size and standard error Cochran's Q test and I^2 statistics were used to assess heterogeneity between studies. If P-value of Cochran's Q test is significant and I^2 statistics higher than 50%, Random- Effect model was applied. Otherwise, fixed effect model was suitable. Outcome was by forest Plot and funnel Plot for overall effect size and publication bias.

• **The analytical findings**

I-square was higher than 50% and significant Cochran's Q test resulting in using random effect model. Funnel plot showed a somewhat even distribution plot, so publication bias was not present in this meta-analysis.

Total studies included were 6. Effect Size was -0.12 with 95% CI [-0.36, 0.12] [P: 0.31]] meaning a low negative relationship between nursing missed care and ethical climate, after transforming data to correlation coefficient resulting in R=-0.060, P-value=0.31.

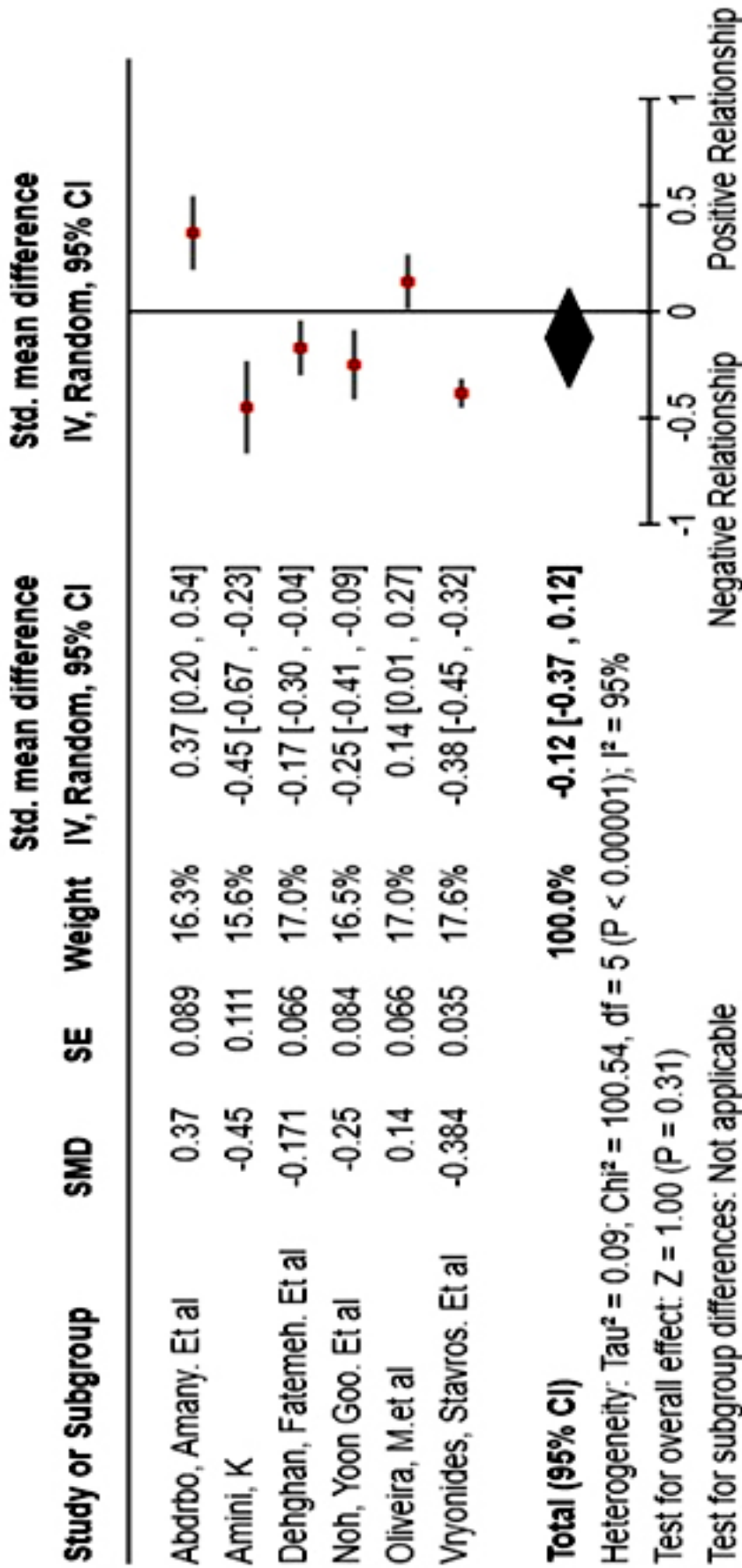**Figure 1: The PRISMA Flow diagram**

Figure 2: Forest plot for meta-analysis with fixed effects model

Study or Subgroup	SMD	SE	Weight	Std. mean difference IV, Random, 95% CI
Abdrbo, Amany. Et al	0.37	0.089	16.3%	0.37 [0.20 , 0.54]
Amini, K	-0.45	0.111	15.6%	-0.45 [-0.67 , -0.23]
Dehghan, Fatemeh. Et al	-0.171	0.066	17.0%	-0.17 [-0.30 , -0.04]
