SYSTEMATIC REVIEW/META ANALYSIS

Methods of Nursing Shift Handover and Their Outcome in Terms of Patient Safety in Healthcare Systems: A Systematic Review

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A B S T R A C T

Introduction: Patient handover is a critical component of healthcare delivery and directly influences patient safety and quality of care. Incomplete or inaccurate handovers increase the risk of errors and disrupt continuity. This review examines current handover practices and their implications for healthcare quality and safety.

Methods: A systematic review was conducted following PRISMA guidelines. Scopus, ScienceDirect, PubMed, and Cochrane were searched using terms related to nursing and clinical shift handover, patient safety, quality improvement, and patient care. Eligible studies included qualitative, quasi-experimental, and cross-sectional designs that met predefined criteria. Methodological quality was assessed using the JBI appraisal tool.

Results: Of 570 records identified, 11 studies met the inclusion criteria and were analysed. The findings indicated that the absence of standard operating protocols resulted in poor communication, inadequate coordination, ineffective time management, and organisational deficiencies. Communication failure was the most consistently reported challenge affecting handover efficiency and patient safety.

Conclusion: Variation exists in the consistency and completeness of information exchanged during shift handovers. Development and implementation of structured guidelines for shift reporting are

recommended to improve reliability and continuity of care. These guidelines should facilitate systematic information transfer and handling of patient data. Accessible SOPs at the point of care may support safer and efficient handover practices.

Keywords: Nursing shift handover, Clinical shift handover, Shift handover, Shift-off report, Handover Procedure, Patient safety, Quality improvement, Patient Care

A R T I C L E I N F O

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INTRODUCTION

The process of exchanging specific patient information between healthcare providers, known as shift handover, indicates that patient care is moved, either permanently or temporarily, to an additional medical practitioner.[1] Shift handover in nursing is a crucial process that involves the transfer of information, responsibility, and accountability from one shift to another. It plays a vital role in maintaining continuity of care and ensuring patient safety. In Indian healthcare systems, as in many other countries, various methods are employed for conducting shift handovers. Patient data can be conveyed during a shift changeover by written, spoken, computer, and phone records, among other techniques. It is not ideal to communicate knowledge orally alone; instead, written documentation of the information must be made.[2] These methods can influence the quality and effectiveness of patient care.[3] Several reasons can interfere with the shift changeover process and result in an ineffective handover, including errors and inadequacies in patient information, poor communication, inexperienced staff, an excessive workload, time limits, weariness, and environmental concerns. An improperly handled shift changeover raises the possibility of patient injury, safety, medical mistakes, and extended hospital stays, all of which raise costs and lower patient satisfaction and quality of treatment.[4] The purpose of this study was to ascertain the different nursing shift handover techniques that are employed in hospitals across the globe, as well as the efficacy of these techniques, patient safety outcomes, and any gaps that may exist between personal and professional factors.

Relevance To Clinical Practice: A systematic review on methods of nursing shift handover techniques is vital for guiding and improving clinical practice in hospital environments. This in-depth review and summary of the literature provide a full

overview of the several handover techniques used in healthcare. Through a thorough examination of the current state of evidence, the systematic review enables healthcare professionals to identify the most practical and successful methods for transitioning handover. The effects of disparate nursing handover techniques on patient safety, effective communication, care coordination, knowledge retention, workflow, professional accountability, and flexibility are relevant to clinical practice. A well-designed and standardized handover process contributes to the overall quality of patient care and the effectiveness of healthcare delivery.

METHODOLOGY

This systematic review was registered in PROSPERO. (Registration no- CRD42023449558) This review was structured and reported in accordance with the PRISMA guidelines for systematic reviews and meta-analyses [Figure 1].[5] Reviewers 1 and 2 conducted the initial screening. For the initial screening, the title and abstract of all the articles were reviewed. Duplications of articles and other articles that were not related to relevant topics were excluded. We produced all the potentially relevant articles in full text after initial screening. Articles were included for final review only if they specifically described the methods of nursing shift handover and its outcome in terms of patient care. Three reviewers with expertise in clinical nursing practice reviewed the selected articles and the final result of the study will be formulated based on the included articles.

