

# **The Role of Nurses in Stoma Care: A Systematic Literature Review**

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## BACHELOR'S THESIS

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### Abstract/Summary

Stoma formation is a life-changing surgical intervention requiring complex physical and psychosocial adaptation. While nurses are central to patient recovery, the scope and impact of their roles across the care pathway require consolidation. This study aimed to systematically review and synthesise existing evidence regarding the role of nurses in improving physical, psychological, and quality of life outcomes for adult stoma patients.

**Methods:** A Systematic Literature Review (SLR) was conducted following PRISMA guidelines. Three databases (CINAHL, Web of Science, and PubMed) were searched for primary quantitative studies published in English between 2015 and 2025. Twelve studies were selected and analysed through the theoretical lens of the Neuman Systems Model.

**Results:** The review identified that nurses play a multidimensional role spanning preoperative siting, postoperative technical management, and long-term transitional support. Data from approximately 2,050 patients demonstrated that structured interventions such as the IKAP model, hydrocolloid dressing protocols, and digital follow-up platforms significantly reduced complications, including peristomal skin issues and leakage. Furthermore, nurse-led education directly correlated with improved self-efficacy and quality of life.

**Conclusion:** Nursing interventions are critical determinants of optimal stoma care outcomes. The nursing role has evolved from task-oriented wound management to proactive, holistic care. Structured, evidence-based nursing interventions are critical determinants of patient stability and adaptation. Future practice should prioritise standardised clinical pathways and digital health integration to optimise outcomes.

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Language: English

Key words: Stoma Care, Ostomy, Nursing Role, Nursing Interventions

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## **List of Abbreviations**

**SLR:** Systematic Literature Review

**PRISMA:** Preferred Reporting Items for Systematic Reviews and Meta-Analyses

**PICO:** Population, Intervention, Comparison, Outcome

**WOC:** Wound, Ostomy, and Continence

**WOCN:** Wound, Ostomy, and Continence Nurse

**SCN:** Stoma Care Nurse

**PSCs:** Peristomal Skin Complications

**QOL:** Quality of Life

**RCT:** Randomised Controlled Trial

**IKAP:** Information-Knowledge-Attitude-Practice (nursing model)

**NSM:** Neuman Systems Model

**CFS:** Clinical Feedback System

**OAI-20:** Ostomy Adjustment Inventory-20

**OAS:** Ostomy Adjustment Scale

**SSES:** Stoma Self-Efficacy Scale

**ESCA:** Exercise of Self-Care Agency scale

**Stoma-QoL:** Stoma Quality of Life questionnaire

**SF-36:** Short Form (36) Health Survey

**EORTC QOL-C30:** European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30

**COH-QOL-OQ:** City of Hope Quality of Life-Ostomy Questionnaire

**QDTS:** Quality of Discharge Teaching Scale

**RHDS:** Readiness for Hospital Discharge Scale

**GS-PEQ:** Generic Short Patient Experiences Questionnaire

**MES-OCE:** Multidimensional Experience Scale for Ostomy Care Education

**SBQ-CEP:** Stoma Bag Questionnaire for Clinical Education Practice

**DET score:** Discoloration, Erosion, Tissue overgrowth score (for peristomal skin assessment)

**WeChat/QQ:** Chinese digital communication platforms used for virtual nursing follow-up

# 1 Introduction

Quality stoma care is central to patients' adaptation and recovery following ostomy formation, yet the scope and impact of nurses' roles across the care pathway remain variably defined in the literature. Ostomies (fecal or urinary) are surgically created openings that may be temporary or permanent and arise from indications such as colorectal and bladder cancers, inflammatory bowel disease, trauma, and other conditions (Panattoni et al., 2023; Guo et al., 2023). For many people, this is a life-changing procedure. It is an important treatment for a variety of conditions, including colorectal and bladder cancer, Crohn's disease, inflammatory bowel disease, diverticulitis, and bowel incontinence, as well as other gastrointestinal or urological conditions (Rolls et al., 2023; Naseh et al., 2023).

