



FACTORS RELATED TO NURSES NON-COMPLIANCE IN IMPLEMENTING STANDARD OPERATING PROCEDURES (SOP) IN HEALTHCARE SETTINGS: A SYSTEMATIC REVIEW

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ABSTRACT

Background: Standard Operating Procedures (SOPs) are an essential aspect of healthcare delivery as they provide guidelines for healthcare providers to ensure consistent quality of care. However, non-compliance with SOPs by nurses is a widespread problem in healthcare settings. Non-compliance can result in serious consequences, such as increased risk of healthcare-associated infections and decreased quality of care. This study aimed to identify the causes of non-compliance among nurses is crucial to developing effective interventions to improve compliance., **Methods:** A comprehensive search was conducted using electronic databases such as PubMed, Scopus, and CINAHL, using keywords such as "nurse," "non-compliance," "standard operating procedures," and "healthcare-associated infections", **Results:** The factors identified as contributing to nurse non-compliance with SOPs include lack of knowledge and awareness of SOPs, insufficient training and education, lack of resources and equipment, poor working conditions, inadequate staffing levels, and cultural beliefs and attitudes, **Conclusions:** Future research should focus on developing and testing interventions that target the factors contributing to non-compliance among nurses.

Keywords: Infections, Non-Compliance, Patient Safety, Standard Operating Procedures

INTRODUCTION

Nurses play a critical role in the delivery of safe and effective patient care, and adherence to Standard Operating Procedures (SOPs) is essential to ensure quality outcomes. However, non-compliance with SOPs by nurses can occur for various reasons, leading to adverse events and compromising patient safety. According to a study by Ayele et al. (2022), causes of non-compliance with SOPs by nurses include inadequate staffing, heavy workload, lack of resources and equipment, inadequate training, unclear and complex

SOPs, communication breakdown, conflicting priorities, and lack of accountability. Addressing these underlying causes is vital to promote adherence to SOPs and improve patient safety outcomes (Zeb & Ali, 2021).

Standard Operating Procedures (SOPs) are an essential aspect of healthcare delivery as they provide guidelines for healthcare providers to ensure consistent quality of care. However, non-compliance with SOPs by nurses is a widespread problem in healthcare settings. Non-compliance can result in serious

consequences, such as increased risk of healthcare-associated infections and decreased quality of care. Thus, identifying the causes of non-compliance among nurses is crucial to developing effective interventions to improve compliance.

Furthermore, the study by Oh & Choi (2019) identified the work environment and organizational culture as significant factors influencing nurse non-compliance with SOPs. The authors found that a negative work environment and lack of support from superiors can lead to job dissatisfaction and burnout, which can, in turn, lead to non-compliance with SOPs (Rusli et al., 2020). Additionally, the study found that a culture of blame and punishment can discourage nurses from reporting errors or deviations from SOPs, which can further compromise patient safety.

Non-compliance with SOPs by nurses is a complex issue that can have serious consequences for patient safety and quality of care. Understanding the various causes of non-compliance, such as inadequate staffing, unclear SOPs, and negative work environments, is crucial for developing effective strategies to promote adherence to SOPs. By addressing these

underlying causes and promoting a culture of accountability, support, and open communication, healthcare organizations can improve patient outcomes and quality of care. This literature review aims to identify and analyze the factors that contribute to nurse non-compliance in implementing SOPs.

METHODS

This study used a systematic review using the PRISMA guideline. A comprehensive search was conducted using electronic databases such as PubMed, Scopus, CINAHL, and Google Scholar using keywords such as "nurses," "non-compliance," "standard operating procedures," "infections," and "patient safety". Studies were included if they were published in English, conducted in clinical settings, and investigated the causes of nurse non-compliance with SOPs.

PICOS stands for Population, Intervention, Comparison, Outcome, and Study Design. Here is a PICOS-based literature review paper on the causes of nurse non-compliance in implementing SOP.

