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Factors of hospital ethical climate among hospital nurses in Korea: a protocol for systematic review and meta-analysis

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ABSTRACT

Introduction The hospital ethical climate refers to the ethical work environment within a hospital, which may positively or negatively impact individual nurses, nursing organisations and patient care. Most of studies investigating the hospital ethical climate among Korean nurses have been published in Korean. However, papers addressing the hospital ethical climate in Korean were excluded from the systematic review. To enhance our comprehension of the hospital ethical climate, a systematic review specifically focusing on Korean nurses is imperative. Additionally, it is crucial to ascertain the factors associated with the hospital ethical climate and their respective effect sizes through meta-analyses.

Methods and analysis The systematic search will be conducted for papers published in both Korean and English, encompassing the hospital ethics climate of Korean nurses from 10 database inception to May 2023. Two reviewers will independently review each article based on the inclusion and exclusion criteria, and any differences in opinion will be resolved through discussion and consensus. The study selection process will be reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram. Quality assessment will be conducted using the Checklist for Analytical Cross-Sectional Studies provided by Joanna Briggs Institute. Effect size will be analysed using Comprehensive Meta-Analysis software V.2.0. The results of this study will identify factors related to the hospital ethical climate and the effect size of these factors among nurses in Korea.

Ethics and dissemination Ethical approval is not required, as the data will be collected from existing literature. Findings will be disseminated through peer-reviewed journal.

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STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This systematic review adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses protocol.
⇒ This study has the strength of identifying variables related to the ethical climate and the effect size of variables for developing strategies to improve the ethical climate of Korean nurses.
⇒ This study has language limitations as it exclusively included papers in Korean and English related to the hospital ethical climate of Korean nurses.
⇒ The certainty of evidence in this systematic review may be limited, depending on the availability and quality of the evidence found.

INTRODUCTION

In the rapidly changing healthcare environment, nurses who care for patients face various ethical issues, including the commercialisation and competition of healthcare, accessibility to medical services based on economic disparities, organ donation and euthanasia.[1 2] In nursing research, interest in ethical climate, which refers to an ethical working environment has increased.[1] In studies on the hospital ethical climate among nurses in Korea, Victor and Cullen identified nine subfactors; furthermore,[3] Olson determined the level of hospital ethical climate by the relationships between nurses and colleagues, bosses, hospitals, doctors, and patients.[4]

The hospital ethical climate refers to the working environment and is defined as the common perception of what righteous behaviour is, how ethical problems should be addressed in organisations, and how it affects ethical decision-making and behaviour.[1 3–6] Nurses' perceptions of the work environment can influence their attitudes, behaviours and ethical decision-making regarding ethical issues.[4] Although individuals are the agents of ethical decision-making and behaviour, the ethical behaviour of constituents in an organisation is strongly influenced by the organisational system that restricts individuals' decision-making and behavioural patterns rather than by the personality and personal morality of an individual.[7] In other words, unethical behaviours of members can be tolerated or facilitated depending on the ethical climate of the organisation. Practicing

ethical behaviour is important for nurses facing various ethical dilemmas. Therefore, the significance of a hospital ethical climate, in which ethical perception is shared and ethical decision-making and behaviour are allowed, has been increasing.

The hospital ethical climate can affect nurses' occupational satisfaction, commitment to an organisation, maintenance of a nursing job and cooperation with doctors.[2] A literature review of hospital ethical climate among nurses reported that hospital ethical climate affected organisational performance, individual work mistakes and psychological well-being.[1 8] Indeed, hospital ethical climate is an important factor that affects nurses' ethical practices.[5] Thus, understanding factors related to hospital ethical climate that positively affect individual nurses, organisations and patient care is of paramount importance.