The burden of stoma care is substantial. Globally, approximately one million new stomas are created each year, with a significant proportion of patients aged 50 to 70 years (Zelga et al., 2021). Approximately 700,000 Europeans live with an abdominal ostomy (Krogsgaard et al., 2022). Regarding specific national data, Canova et al. (2013) state that about 70,000 Italians are believed to have a stoma, with a network of approximately 300 stoma centers supporting this population. In the UK alone, over 200,000 people have a stoma, and the National Health Service (NHS) spends more than £400 million annually on stoma products (Bedford, 2022). US epidemiological data also report over 110,000 abdominal stomas created annually (Zamarripa et al., 2024). These figures highlight the substantial number of patients requiring specialised care and support to effectively manage their condition. The incidence of stoma formation is primarily driven by oncological needs. Canova et al. (2013) noted that 70% of their cohort required stomas due to intestinal cancer, followed by complications (13%) and inflammatory diseases (10%).

Although ostomy surgery offers therapeutic benefits, it is associated with a high incidence of postoperative complications, with the rate of stoma and peristomal complications (Steinhagen et al., 2017; Zelga et al., 2021). Patients frequently face complex physical symptoms (e.g., involuntary effluent, leakage, peristomal skin complications, hernias, stenosis), psychosocial stressors (e.g., altered body image, stigma, anxiety, depression), and practical challenges (e.g., dressing modifications, diet changes, travel limitations) that persist well beyond hospitalization and can substantially reduce quality of life (Heydari et al., 2023). Patients often experience various

stoma-related complications, which can be categorised into early complications (within 30 days post-surgery) and late complications. A multicenter retrospective study revealed that 54.1% of patients experienced early complications, while 51% experienced late complications (MacDonald et al., 2024). Early complications typically include peristomal skin problems, excessive stoma output, mucocutaneous separation, and stoma necrosis or ischemia. Late complications include parastomal hernia, prolapse, retraction, and stenosis (MacDonald et al., 2024; Parini et al., 2023). In addition to these physical difficulties, patients also face significant psychological distress, body image issues, depression, and social isolation due to fears of odor or leakage. According to Zamarripa et al. (2024). Leakage in particular, is a major concern as 91% of ostomy patients report anxiety about leakage, and 76% experience leakage frequently. These complications not only affect physical health but also lead to emotional distress, social isolation, and decreased self-esteem (Bedford, 2022; Heydari et al., 2023).

The growing prevalence of stoma surgeries globally underscores the importance of high-quality postoperative and long-term care. In addition, given the complex physiological and psychosocial challenges faced by ostomy patients, which affect their physical health, psychological well-being, and quality of life, nurses play an indispensable role in their care and rehabilitation. Although nurses are central to stoma management across preoperative, postoperative, and community settings, evidence indicates persistent variation in nursing knowledge, training, and confidence, particularly where specialist stoma nurses are unavailable. As a nursing and healthcare student, I am motivated to conduct this systematic literature review to critically examine and consolidate existing evidence on the role of nurses in stoma care and its impact on patient outcomes. Understanding how nursing interventions influence complication prevention, infection control, patient education, and self-management is essential for strengthening evidence-based practice. Furthermore, synthesising current research can help identify gaps in education, clinical guidelines, and service delivery, thereby informing curriculum development and professional training. This study aims to support the advancement of nursing competence, promote standardised, high-quality stoma care, and ultimately contribute to improved safety, autonomy, and quality of life for individuals living with a stoma.

It is important for the reader to note that AI tools were used in a supportive capacity throughout the development of this thesis. Microsoft Copilot and Grammarly, which are embedded in

Microsoft Word (the software used for writing this work), were utilised primarily for grammar checking and, at times, to enhance clarity and fluency of expression. Google AI Studio was used to extract and summarise key numerical and statistical data from the analysed articles, to ensure that no essential statistical information was omitted or misinterpreted during the review process. However, the intellectual contribution, critical analysis, interpretations, and conclusions presented in this thesis are entirely the work of the author. No AI-generated content was directly incorporated into the thesis; rather, these tools functioned solely as supportive aids in refining and organising the original work produced by the writer (Google AI Studio, 2026; Grammarly for Microsoft Office, 2026; Microsoft Copilot: Your AI Companion, 2026).