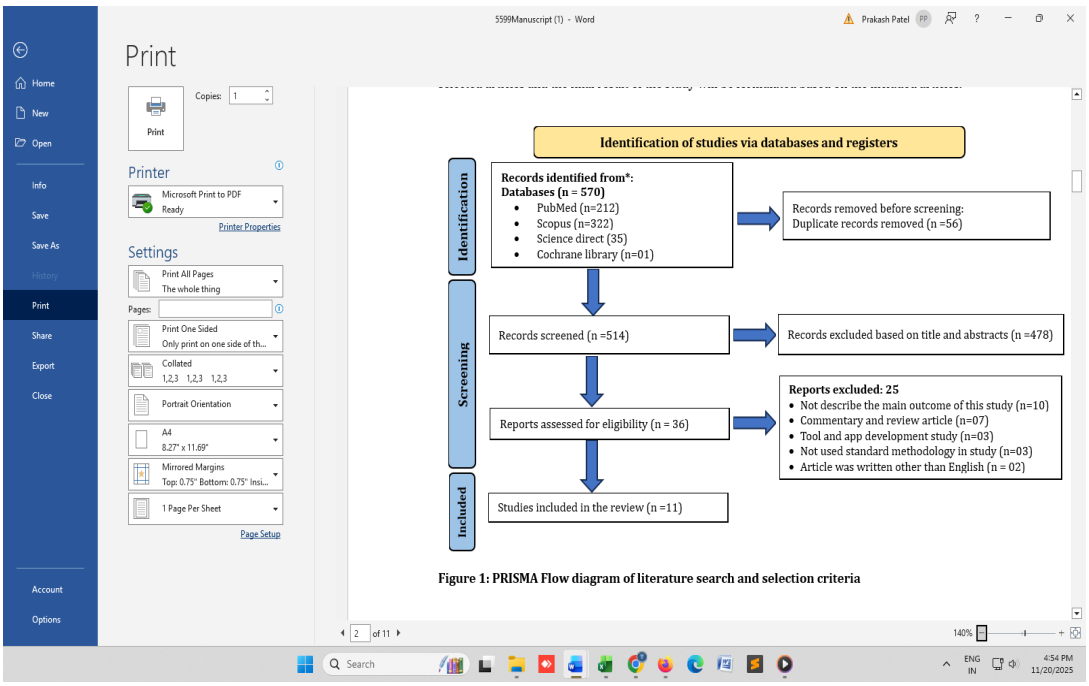

Figure 1: PRISMA Flow diagram of literature search and selection criteria

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Information Sources and Search Strategy: An electronic literature search was carried out using four databases PubMed, SCOPUS,

Cochrane, and ScienceDirect. The search strategy, developed jointly by two authors, was based on three key themes aligned with the study's objectives: (1) approaches to nursing shift handovers, (2) limitations in current handover practices, and (3) benefits of adopting standardized handover formats. The search was restricted to English-language articles published between December 2012 and July 2023. Keywords included "nursing shift handover," "clinical shift handover," "shift handover," "shift-off report," "handover procedure," "patient safety," "quality improvement," and "patient care." Only open-access, free full-text articles were considered in the final search.

Eligibility Criteria: The following inclusion criteria were applied while selecting studies for this review: (1) original, peer-reviewed research articles published in English; (2) full-text papers available free of cost; (3) studies employing appropriate research methodologies; and (4) research addressing different nursing handover approaches in relation to patient safety and existing practice gaps. Articles not meeting any of these criteria were excluded from the review.

Assessment of Study Risk of Bias: The quality of the articles included in this study was assessed using the quality assessment tool released by JBI for qualitative study[6], quasi-experimental study[7] and cross-sectional study[8] as depicted in Table 1.

Two authors separately assessed the quality of the work. There are 10 items in this tool for qualitative studies, 09 items for quasi-experimental studies and 08 items for cross-sectional studies, each of which can be marked as Yes, No, or Not Cleared. Yes, it receives a score of 1, whereas all other responses received a score of 0. The total score, in other words, is the number of affirmative responses.