The hospital ethical climate of organisations reflects sociocultural characteristics and varies depending on organisational culture and work properties.[9] Therefore, it is necessary to investigate factors related to hospital ethical climate, which reflects the sociocultural characteristics of Korea. Studies on ethical climate among nurses in Korea have been primarily conducted based on Victor and Cullen's Ethical Climate Questionnaire[3] and Olson's Hospital Ethical Climate Survey.[4] Victor and Cullen's ethical climate has been systematically reviewed,[3] allowing for an understanding of the characteristics of the related factors.[10] Olson's hospital ethical climate has been greatly covered in studies on nurses in Korea.[4] Recently, a systematic review on the hospital ethical climate has been conducted, but it exclusively encompasses studies published in English.[11] This limitation impedes a comprehensive understanding of hospital ethical climate research among Korean nurses, given that most studies in this domain are presented in Korean. There is a crucial need to gain insight into the hospital ethical climate of Korean nurses, considering social and cultural characteristics, through a systematic review. Furthermore, no reports on factors related to the hospital ethical climate were found in the systematic review and meta-analysis. Therefore, it is essential to identify and integrate factors associated with the hospital ethical climate among Korean nurses, reflecting the sociocultural characteristics of Korea. Additionally, by confirming the effect size of related factors, evidence-based data can be provided to develop strategies aimed at improving the hospital ethical climate of Korean nurses.

Objectives and research questions

This systematic review aims to ascertain the factors associated with the hospital ethical climate among Korea nurses and to identify the effect size of these factors. The following two research questions are proposed:

1. What variables are associated with the hospital ethical climate of Korean nurses?
2. What is the effect size of variables related to the hospital ethical climate?

METHODS

A literature review based on this protocol will be reported based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 checklist.[12]

Patient and public involvement

Patients and/or the public were not involved in the design, conduct, reporting or dissemination plans of our study.

Search strategy

The development of this protocol conforms to the basic reporting items in the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols guidelines (online supplemental file 1).[13] The literature published in both Korean and English from inception to May 2023 will be searched. Korean studies will be searched in KoreaMed, KMBase, KISS, ScienceON, KISTI and RISS, while English studies will be searched comprehensively in PubMed, the Cochrane Library, Embase and CINAHL. These core search databases are recommended for systematic literature review by the National Evidence-Based Healthcare Collaborating Agency, based on the COre, Standard, Ideal model of the National Library of Medicine.[14] Additional searches will be conducted through the websites of the Korean Society of Nursing Science and the Korean Society of Nursing Administration. The reference lists of relevant papers will be manually searched.

Medical Subject Headings (MeSH) of PubMed will be used for systematic and comprehensive searches. Primary search keywords are "ethical climate", "hospital ethical climate", "ethical environment", "ethical working environment', "nurse" and "Korea, as well as Boolean operators and symbols of exploding terms (*, +). Titles, abstracts and MeSH/synonyms (Thesaurus) will be searched for in all cases. online supplemental file 2 displays the search strategy employed across 10 electronic databases, including KoreaMed, KMBase, KISS, ScienceON, KISTI, PubMed/Medline, Cochrane Library, CINAHL and Embase.

Inclusion and exclusion criteria

The research question are identified based on PICO-SD (Participants, Intervention, Comparisons, Outcomes, Study Design) according to the National Evidence-Based Healthcare Collaborating Agency Manual.[13] The study Participants (P) are nurses working in hospitals in Korea, and Intervention (I) is the hospital ethical climate, which is the concept of interest in this study. A Control group (C) was not set, Outcomes (O) are factors related to hospital ethical climate among nurses in Korea, and the Study design (SD) is a quantitative or mixed-method study.

The inclusion criteria consist of primary literature published in Korean or English that investigates factors

Table 1 Inclusion and exclusion criteria of studies

Inclusion criteria	Exclusion criteria
Research targeting Korean nurses Primary quantitative or mixed studies on the hospital ethical climate Research published in peer-reviewed journals Studies evaluating the relationship between hospital ethical climate and related variables Studies published by May 2023 in Korean or English Hospital ethical climate measured by the Hospital Ethical Climate Survey (HECS)	Qualitative research using open-ended questions Not Korean or English studies Non-primary research: reports, dissertations, reviews, case studies, editorial articles and so on

associated with hospital ethical climates among Korean nurses. Quantitative and mixed-methods studies are eligible for inclusion in the systematic data process. Studies meeting the criteria should provide key metrics such as 'sample size (n)', 'correlation coefficient (r)', mean and SD, and OR. The publication period considered extends up to May 2023. To calculate the effect size of related variables, qualitative studies will be excluded from the analysis. Specific details outlining the inclusion and exclusion criteria are provided in table 1.