## **2 Background to the Study**

Stoma formation is a widely utilised surgical intervention for managing a range of gastrointestinal and urological conditions, including malignancies, inflammatory bowel diseases, diverticulitis, trauma, neurogenic bladder disorders, and severe urinary dysfunctions. The term "stoma" is derived from the Greek word for "mouth" or "opening," referring surgically to an artificial opening created between a hollow organ and the body surface (Babakhanlou et al., 2022). This intervention is required when a distal anastomosis is not feasible due to a high risk of failure or when the distal anatomy has been surgically removed (Babakhanlou et al., 2022). A stoma is a surgically created opening that diverts fecal or urinary output to the exterior of the body, profoundly altering patients' physiological functioning, body image, and daily living patterns.

Ostomies are broadly categorised into intestinal stomas (such as colostomies and ileostomies) and urinary stomas (such as urostomies created through ileal conduits). These may be temporary or permanent, depending on the underlying pathology and surgical intent. Temporary stomas are often created in emergency settings, such as trauma or hollow viscus perforation, or as a protective measure in elective multi-step surgeries to divert faecal content away from a distal anastomosis (Babakhanlou et al., 2022). Conversely, permanent stomas are necessary when the anorectum is excised due to malignancy, inflammatory bowel disease, or when continuity cannot be restored (Babakhanlou et al., 2022).

## 2.1 Gastrointestinal Stomas

Gastrointestinal diversions are subdivided into ileostomies and colostomies, each presenting unique management challenges.

**Ileostomies:** Typically sited in the right abdomen through the rectus muscle, these can be constructed as a loop or an end stoma. A loop ileostomy involves bringing a loop of small intestine through the abdominal wall, creating two openings (proximal and distal limbs), whereas an end ileostomy is formed from the descending bowel segment following total proctocolectomy (Babakhanlou et al., 2022). Crucially for nursing management, the output from an ileostomy is watery, alkaline, and enzymatically active; this bypasses the colon's absorptive capacity, making the effluent highly toxic to the peristomal skin and increasing the risk of severe dermatitis and dehydration (Babakhanlou et al., 2022).

**Colostomies:** Preferably located in the left abdomen, these may also be end or loop constructs. In end colostomies, a rectal stump known as a Hartmann's pouch is often left in situ (Babakhanlou et al., 2022). While colostomy output is generally more formed than that of an ileostomy, complications such as prolapse are notably higher, with incidence rates reaching 30% in transverse loop colostomies (Babakhanlou et al., 2022).

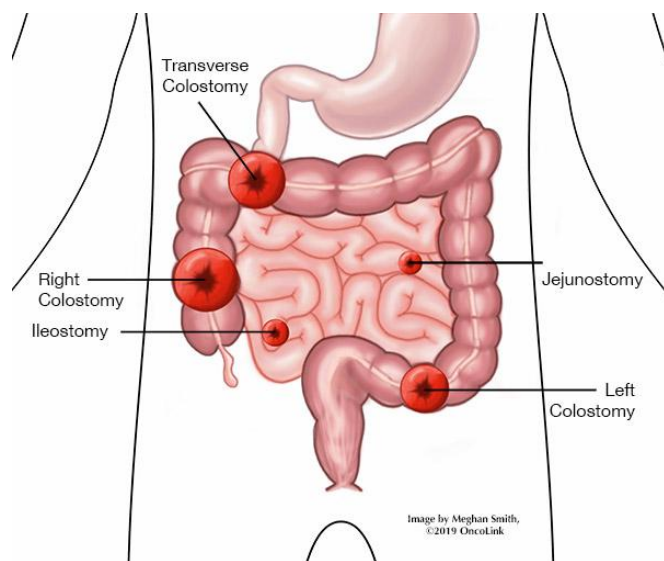


Figure 1: Ostomy sites (Source: oncolink)

## 2.2 Urogenital Stomas (Urostomies)

Urostomies are indicated for patients requiring urinary diversion due to conditions such as bladder cancer, trauma, or neurogenic bladder (Babakhanlou et al., 2022). These are classified into three types: non-continent cutaneous diversion (ileal conduit), continent cutaneous diversion, and continent orthotopic diversion (neobladder). The ileal conduit, illustrated in figure 2, which utilises a segment of the intestine to drain urine into an external appliance, remains a common approach (Babakhanlou et al., 2022).