For the qualitative assessment, studies scoring above 8 were rated as good quality, those between 6 and 7 as fair, and those scoring below 5 as poor. In quasi-experimental research, a score above 7 indicated good quality, 5-6 denoted fair quality, and below 5 represented poor quality. In the case of cross-sectional studies, scores greater than 6 were categorized as good, 5-6 as fair, and below 4 as poor. The majority of studies included in this review were found to be of good or moderate quality.

Data Extraction: Data extraction tables (Table 2) was utilized to compile essential information from the selected studies. Table 2 explain about Methodology (Study design, setting, participants, sample size and tool used), Key Result and Conclusion.

The condition or domain being studied: The focus area of this review was clinical handover, defined as the temporary or permanent transfer of patient care responsibilities among healthcare professionals. Nursing shift handover plays a crucial role in ensuring continuity of care and involves a

multidimensional exchange of information that contributes to improved patient safety outcomes. Various method of nursing shift handover is being used in various hospital but due to the absence of a structured pattern of nursing shift handover, patient safety is compromised. So, the present study is aimed to evaluate the existing methods of nursing shifts and their effect on patient safety.

Table 1: JBI (Joanna Briggs Institute) Quality Assessment Score

A) JBI quality assessment score qualitative studies[6]

Study Author (Year)	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Total Score	Bias
Mullen A, 2020[13]	1	1	1	1	1	1	-	1	1	1	9/10	Nil
Fealy G, 2016[10]	1	1	1	1	1	-	-	-	1	1	7/10	Low
Ernst KM, 2018[19]	1	1	1	1	1	-	1	1	1	1	9/10	Nil
Bruton J, 2016[9]	1	1	1	1	1	1	1	1	1	1	10/10	Nil
Redley B, 2017[14]	1	1	1	1	1	-	1	1	1	1	9/10	Nil

B) JBI quality assessment score quasi-experimental study[7]

Study Author (Year)	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Total Score	Bias
Ghonem NME, 2023[17]	1	0	0	0	1	1	1	1	1	6/9	Low
Malekzadeh J, 2013[18]	1	0	-	-	1	1	1	1	1	6/9	Low

C) JBI quality assessment score cross-sectional studies[8]

Study Author (Year)	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Total Score	Bias
Chong DWQ, 2020[15]	1	1	1	1	-	-	1	1	6/8	Low
Kowitlawakul Y, 2015[11]	1	1	1	1	1	-	1	1	7/8	Nil
Cornell P, 2013[16]	1	1	1	1	-	-	1	1	7/8	Low
Kumar P, 2016[12]	1	1	1	1	1	1	1	1	8/8	Nil

Note: Yes: 1, No: 0, Unclear:

Table 2: Methodology and Result of the included studies

RESULTS

Search Result: In total, 570 publications were identified. Of those, 514 articles were included in the initial screening after duplication removal. Further, 478 articles were excluded based on the screening of titles and abstracts. The eligibility of the 36-remaining full-text articles was determined. There were 10 articles were excluded for not describing the main outcome of this study, 7 articles were excluded for being commentary or review reports, 03 articles were excluded as tool and app development study, 03 articles were excluded as not used standard methodology in study, and 02 Article were written other than English.

Study Characteristics and Setting: The details of the study designs and their key findings are presented in Table 2. This review comprises five qualitative studies, two quasi-experimental studies, and four cross-sectional studies, with the eleven selected studies originating from ten different countries, including United Kingdom (*n* = 1)[9], Ireland (*n* = 1)[10], Singapore (n=1)[11], India (n=1)[12], Australia (*n* = 2)[13,14], Malaysia (*n* = 1)[15], Texas (n=1)[16], Egypt (*n* = 1)[17], Iran (n=1)[18], and USA (*n* = 1)[19].