Noh, Yoon Goo. Et al	-0.25	0.084	16.5%	-0.25 [-0.41 , -0.09]
Oliveira, M.et al	0.14	0.066	17.0%	0.14 [0.01 , 0.27]
Vryonides, Stavros. Et al	-0.384	0.035	17.6%	-0.38 [-0.45 , -0.32]
Total (95% CI)			**100.0%**	**-0.12 [-0.37 , 0.12]**

Heterogeneity: Tau² = 0.09; Chi² = 100.54, df = 5 (P < 0.00001); I² = 95%

Test for overall effect: Z = 1.00 (P = 0.31)

Test for subgroup differences: Not applicable

Table 1. Quality of the Included Studies

Item/Study	Vryonides, et al. (2016)	Amini, et al. (2022)	Abdrbo & Bayoumy (2022)	Oliveira, et al. (2022)	Noh, et al. (2023)	Dehghani, et al. (2023)
Were the criteria for the inclusion of the the sample clearly defined?	Yes	Yes	Yes	Yes	Yes	Yes
Were the study subjects and the setting described in detailed?	Yes	Yes	Yes	Yes	Yes	Yes
Was the exposure measured in a valid and reliable way?	Yes	Yes	Yes	Yes	Yes	Yes
Were objective, standard criteria used for measurement in the condition?	Yes	Yes	Yes	Yes	No	Yes
Were confoundable factors identified?	No	No	No	No	No	No
Were strategies to deal with confounding factors stated?	No	No	No	No	No	No
Were the outcomes measured in a valid and reliable way?	Yes	Yes	Yes	Yes	Yes	No
Was appropriate statistical analysis used?	Yes	Yes	Yes	Yes	Yes	Yes

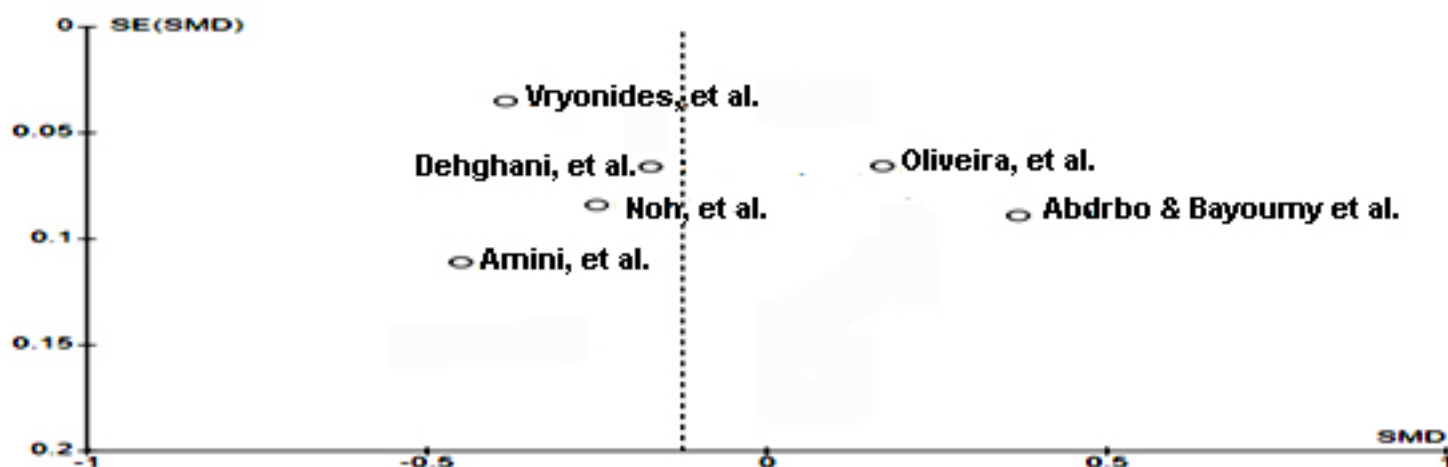**Figure 3: Funnel plot for meta-analysis**