Outcomes

The primary outcomes of this study are factors related to hospital ethical climate among nurses in Korea, as a result of a systematic literature review. The secondary outcome are the effect sizes of these factors.

Study selection

The literature identified through the literature search will be organised using Zotero, a literature management programme that allows for the identification and removal of redundant studies. The literature search will be independently conducted by two researchers (YGN and SYK), who will primarily remove redundant articles. The researchers read the titles and abstracts and independently reviewed their eligibility. The original articles will be examined to check whether they meet the inclusion criteria, and any discrepancies in the review process will be resolved by discussion. If an agreement cannot be reached, an external reviewer will be consulted. In cases of missing data, the original authors will be contacted to obtain relevant information. The literature selection and exclusion process will be reported using the PRISMA 2020 flow diagram,[12] and all reasons for exclusion will be recorded (figure 1).

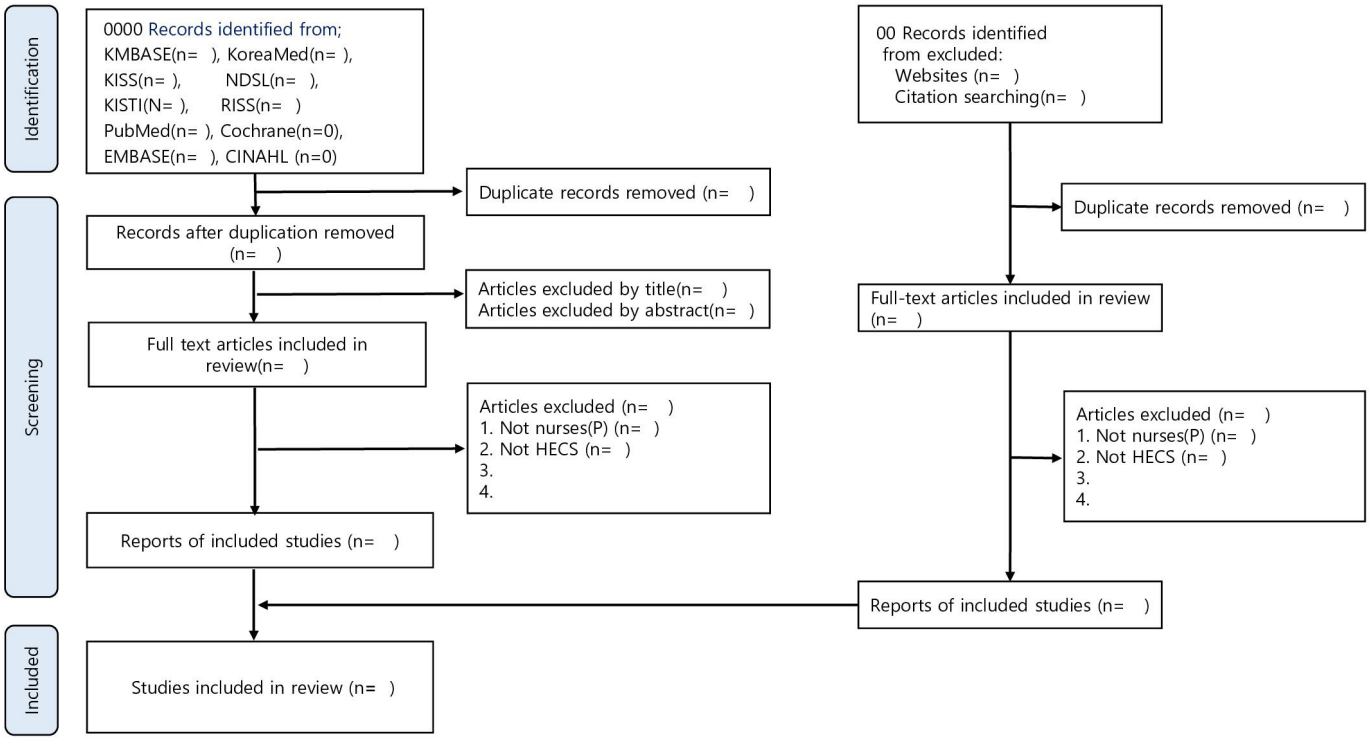

Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flowchart of study selection.