Handover result: The review described various existing methods of nursing shift handover and their outcomes. A study revealed that a lack of standard operating procedures resulted in major variances in practice; Issues with privacy, secrecy, and time limits were raised as concerns. Patients expressed concerns about a communication gap between doctors and nurses, but overall, they reported feeling informed and involved throughout their visits.[9] Another study focused on limited policies and training related to handover practices. Barriers to effective handover practices included interruptions, overlong reports, large caseloads, and resistance to using technology.[10] In another study, handovers between nurses took longer than those between doctors. Evening shift handovers were longer than morning shift handovers, with distractions more common for nurses, especially during the nighttime shift.[11]

A study reported notable variations in weekend and weekday adherence to time constraints, with an overall adherence rate of 63%. Most handovers between nursing staff members occurred at the patient's bedside. Staff members typically transferred tasks in person. It was also found that with an overall adherence rate of 82%, the SBAR (Situation, Background, Assessment, and Recommendation) process aspects were adhered to effectively, with a significant positive association between patient information and staff contact.[12] In another study highlighting difficulties in handover practices in mental healthcare settings, practical

obstacles impeding consistent deployment included protecting patient privacy and arranging for different nurses to communicate. Nurses expressed concerns about compromising people's privacy by doing handovers in public areas, and limiting access to private rooms made execution more difficult. Major concerns expressed by nurses included the potential detrimental effect on patients' well-being by including them in handover conversations due to private information causing anxiety or unfavorable emotions. Participants thought that not all information should be disclosed during consumer handovers, requiring information to be filtered.[13]

Another study described various clinician behaviors of interprofessional communication activities during handover practices. The study found that the accuracy and completeness of information given were affected by the quality of interprofessional communication, identifying communication gaps, ambiguity, and unrelated content as problems. Positive actions during bedside handover included making eye contact, communicating clearly, and actively participating. The bedside handover also discussed how to assign duties for continuing patient care using delegation procedures.[14] In a study regarding nurses' perceptions of inter-shift handover practices, reported challenges in effective handover practices included work interruptions, concurrent doctor ward rounds, irrelevant discussions, and lengthy handover times. The strengths of bedside handover practices included teamwork, mutual support, and the use of comprehensible language. Involving patients in the handover was considered valuable.[15]

Furthermore, there are studies included in the review that has assessed the method of handover practices using standard operating procedures.[16-18] A study revealed that using the SBAR (Situation, Background, Assessment, Recommendation) protocol, there were significant increases in the percentage of time spent on verbal communication and shift report activities after SBAR was implemented. With paper SBAR, writing was reduced, but with electronic SBAR, it was increased, and more reporting took place in patient rooms during the SBAR conditions.[16] Similarly, another study using the SBAR protocol showed that both knowledge and practice showed notable increases, with knowledge rising to 92.8% and practice to 100%. Also, the study found favorable associations between nurses' perceptions of the handover procedure and associated communication, as well as their knowledge and SBAR practice. The study intervention had a positive impact on the way nurses perceived the handover process and enhanced their understanding and application of SBAR.[17] A study done using another SOP for nursing shift handover called NSPEC (Nursing Safe Practice Evaluation Checklist) described the effectiveness of the intervention in terms of enhancing nurses' safe practices in the ICU setting.[18] Communication between nurses

during the handover process has the highest importance among reported challenges. According to this study, one of the key factors lowering service quality and safety as well as patient dissatisfaction is poor communication between onboarding and departing shift nurses during the handover.[19]

DISCUSSION

Clinical handover is a critical and often complex exchange of patient care responsibility between healthcare professionals, essential for ensuring continuity and safety in the delivery of nursing care. Nursing shift handovers are particularly vital as they involve the transfer of multidimensional clinical information that directly impacts patient safety outcomes. Despite this importance, there is significant variation in how nursing shift handovers are conducted globally. The present systematic review, encompassing 11 studies, demonstrated that the absence of standardized procedures leads to inconsistent handover practices that compromise patient safety. Key barriers identified include concerns about privacy and confidentiality breaches, time limitations, overly lengthy handovers, heavy caseloads, and technological resistance.

The review findings align with those of Anshasi H et al[20] who reported that both nurses and patients perceive confidentiality and privacy breaches as major obstacles during bedside handovers. Nurses additionally highlighted fatigue from overtime, repetitive information transfer, and a reduced sense of teamwork and security during handover processes. Similarly, Muller M et al[21] supported these observations and emphasized that the use of structured communication tools, especially SBAR (Situation-Background-Assessment-Recommendation), effectively improves patient safety during shift changes.