Table 2: A Summary of the Included Reviews

Paper	Study design	Main findings	Participant count	Intervention	Intervention effects	Limitations	Outcome measured
Ethical climate and missed nursing care in cancer care units Vryoniides et al. (2016)	Descriptive correlation design	The study established a direct relationship between missed nursing care and various types of ethical climates where there was a positive correlation between the instrumental and independence types; on the other hand, there is a negative correlation between the caring, rules, law, and code types. - It is possible that attempts to decrease the levels of instrumental and independent types of ethical climate and increase the levels of caring, law, and code, and rules types of ethical climate could further mitigate the amount of missed nursing care.	157 nurses	Assessment of types of ethical climate using the Ethical Climate Questionnaire and assessment of missed nursing care using the MISSCARE survey tool.	- Missed nursing care is positively related to the instrumental ethical climate (r = 0.612) and independence ethical climate (r = 0.461), and negatively related to the caring ethical climate (r = -0.695), rules ethical climate (r = -0.367), and law and code ethical climate (r = -0.487). The relationship was further confirmed through linear regression models.	In this regard, it is pertinent to indicate that the results obtained here cannot be generalized at an international level. Self-completed tools can also be misleading in some cases. This is because more research has to be done to be able to prove a cause-effect relationship and find more empirical data.	Missed care and different types of ethical climate

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Paper	Study design	Main findings	Participant count	Intervention	Intervention effects	Limitations	Outcome measured
Effects of Hospital Ethical Climate and Communication Self-Efficacy on Nursing Cares Left Undone among Nurses Noh, et al. (2023)	Observational study	The study focuses on the hospital's ethical climate as a predictor of the nursing care left undone and concludes that hospitals should enhance the ethical climate to minimize such cases. The implications can be applied to design interventions intended to reduce the amount of nursing care left undone.	142 nurses	Not applicable	- The hospital's ethical climate has significantly contributed to missed nursing care. The efficacy of communication does not have a significant effect on nursing care left undone.	- The cross-sectional causal design of the study also meant that the investigators did not examine other possible factors that may influence nursing care not provided to clients apart from hospital ethical climate and communication self-efficacy – The explained variance by the determined factors was relatively low at 18 percent. 0% - The study failed to elaborate approaches that can be used to enhance hospital ethical climate - This indicates that the study does not look at possible bias when collecting or analyzing data - The study never incorporated patients or other healthcare fellows in terms of nursing care that was not implemented	Nursing care left undone

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Paper	Study design	Main findings	Participant count	Intervention	Intervention effects	Limitations	Outcome measured
Impact of Ethical Leadership on Missed Nursing Care: A Cross-sectional Study from Nurses' Perspective Dehghani. et. al. (2023)	Descriptive correlational study	- The findings show that there is a moderate negative correlation between perceived ethical leadership and missed nursing care. The ethical-oriented aspect of ethical leadership is a negative correlate of missed nursing care. The level of missed nursing care is moderate while the mean perceived ethical leadership is low.	230 nurses	Not applicable (no specific intervention was provided to the study participants)	- Mean score of missed nursing care: 47.54 ± 2.83 - Most missed nursing care: - Assessment: "focusing on re-evaluation of the patient based on the patient's condition" - Individual needs: "emotional support of the patient and family" - Basic care: "Monitoring the feeding of the patient before it becomes cold" - Planning: "participating in interdisciplinary patient care conferences" - Mean perceived ethical leadership score: 109.08 ± 10.75 - Inverse and significant relationship between perceived ethical leadership and missed nursing care (P<0.05) - Ethical-oriented dimension of ethical leadership as a negative predictor of missed nursing care - About 2.5% of the variance in missed nursing care explained by the ethics dimension of ethical leadership (P=0.01)	- This study was done only in two hospitals in Yazd, Iran and therefore generalization of the results might be a problem. The response bias was an unavoidable issue since the data was gathered by self-report questionnaires. Here, cross-sectional design proves unfavorable due to the inability to determine causality. Using only internal medicine and surgery could limit the generalization of the findings to the facilities that nursing care receives. Smaller time and limited coverage of nursing managers' perceptions	Impact of ethical leadership perceived by nurses on missed nursing care