Table 1. PICOS Analysis

Aspects	Analysis
Population	Nurses in healthcare settings
Intervention	Implementation of standard operating procedures (SOP)
Comparison	Factors influencing compliance with SOP
Outcome	Causes of non-compliance in implementing SOP
Study Design	Qualitative and quantitative study

RESULTS AND DISCUSSION

Ten studies were identified that met the inclusion criteria. The studies were conducted in various countries, including

Taiwan, Iran, India, and China. The studies used different methodologies, including surveys, observational studies, and randomized controlled trials.



The factors identified as contributing to nurse non-compliance with SOPs include lack of knowledge and awareness of SOPs (Ahmadipour et al., 2022; Onubogu et al., 2021), insufficient training and education (Mohamad et al., 2022; Onubogu et al., 2021; Rahmawati, 2019), lack of resources and equipment (Ahmadipour et al., 2022; Onubogu et al., 2021; Santoso & Saleh, 2018), poor working conditions (Joshi et al., 2012), inadequate staffing levels (Aiken et al., 2011), and cultural beliefs and attitudes (Squires et al., 2014).

Lack of knowledge and awareness of SOPs was identified as a significant factor contributing to non-compliance among nurses. This was found to be more prevalent among newly graduated nurses and those working in rural settings. Insufficient training and education were also identified as a factor, with nurses reporting a lack of understanding of the importance and relevance of SOPs in their practice (Onubogu et al., 2021).

Lack of resources and equipment was another factor contributing to non-compliance among nurses. This was particularly evident in low-resource settings, where nurses reported a lack of access to hand hygiene products and personal protective equipment (Ahmadipour et al., 2022; Mohamad et al., 2022).

Poor working conditions and inadequate staffing levels were also identified as factors contributing to non-compliance among nurses (Mogakwe et al., 2020). Nurses reported that they often did not have enough time to perform their duties adequately, leading to rushed and incomplete procedures (Haile et al., 2017; Suprpto, 2021).

Finally, cultural beliefs and attitudes were also identified as factors contributing to non-compliance among nurses. For example, in some cultures, wearing gloves was seen as a sign of weakness or lack of

skill, leading some nurses to avoid using them.

CONCLUSION

Non-compliance with SOPs by nurses is a widespread problem in healthcare settings. This literature review has identified several factors that contribute to nurse non-compliance with SOPs. These include lack of knowledge and awareness of SOPs, insufficient training and education, lack of resources and equipment, poor working conditions, inadequate staffing levels, and cultural beliefs and attitudes.

Interventions that address these factors are needed to improve nurse compliance with SOPs. These interventions may include providing education and training on the importance of SOPs, increasing access to resources and equipment, improving working conditions and staffing levels, and addressing cultural beliefs and attitudes that may contribute to non-compliance.

Future research should focus on developing and testing interventions that target the factors contributing to non-compliance among nurses. Such interventions may lead to improvements in the quality of care provided to patients, reduced risk of healthcare-associated infections, and improved patient outcomes.