Further corroborating these conclusions, Ghosh S et al[22] conducted an interventional study that demonstrated significant improvements in handover effectiveness following the implementation of the SBAR framework. This study found enhanced communication clarity, improved coordination, and higher patient satisfaction post-intervention, highlighting the value of standardized protocols in reducing errors and optimizing clinical workflows. Likewise, Kumar P et al[12] observed that in settings lacking structured handover processes, inconsistencies in clinical information exchange correlated with increased risks to patient safety, further supporting the need for standardized practices.

Malfait S et al[23] research also sheds light on the nuanced issue of privacy during bedside handovers. While privacy concerns are often cited as barriers, their findings suggest that these issues may stem more from healthcare staff apprehensions and discomfort with open communication rather than from patients themselves, who

generally support transparent information sharing when done respectfully. This insight points to a need for targeted training to address staff concerns and to develop strategies for maintaining confidentiality without compromising patient engagement.

In resource-limited settings, challenges such as overburdened staff and infrastructure deficits intensify the difficulty of maintaining high-quality handovers. Seid A study[24] in Ethiopian public hospitals revealed that nurse handover practices were suboptimal due to excessive workloads and ambiguous procedural guidelines, underscoring that contextual adaptations of handover protocols like SBAR are critical for ensuring successful implementation in diverse environments. Additionally, Soed N et al[25] highlighted the positive impact of SBAR on nursing handover quality in Malaysian healthcare, demonstrating measurable reductions in communication errors and improved team collaboration, though they acknowledged ongoing barriers related to resistance in technology adoption and training gaps.

Overall, these studies consistently indicate that structured handover protocols such as SBAR improve communication efficiency, enhance patient safety, and boost healthcare team cohesion. However, the persistent barriers identified ranging from privacy concerns to organizational resistance and logistical constraints suggest the need for multifaceted approaches. Healthcare institutions should emphasize developing clear standard operating procedures (SOPs), integrating handover training into professional development, and fostering a culture that values transparency and teamwork. In particular, tailoring protocols to fit local resource capacities, while addressing privacy through patient-inclusive models, may enhance acceptance and efficacy.

Implementation of structured communication tools has direct relevance for clinical practice, such as recommending hospital policies for mandatory SBAR training to reduce errors and boost coordination, particularly in resource-limited systems like India’s. Adopting SBAR can enhance clarity in patient handovers, minimize misinterpretation, and improve multidisciplinary teamwork. These measures are especially valuable for optimizing patient safety and streamlining workflows where staffing and infrastructure challenges impact the quality of care.

Since the review included only English-language and freely accessible studies, it may have excluded significant research published in other languages or subscription-based journals. This restriction could limit the comprehensiveness and global applicability of the findings, potentially affecting the overall generalizability of the conclusions.

CONCLUSION

Shift handover is essential for patient safety and quality care. Research shows that lack of standardized procedures leads to communication gaps, confidentiality issues, and errors. Challenges include time constraints, unscheduled handovers, and resistance to technology, especially in mental health settings. Using protocols like SBAR and NSPEC improves communication, enhances nursing knowledge, and promotes safe practices. Standardized handovers ensure clear, concise information transfer, reducing errors and improving patient outcomes. Implementing these protocols is crucial for consistent, effective nursing handovers across healthcare settings.

RECOMMENDATIONS

Future studies should propose research directions like RCTs on digital tools or studies in underrepresented regions to strengthen evidence on communication training effectiveness. Exploring technology-driven SBAR interventions and evaluating their long-term impact on patient safety, teamwork, and clinical efficiency across diverse healthcare settings can provide a more comprehensive understanding for broader implementation.

Future research should focus on longitudinal studies to evaluate the sustainability of structured handover frameworks, explore digital innovations in communication tools, and investigate handover practices across underrepresented regions to inform wider implementation strategies.

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Availability of Data: Data is available upon reasonable request to the corresponding author.

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