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Paper	Study design	Main findings	Participant count	Intervention	Intervention effects	Limitations	Outcome measured
Reasons correlated with omission of nursing care Oliveira et al. (2022)	Analytical cross-sectional design, conducted in a university hospital in Northeast Brazil, from January to February 2020.	The main findings of the study include weak correlations between overall care omission and reasons for omission given by nurses and nursing technicians, specific reasons for omission related to labor resources, material resources, communication, ethical dimension, and management style/institutional leadership, and the correlation of reasons like patients' urgent situations, unavailability of medicines, materials or equipment, tension, conflict, communication problems, lack of ethical posture, commitment, involvement, and motivation with the omission of nursing care across all priority levels.	Total = 227 79 = Nurses 148 = Nursing Technicians	Completion of the Brazilian version of the Missed Nursing Care Survey.	Moderate and significant levels of positive association were observed between overall care omission, and the omissions according to priority, as well as the reasons for omission mentioned by the nurses and nursing technicians through the five domains of the MISSCARE-Brazil tool. These findings were vital in terms of anticipating several issues that could result in care omission and putting in place interventions that could prevent such oversights and enhance safety in delivering appropriate care.	- Because convenience sampling is used, the obtained results may not be generalizable to the target population. There might be some shortcomings in selecting the measurement instrument particularly in probing the psychological components such as communication, ethical perspective, and management behavior. Many psychological aspects do not have corresponding scales aimed at measuring them: In many cases, it is impossible to come up with specific scales for evaluating certain psychological aspects.	Prevalence of omission of nursing care across different priority levels

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Paper	Study design	Main findings	Participant count	Intervention	Intervention effects	Limitations	Outcome measured
Relationship between Ethical Climate and Missed Nursing Care at Teaching Hospitals in Cairo Abdrbo and Bayoumy (2022)	Descriptive correlational design, observational, non-controlled, multi-site, prospective, cross-sectional, quantitative, non-randomized, non-blinded, non-placebo-controlled	Missed nursing care is positively correlated with a positive ethical climate in various dimensions within the hospital. Age and years of experience in the nursing profession, hospital, and department are positively correlated with the hospital's ethical climate and missed nursing care. Female nurses working rotating shifts, attending ethics courses, and in the medical-surgical department reported lower levels of missed nursing care.	128 nurses	The intervention(s) that the study participants received were ethics training programs for all nurses and the establishment of a system for reporting and addressing missed nursing care incidents.	The mean scores for missed nursing care were lower amongst the female nurses than their male counter-parts. Married nurses demonstrated higher overall mean values concerning the hospital's ethical climate for the relationship dimension of the nurses with the hospital. Rotating shift nurses who completed the survey reported significantly lower mean values of missed nursing care as compared to fixed shift nurses. A reduced mean score for missed nursing care was realized among the nurses who attended an ethics course. The results revealed that nurses with associate degrees received significantly higher mean scores than those with other levels of education in relationships with other disciplines and hospital ethical climate total. The study also indicated that nurses in the Medical-surgical dept. had lower mean scores on missed nursing care compared to the ICU.	- In this regard, descriptive correlational design has some limitations when making causality or changes with time. Conducted in specific hospitals in Cairo and this may limit the generalization of the result to other health facilities and society. For example, when using survey instruments to obtain data, the response could be influenced by the respondent's desire to please the researcher, resulting in response bias or social desirability bias. Missed nursing care, Hospital's ethical climate (specifically relationships with other disciplines, managers, peers, patients, and the hospital)	Missed nursing care, Hospital's ethical climate (specifically relationships with other disciplines, managers, peers, patients, and the hospital)