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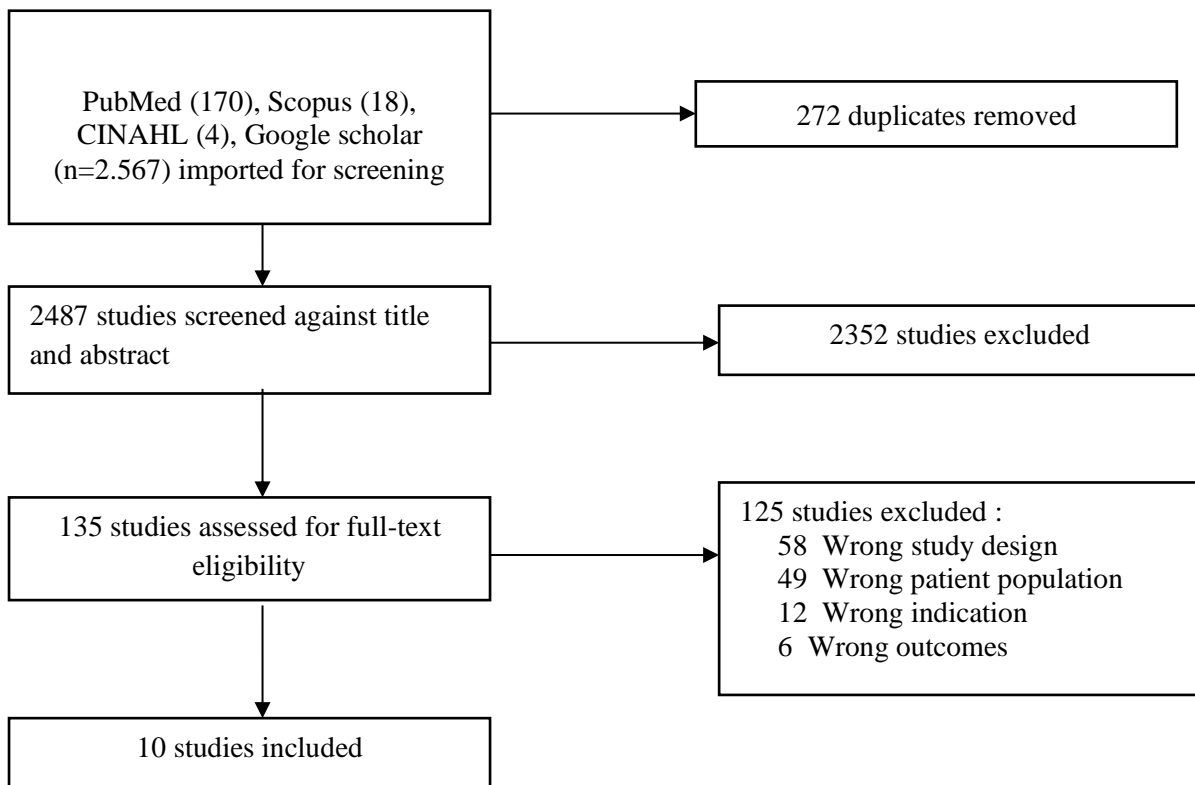


Figure 1. PRISMA Flow Chart of The Study Identification Process



Table 2. Summarize of Selected Studies

ID Number	Author	Title	Objective	Sample	Methods	Results
ID1	(Onubogu et al., 2021)	Knowledge and Compliance with Standard Precaution Among Healthcare Workers in A South-East Nigerian Tertiary Hospital	To assess the knowledge and practice of standard precaution among healthcare workers (HCWs).	Amount of 341 HCWs age 20-58 years	A quantitative study: a cross-sectional	Two-third of participants reported that SP was poorly practiced in their unit mainly due to inadequate supply of materials (63.1%), inadequate staff training/retraining (62.2%), inadequate support by management (51.4%) and unavailable standard operating procedures (SOPs) on SP (37.8%). Major barriers to SP were lack of materials, training and active support by hospital management. Awareness, SOP display in prominent places and regular supply of running water positively influenced SP compliance.
ID2	(Rahmawati, 2019)	Factors Related to the Standard Operating Procedure Compliance of the Workers at PT X	To analyze the correlation between individual characteristics, training, knowledge, as well as motivation and the SOP compliance at PT X	30 workers	An observational study	The variables of worker training, knowledge, and motivation are related to SOP compliance behavior tested with the statistical test showed the p-values of 0.008, 0.000, and 0.022.
ID3	(Santoso & Saleh, 2018)	Nursing Compliance In Implementing Standard Operating Procedures Of Patient Prevention	To determine the compliance of nurses in implementing standard operating procedures to prevent patients from falling in inpatient installations.	Amount of 30 nurses	A descriptive study	The results showed 100% non-compliance nurses to prevent falling patient not according to the standard operating procedure. The nurse's misunderstanding of the instructions caused the non-compliance of respondents in the implementation of the SPO to prevent patients from falling.
ID4	(Joshi et al., 2012)	Qualitative study on perceptions of hand hygiene among hospital staff in a rural teaching hospital in India	To explore staff perceptions of hand hygiene to control healthcare-associated infections	This study conducted with 10 FGD including 75 subjects (healthcare workers)	A qualitative study	The results showed two themes related to control healthcare-associated infection such as 'inter-relationship of knowledge, beliefs, motivation, practices and needs' and 'roles and responsibilities for sustainable and efficient implementation of context-relevant approaches and interventions. The staff suggested to implement various interventions and necessary facilities from the hospital provider.
ID5	(Aiken et al., 2011)	Effects of Nurse Staffing and Nurse Education on Patient Deaths in Hospitals With Different Nurse Work Environments	To determine the conditions under which the impact of hospital nurse staffing, nurse education, and work environment are associated with patient outcomes.	Amount of 65 adult acute care general hospitals	A descriptive study	This study showed better staffing, work environment, and educated nurses all work to improve patient outcomes. It resulted to improve care and reduce mortality among patient in healthcare settings.