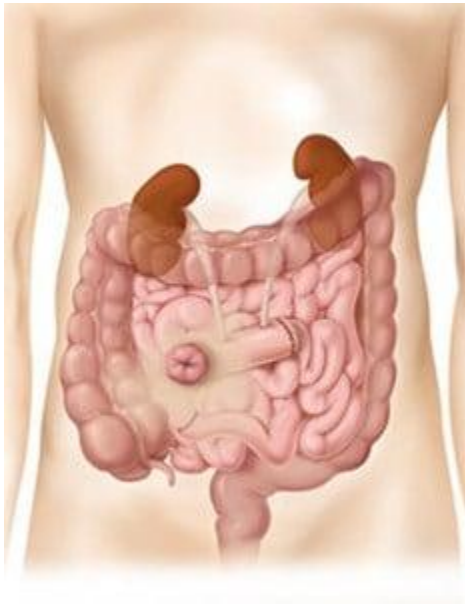


Figure 2: Ileal Conduit (Source: Convatec)

The physiological and anatomical alterations inherent in stoma formation provide the fundamental rationale for specialised nursing care. The creation of a stoma bypasses normal continence mechanisms and absorptive functions, leading to complex care requirements. Stoma formation represents a significant, life-altering surgical intervention necessitated by various colorectal and bladder conditions, including malignancy, inflammatory bowel disease (IBD), diverticular disease, and trauma (Albulescu et al., 2024; Steinhagen et al., 2017).

Furthermore, complications are prevalent, ranging from 10% to 70%, and include stoma necrosis, parastomal herniation, and high-output states leading to electrolyte imbalances (Babakhanlou et al., 2022). As emergency physicians are not expected to be stoma experts, the burden of managing

these intricate complications, ranging from fitting appliances to complex metabolic monitoring, falls heavily upon the competence of the nursing workforce (Babakhanlou et al., 2022).

### **2.3 The Role of Nurses in Stoma Care**

Extant literature consistently identifies multiple dimensions of stoma care in which nurses are actively involved. Conceptually, stoma care extends beyond routine wound management. It encompasses a comprehensive nursing process that integrates preoperative preparation, postoperative clinical management, patient and caregiver education, psychosocial support, and long-term follow-up. Effective stoma care aims to prevent complications, promote patient autonomy, and enhance quality of life, acknowledging that living with a stoma represents a major life transition rather than a discrete surgical outcome. Data from systematic reviews and clinical studies suggest that nursing interventions, such as progressive muscle relaxation training, self-management programs, home visits, multimedia education, and motivational interviewing, can significantly improve patients' adaptation and quality of life (Heydari et al., 2023). Furthermore, the selection and use of appropriate stoma care systems have demonstrated their ability to reduce leaks and peristomal skin complications, particularly with the use of elastic, adhesive-free protective barriers (Zamarripa et al., 2024). In addition, patients receiving structured nursing support have reported better postoperative psychological adjustment, greater autonomy, and increased life satisfaction post-surgery (Tan et al., 2024; Martín-Gil et al., 2024).

While certified stoma or wound, ostomy, and continence (WOC) nurses are recognised as experts in stoma management, they are not consistently available in all healthcare settings. Consequently, bedside and generalist nurses frequently assume responsibility for stoma care, often without adequate training or confidence (Cross & Schempp, 2024). Studies report that a significant proportion of nurses feel insufficiently prepared to manage ostomy appliances or address complications, which may contribute to patient dissatisfaction, care gaps, and preventable adverse outcomes (Cross & Schempp, 2024).

Conversely, evidence suggests that nurse-led intervention, particularly those involving structured education, competency development, and patient-centered approaches, can significantly enhance patient self-efficacy, reduce complications, and improve health-related quality of life (Foà et al., 2019). This highlights the critical influence of nursing knowledge, skills, and role clarity in stoma

care delivery. Given the complexity of stoma management and the profound adjustment required by patients, the role of the nurse, specifically the Stoma Care Nurse (SCN) or Wound, Ostomy, and Continence (WOC) nurse, is established as a critical component of perioperative care. Nursing interventions are essential for ensuring patient comfort, preventing complications, and facilitating psychological adaptation (Albulescu et al., 2024; Rolls et al., 2023).