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Paper	Study design	Main findings	Participant count	Intervention	Intervention effects	Limitations	Outcome measured
Relationship between Ethical Climate and Missed Nursing Care from the Point of View of Patients with Cancer and Nurses Working in Oncology Wards of Zanjan and Rasht Cities Amini, Lehdarboni, and Hanifi (2022)	Cross-sectional study	- The dominant ethical climate in the oncology wards was professional and law-oriented, with the independent ethical climate at the bottom. - The mean score of missed nursing care was 1.95 out of 5. - A significant negative relationship between the ethical climate and missed nursing care was found in cancer care units.	84 nurses	The intervention(s) that the study participants received were completion of the Miss Care survey and Ethical Climate Questionnaire, along with two demographic forms specific to patients and nurses.	Not applicable (the paper does not discuss specific interventions or their quantitative effects)	- Statistical bias comes from the point that ideas are chosen for particular cities. These include possible sources of bias like self-report data. In addition, cross-sectional design has the following weaknesses; This type of design does not enable one to determine causes. Future research considerations about the current study and developing interventions to strengthen the ethical climate and minimize the omissions in patient care.	Ethical climate and missed nursing care in cancer care units

Table 3. Data transformation table

Study ID	Sample Size	R	S.E	Effect Size (ES)	S.E of ES	Outcome Type
Noh, et al. (2023)	142	-0.25	0.078952	-0.2554128	0.0848189	Correlation Between Hospital Ethical Climate and Nursing care left undone
Vryonides, et al. (2016)	782	-0.367	0.030963	-0.3849517	0.0358287	Correlation Between Rules ethical climate and Cancer care unit
Dehghani, et al. (2023)	230	-0.17	0.064172	-0.1716667	0.0663723	Correlation Between Missed Nursing Care and ethical leadership
Oliveira, et al. (2022)	227	0.14	0.065215	0.1409256	0.0668153	Correlation Between Professional without ethical posture/ commitment/ involvement with work and/or with the institution and general care omission
Abdrbo & Bayoumy (2022)	128	0.36	0.077236	0.3768859	0.0894427	Correlated between the hospital's ethical climate and Missed nursing care
Amini, et al. (2022)	84	-0.422	0.090217	-0.4501229	0.111111	Correlated between ethical climate and Missed nursing care

R: Correlation Coefficient, S.E: standard error, ES: effect size

Discussion

Ethical climate in hospitals defines the overall behaviour and actions of health care professionals, and particularly of nurses, as they cope with challenging ethical situations and care for patients. Ethical climate affects numerous organizational practices such as the organizational culture, employee satisfaction, quality of patient care, and organizational performance. On the other hand, missed care in nursing partly means the failure of providing the patients with the necessary nursing care, sometimes with some delay, which most likely would cause adverse effects. When it comes to missed nursing care in relation to ethical climate this has been investigated recently because of the changing attitudes to the safety and quality of care provided for patients.

This meta-analysis synthesized data from six studies to explore the impact of Hospital Ethical Climate on Nursing Missed Care; all studies were quantitative, cross-sectional design. The findings suggest a significant relationship between ethical climate and missed nursing care. There was a negative correlation in some studies and a positive correlation in others.

A negative relationship between missed nursing care and hospital ethical climate reveals that these two variables are inversely related, meaning they will change in opposite directions. This implies that in the case of one variable, the other variable will be on the opposite side of the spectrum, having reduced in value. This means that where there is a negative relationship between missed nursing care and hospital ethical climate, it is an indication that high levels of missed nursing care relate to low levels of ethical climate in the hospital. The findings by Amini, Lehdarboni & Hanifi (2022) showed that ethical climate had a negative correlation with missed nursing care. They examined how the ethical climate in hospitals affected missed nursing care in oncology wards, which indicates that the correct perception of ethical climate by the nurses leads to a decrease in the frequency of missed nursing care.

Therefore, another three studies were definitely supporting the hypothesis that there is an inverse relationship between hospital ethical climate and Nursing missed care. The study by Noh et al. (2023) revealed that hospital ethical climate had a negative correlation with nursing care left undone. They aimed to investigate how the ethical climate in hospitals and communication self-efficacy impact the completion of nursing care; their findings underscore the importance of a positive hospital ethical climate in reducing the incidence of nursing care left undone. Dehghani et al. (2023) studied the impact of ethical leadership which is a key element of the ethical climate in hospitals on missed nursing care from the perspective of nurses. Therefore, the results highlighted that missed nursing care has an inverse relationship with perceived ethical leadership – thus underlining the importance of ethical leadership as a strategy to reduce missed nursing care. In particular, the study found that ethical-oriented leadership had a negative relationship with missed nursing care. In the study by Oliveira et al. (2022), it was pointed out that one of the main causes of omission of care is that the professionals do not have ethical conduct and commitment to work or institution. Omissions were found to be significantly correlated with ethical dimensions, management style, and institutional leadership in all the identified priority areas in nursing care. In this regard, this ethical dimension among other factors plays a significant role in understanding the challenges faced by nursing professionals in providing comprehensive care.