ID Number	Author	Title	Objective	Sample	Methods	Results
ID6	(Squires et al., 2014)	Understanding Practice: Factors That Influence Physician Hand Hygiene Compliance	To identify the behavioral determinants both barriers and enablers that may impact physician hand hygiene compliance.	A total of 42 staff healthcare workers	A qualitative study	The 9 relevant domains were knowledge; skills; beliefs about capabilities; beliefs about consequences; goals; memory, attention, and decision processes; environmental context and resources; social professional role and identity; and social influences. The beliefs of individual, team, and organization targets for behavior change to improve compliance.
ID7	(Ahmadipour et al., 2022)	Barriers to hand hygiene compliance in intensive care units during the COVID-19 pandemic: A qualitative study	To understand barriers to hand hygiene compliance among healthcare workers during the COVID-19 pandemic.	25 healthcare workers from intensive care units	A qualitative study	There are three main categories of barriers to hand hygiene practice: barriers related to individuals (including two subcategories of lack of knowledge of healthcare workers and healthcare workers' improper attitude), barriers related to management (including two subcategories of wrong behavioral patterns and unsuitable training and planning), and barriers related to organizations (including four subcategories of heavy workloads, improperly designed wards, a lack of equipment, and lack of quality equipment).
ID8	(Mohamad et al., 2022)	Compliance to Infection Prevention and Control Practices Among Healthcare Workers During COVID-19 Pandemic in Malaysia	To assess HCWs' compliance to IPC and to determine its association with sociodemographic and organizational factors.	A total of 600 HCWs involved in survey	A quantitative study: a cross-sectional	The results showed non-compliance was significantly associated with without adequate new norms and personal protective equipment training were 2.02 (95% CI = 1.08–3.81) more than those with adequate training. Although most of the respondents complied to IPC protocols, compliance status differed according to department, work category, and years of service.
ID9	(Mogakwe et al., 2020)	Reasons for non-compliance with quality standards at primary healthcare clinics in Ekurhuleni, South Africa	To explore and describe the reasons for non-compliance with quality standards at the primary healthcare	A total of 12 managers (health personels)	A qualitative study	The study findings revealed challenges with management practices, for example, non-involvement in decision-making, lack of support and poor internal communication practices. In addition, challenges with human, material and financial resources were stated as reasons for non-compliance with quality standards.
ID10	(Haile et al., 2017)	Compliance with Standard Precautions and	To assess compliance with standard precautions and	Amount of 423 HCWs	A quantitative study: a cross-sectional	The proportion of healthcare workers who always comply with standard only 12%. The



ID Number	Author	Title	Objective	Sample	Methods	Results
		Associated Factors among Healthcare Workers in Gondar University Comprehensive Specialized Hospital, Northwest Ethiopia	associated factors among healthcare workers in northwest Ethiopia			higher infection risk perception (AOR [95% CI] 3.46 [1.67–7.18]), training on standard precautions (AOR [95% CI] 2.90 [1.20–7.02]), accessibility of personal protective equipment (AOR [95% CI] 2.87 [1.41–5.86]), and management support (AOR [95% CI] 2.23 [1.11–4.53]) were found to be statistically significant.