### **2.3.1 Preoperative Care**

The nurse's role begins significantly before the operation. Preoperative care includes patient education, psychological preparation, and stoma site marking, which has been shown to reduce postoperative complications and improve appliance fitting. These are also foundational interventions proven to improve patient rehabilitation (Rolls et al., 2023; Steinhagen et al., 2017). Siting the stoma away from bony protrusions and skin folds allows for a secure appliance seal, which is vital for preventing leakage-associated dermatitis (Albulescu et al., 2024).

### **2.3.2 Postoperative and Discharge Care**

Following surgery, nurses are the primary educators, guiding patients through the acquisition of practical skills such as pouch emptying and changing (Steinhagen et al., 2017). Postoperatively, nurses are responsible for monitoring stoma viability, managing effluent, maintaining peristomal skin integrity, and identifying early signs of complications such as necrosis, mucocutaneous separation, retraction, bleeding, stenosis, and parastomal hernia. This phase focuses on preventing dehydration, which is a frequent cause of readmission for ileostomates, and managing early skin irritation (Steinhagen et al., 2017). Fellows et al. (2021) report that peristomal skin complications (PSCs) are the most common postoperative complication, affecting 88% of patients. These complications, which include pain, itching, and burning, are often underreported yet significantly impair daily life and increase healthcare costs. Nurses play a critical role in preventing and managing these complications through meticulous skin care, appropriate pouching systems, timely appliance changes, and the use of protective barriers and topical treatments. Nurses help patients adapt to a new normal, addressing not only the physical management of the device but also the psychosocial aspects of body image and lifestyle adjustment (Rolls et al., 2023).

### **2.3.3 Long-term Management**

Continuity of care through follow-up consultations is crucial for the early detection and treatment of late complications like parastomal hernias or stenosis (Albulescu et al., 2024). Regular monitoring allows nurses to intervene with conservative measures, such as recommending hernia belts or specialised pouching systems, thereby improving the patient's quality of life (Albulescu et al., 2024). In addition to physical care, nurses are central to infection prevention. Evidence indicates that nursing competence, particularly when supported by specialised training in stoma therapy, is associated with reduced rates of peristomal infections. Structured nursing interventions, including hygiene practices, systematic assessment, patient education, and follow-up, have been shown to mitigate infectious risks and improve patient outcomes across care settings.

### **2.3.4 Factors Affecting Nursing Care**

Although nurses play a clear and crucial role in stoma care, numerous factors hinder the provision of optimal care, and research indicates that gaps in care still exist. For example, a multinational survey showed that only 40% of patients reported receiving pre-operative counseling from a stoma care nurse, while 36% of patients undergoing unplanned surgery reported receiving no pre-operative counseling at all (Rolls et al., 2023). Furthermore, 70% of nurses reported having less than 15 minutes for pre-operative counseling in cases of unplanned surgery, highlighting systemic limitations that may impact on the quality of care (Rolls et al., 2023). Furthermore, nurses face numerous work challenges, including a shortage of specialist stoma nurses, heavy workloads, and limited time, all of which hinder their ability to provide the multifaceted and time-consuming care that stoma patients require. The nature of stoma care itself can also be emotionally burdensome for nurses, who may find the work unpleasant and experience emotional distress as a result, leading some nurses to avoid this type of care. These challenges are even more pronounced in emergency settings, where time constraints make it more difficult to correctly select the stoma site pre-operatively and provide adequate patient counseling (MacDonald et al., 2024). Consequently, stoma care is often provided informally, without adhering to standardised, evidence-based clinical guidelines.

## 2.4 Theoretical Framework

The Neuman Systems Model (NSM), developed by Betty Neuman, provides a comprehensive, holistic framework for understanding the role of nurses in stoma care. The model views the client, whether an individual, family, or community, as an open system that is in constant interaction with the environment (Ahmadi & Sadeghi, 2017). The central philosophy of the Neuman Systems Model is the maintenance of system stability through the management of environmental stressors (Oshvandi et al., 2024). In the context of this present research, the stoma patient is viewed as a unique composite of factors and characteristics, whose wellness depends on the ability to defend against stressors associated with stoma surgery and management (Ahmadi & Sadeghi, 2017; Oliveira et al., 2024).