In contrast, the Vryonides et al. (2016) study aimed to investigate the association between the various types of ethical climates and missed nursing care. These were remarkable since they obtained negative and positive associations between the various types of ethical climates with missed nursing care. In light of the findings, it was determined that a negative relationship was established with caring, rules, and law, and code ethical climates. The study results indicate that ethical climate could be a factor in missed nursing care and its consequences for practice and patients. On the other hand, the results presented by Vryonides et al. (2016) show that missed nursing care positively correlated with instrumental and independent ethical climates. This finding was in line with the findings by Abdrbo and Bayoumy (2022). The study revealed that missed nursing care had a positive relationship with the ethical climate of the hospital. The findings showed that more reported missed nursing care is correlated with a more positive ethical climate with other disciplines, managers, peers, patients, and the hospital.

From the positive relationship between hospital ethical climate and missed nursing care revealed in (Abdrbo & Bayoumy, 2022; Vryonides et al. , 2016), it is evident that as the ethical climate in a hospital improves, the instances of missed nursing care also tend to rise. This means that when nurses feel that their working environment is more ethical, then they may take more time to make ethical considerations over completing all necessary nursing care resulting in missed care. A positive correlation between hospital ethical climate and missed nursing care indicates that there may be a a complex interplay between ethical values and the delivery of nursing care. It could suggest that in settings where ethical principles are important and overemphasized, they are likely to spend a lot of time in ethical decision-making or advocacy roles, which could cause other nursing care to be delayed or left undone. In particular, it is worth noting that despite the fact that there is a positive relationship between the two variables, we cannot say that one variable is causing the other; in this context, correlation refers to a situation where changes in one of the factors lead to changes in another factor.

Meta-analytically, the effect size was -0. 12 with 95% CI for the included studies with P-value = 0. 31 which is a low negative correlation between nursing missed care and ethical climate, thus indicating it is non-significant.

and ethical climate, thus indicating it is non-significant. As revealed in this meta-analysis, the low negative correlation of the hospital's ethical climate and the missed nursing care indicates that there is an inverted relationship between the two variables; this means that enhancing the ethical climate of a hospital is likely to have no effect on the missed nursing care in a hospital. This type of correlation can be interpreted as follows: when the ethical climate of a hospital is low or totally absent, nurses may have the feeling that they are not encouraged or inspired to offer optimum care to patients. Thus, there are many cases when the nursing assignments may be either missing or insufficient and not done on time. However and as a reminder, it is crucial to note that even though ethical climate is negatively correlated with the degree of missed nursing care, the correlation is not very robust; this is an indication that there could be other variables that might be more influential in determining the level of missed nursing care other than the ethical climate.

Implications for nursing and health policies

Examining the relationship between ethical climate and nursing missed care in hospital settings could have several implications. The evidence-based approach of the study can guide healthcare organizations in developing interventions to improve ethical climates and reduce missed care incidents. Therefore, Healthcare policymakers can use the synthesized evidence to advocate for interventions that promote positive ethical climates in healthcare settings as a means to enhance patient safety and quality of care.

Limitations of the study

This systematic review was subject to some limitations. There are insufficient studies included in this study, which concedes a limitation. Moreover, it is possible that other studies from other databases were left out of this systematic review even though it used multiple MeSH terms and three databases. The studies included had a cross-sectional design, so the possibility of analyzing how hospital ethical climate impacts on nursing missed care was limited.

Conclusions

Since nurses in a hospital setting are physically attending to the patient's care, potential adverse effects are attributed to them, accompanied by ethical issues and moral decisions. All of the included studies indicate that a relationship between the ethical climate and missed nursing is established, however, the meta-analysis of the studies shows that the relationship between ethical climate and missed nursing care is a low negative correlation and there could be other variables that might be more influential in determining the level of missed nursing care than the ethical climate. Overall, it is imperative to establish the relationship between the hospital's ethical climate and missed nursing care to advance the quality of care given to patients, increase the satisfaction of healthcare workers, and ethically reform hospital cultures.

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