Data extraction

Two researchers (YGN and SYK) thoroughly discussed the data to be extracted while planning this study. Specific data items included author, year of publication, country of publication, sample selection methods, sample size, analysis methods, reliability of a tool for hospital ethical climate, related factors and analysis results. The data will be arranged primarily in order of years of publication. Researchers will make efforts to reach an agreement through regular meetings in the literature review process to maintain consistency between researchers. If necessary, contact will be made with the authors of the studies to request for missing or additional data.

Risk of bias and quality assessment

To assess the quality of the papers, two reviewers (YGN and SYK) will independently perform the quality assessment using the Checklist for Analytical Cross-Sectional Studies from the Joanna Briggs Institute (JBI).[15] The JBI checklist comprises eight criteria: clarity of inclusion for research subjects, location and time of data collection, content of subjects, information on exposure to risk factors for the disease, information on disease diagnosis, definition of confounding variables, control of confounding variables and measurement of outcome variables. Each criterion will be evaluated with responses of 'yes', 'no', 'unclear' or 'not applicable'. Efforts will be made to reach an agreement through discussion when there is a disagreement between the reviewers.

Data synthesis

The effect sizes of factors related to hospital ethical climate among Korean nurses will be analysed. The effect size statistics of the related variables will be analysed using Comprehensive Meta-Analysis software to determine the effect size of individual studies. Factors with fewer than two studies that cannot be statistically analysed due to different criteria in the subitems will be excluded from the analysis.

For heterogeneity between individual literature articles, Higgins I^2 heterogeneity will be evaluated with a significance level of less than 5%. If I^2 exhibited a moderate or higher level of heterogeneity and exceeds 50%, it will be considered as heterogeneous.[16]

Effect models will be selected based on whether they are heterogeneous and whether each study shares the effect size of the same population.[17 18] The effect sizes of the related factors will be calculated by determining the effect size of the correlation coefficient. The effect size of the overall average of the variables related to hospital ethical climate among nurses in Korea will be calculated. To calculate the effect size, Fisher's formula will be used to standardise the r value to calculate the standardised Zr. Studies with larger samples are more precise than those with smaller sample sizes. Thus, the overall effect size will be calculated by imposing the weight values.[18]

Additionally, if the effect sizes of individual studies are heterogeneous, they will be categorised as subfactors, depending on the characteristics of the related factors, to calculate each effect size. For the calculated effect size, effect sizes of less than 0.10 will be explained as a 'small effect,' about 0.30 as a 'medium effect' and 0.50 or higher as a 'big effect' based on Cohen's effect size interpretation standard.[19]

Publication bias

Publication bias will be determined using visual and statistical methods to determine funnel plot symmetry. The symmetrical levels of the effect sizes of individual studies are visually determined. If both sides are relatively symmetric based on the effect size, it will be judged to have no publication bias. Statistically, if the significance probability of the initial value (intercept) for the regression equation is less than 0.05 in Egger's regression test, it is statistically significant and will be judged as publication bias.[18]

If judged as publication bias, trim and fill analysis will be conducted to determine the effects of the bias on the outcomes.[18 20] This analysis corrects asymmetry to symmetry through exclusion and restoration of studies to compare the studies before and after effect size. This sensitivity analysis method is used to assess the validity of the results regarding bias.

Ethics and dissemination

Considering the inherent characteristics of the study design, ethical evaluation was waived in accordance with established guidelines. The findings of this systematic review will be disseminated through publication in peer-reviewed journals and presented at relevant international conferences in the respective domain. Additionally, any potential revisions to the research protocol will be meticulously documented, with explicit reference to the saved search strategies and analytical techniques.

Contributors YGN and SYK conceptualised and designed the protocol, drafted the initial manuscript and reviewed the manuscript. YGN developed the search strategy. YGN and SYK defined the data extraction process and methodological appraisal of the studies. YGN planned statistical analysis. YGN is the guarantor of the work, with SYK as the corresponding author. The final version was approved by all authors with an agreement for submission to *BMJ Open*.

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