The Neuman system model postulates that the client system consists of a central core of basic survival mechanisms, such as organ function and temperature control, protected by concentric circles known as lines of defense and resistance (Ahmadi & Sadeghi, 2017). Crucially for stoma care, the model asserts that the client is a total person characterised by five interacting variables: physiological, psychological, socio-cultural, developmental, and spiritual (Ahmadi & Sadeghi, 2017; Oshvandi et al., 2024).

The Neuman system model identifies three types of environmental stressors that threaten system stability: intrapersonal, interpersonal, and extra-personal (Ahmadi & Sadeghi, 2017). Intrapersonal stressors occur within the client. In stoma care, this includes physiological issues such as peristomal skin complications or bowel obstruction, as well as psychological struggles like fear, anxiety, or depression regarding the diagnosis (Oshvandi et al., 2024). Interpersonal stressors arise from interactions between individuals. For stoma patients, this may manifest as role changes within the family, concerns about being a burden to caregivers, or social isolation (Oliveira et al., 2024; Oshvandi et al., 2024). Extra-personal stressors occur outside the client, such as financial constraints, the hospital environment, or the logistics of obtaining stoma supplies (Ahmadi & Sadeghi, 2017; Oliveira et al., 2024).

The applicability of this multidimensional approach to stoma patients is well-documented. For instance, Oliveira et al. (2024) highlight that in patients with colostomies, the creation of a stoma triggers stressors across these dimensions. While the physiological variable may involve bowel

changes or skin irritation, the psychological variable encompasses the emotional impact of altered body image, and the socio-cultural variable addresses changes in social interactions and support systems. By utilising the Neuman system model, nurses move beyond treating the stoma as a mere physiological alteration and instead address the patient as a comprehensive individual, which is essential for improving quality of life (Oshvandi et al., 2024).

Critically, the Neuman system model suggests that optimal wellness exists when all system needs are met (Ahmadi & Sadeghi, 2017). Research indicates that the application of the model in patients with colorectal cancer and stomas leads to an improved understanding of care needs and facilitates evidence-based practice (Oshvandi et al., 2024). By identifying and managing stressors across all five variables, nurses can provide adaptive support that directly influences physical, psychological, and psychosocial wellbeing. For example, interventions addressing interpersonal stressors (e.g., social support) have been shown to mitigate the negative impacts of adaptation difficulties (Oliveira et al., 2024). The Neuman Systems Model offers a robust theoretical framework for this systematic review. It moves the discourse of stoma nursing from task-oriented care to a systemic, holistic practice. By framing the nurse's role through the lens of stressor reduction and the three levels of prevention, the model elucidates how nursing interventions stabilise the patient system, thereby directly enhancing the physical, psychological, and psychosocial quality of life for individuals living with a stoma.

### **3 The Aim and Research Question**

The aim of this study is to systematically review and synthesise the existing evidence on the role of nurses in improving patient outcomes, including physical, psychological, and quality of life outcomes among patients with a stoma. Thus, the objective of this literature review includes

1. To identify the role of nursing care in improving the overall quality of life of stoma patients
2. To evaluate the impact of nursing interventions both in the preoperative and postoperative phases of stoma care.
3. To make recommendations for the implementation of evidence-based nursing care that results in positive outcomes for stoma patients.

Research Question

1. What is the role of nurses in providing care for a stoma patient?

## **4 Methodology**

Research methodology is an important aspect of conducting systematic and organised investigations to find solutions to specific problems (Creswell, 2014). Research methods are mainly divided into three types: qualitative research, quantitative research, and mixed-methods research. These different research methods play a crucial role in achieving the intended goals of a specific study (Swanson and Holton, 2005). Qualitative research methods use non-statistical data collection and analysis to study subjective human experiences (Ingham-Broomfield, 2015). Qualitative research methods are important in the healthcare literature because they help build evidence to observe, explain, and interpret theories of social interaction and human experience (Gall et al., 2018). Qualitative research does not involve formulating and testing hypotheses but instead focuses on observing pre-defined research questions. Furthermore, qualitative research methods allow for the examination of practical problems in everyday life and people's interpretations of their own life experiences (Liamputtong, 2013). Based on the objectives and research question of this current research, which is to examine the role of nurses in stoma care, the qualitative research method is chosen to identify, collect and analyse information.

### **4.1 Systematic Literature Review**

This present study adopts the Systematic Literature Review (SLR) methodology. Systematic review is a relevant research method applied in answering established questions about clinical practice and critically evaluates and synthesises a comprehensive list of available literature on a given topic within a selected timeframe (Parahoo, 2006). The SLR methodology is particularly relevant to the present study as it aids in identifying, critiquing, summarising, and finding gaps and recommendations about the subject matter, which is the role of nurses in stoma care, through a systematic search and thematic analysis of previous qualitative and quantitative research surveys (Torraco, 2005). The literature review for this paper is a systematic literature review of published quantitative research articles (Whittemore & Knaf, 2005).

The selection of a systematic review methodology over a scoping review was a deliberate decision based on the criteria outlined by Munn et al. (2018). While scoping reviews are valuable for mapping a body of literature or clarifying concepts when an area is emerging, or definitions are unclear, they generally do not include a critical appraisal of methodological quality and are less suited for providing concrete implications for clinical practice (Munn et al., 2018). Research in stoma care can be fragmented and interdisciplinary. An SLR allows for the investigation of conflicting results across different cultural contexts and study designs to produce a reliable summary of the international evidence (Munn et al., 2018; Snyder, 2019).

## 4.2 Data Collection

The aim of this research and the research question have been presented in the third section of the thesis. The systematic literature review method allows for the inclusion of quantitative studies, and this makes it plausible to come up with conclusions from evidence with little risk of bias. This way, this method can guide nurses and healthcare professionals to make evidence-based decisions.

The PICO format (Population, Intervention, Comparison, Outcome) was used to determine the eligibility criteria in this systematic review. Table 1 summarises the PICO for this present SLR. In addition to the PICO, other inclusion and exclusion criteria were applied to the SLR. The literature search was limited to studies published between 2015 and 2025 (10 years). In addition, the study only includes studies that are primary quantitative studies, peer-reviewed, and published in English Language. This present study follows the Cochrane Handbook for Systematic Reviews of Interventions. They were reported based on the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidance for systematic reviews.

<b>PICO</b>	<b>Inclusion</b>	<b>Exclusion</b>
Population	Adult Ostomy Patients	Patients less than 18 years

Intervention	Nursing Interventions	Other interventions not targeted at stoma complications
Comparison	Routine care and practices	Studies with interventions outside the healthcare setting
Outcome	Health variables including quality of life for stoma patients	Studies with no outcome related to ostomy patients

Table 1: PICO and eligibility criteria for the research

**4.2.1 Databases and Search Strategy**

The next step of the SLR involves locating studies that will be reviewed. A systematic search of three (3) databases, CINAHL, Web of Science, and PubMed was conducted. Boolean operators (AND, OR) were used across the three databases to ensure that an extensive record of existing research was covered. The main keywords were “Nursing”, “Nursing intervention”, and “Ostomy”. The databases were searched for keywords using relevant subject headings. The final search was then completed by combining the keywords. The keywords were combined as (Ostomy OR stoma OR Ostomies OR Patients with Ostomy OR Patient with stoma) AND (nurse OR nurses role OR nursing intervention OR nursing implementation OR nursing plan).

**4.2.2 Search Outcome**

The initial search for this SLR generated a total of 4,008 studies from the three databases. CINAHL produced a search result of 1,504 studies, Web of Science 699 studies, and PubMed generated 1,800 studies. The search results were then checked for duplicates. A total of 3,410 duplicates were removed. Afterwards, 598 studies were screened based on their titles and abstracts. 554 studies were excluded at this stage because they did not meet the established inclusion criteria for this present study. A full-text review of 44 studies was conducted. 32 studies were further excluded from the review because they were not relevant to the present research question and objectives,

and they had some methodological issues. A total of 12 studies were finally included in the review. The search and selection process are shown in Figure 3.

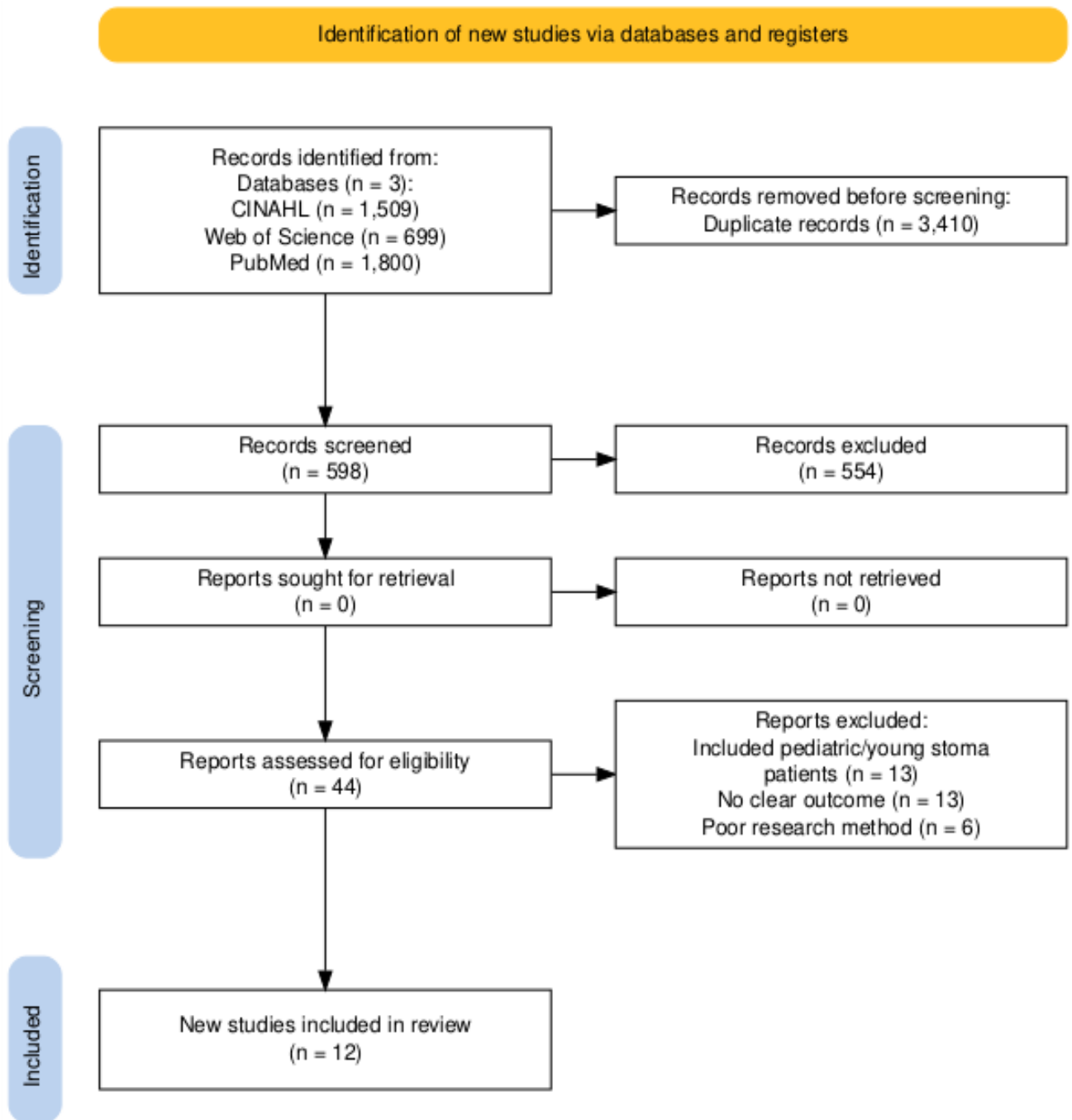


Figure 3: PRISMA Flow Diagram For SLR

## 5 Results

This section presents a detailed description of the 12 studies which were included in the SLR. All 12 studies focused on the role of nurses in stoma care. The first part of this section describes and discusses the characteristics of the 12 reviewed studies, as well as the patient characteristics that were investigated. In the second part, the findings or results from the thematic analysis are presented under nurses' roles characteristics. The final part of this chapter presents the statistical outcomes of nurses' roles and interventions in stoma care.

### 5.1 Study Characteristics

The characteristics of the 12 reviewed studies are presented in Appendix 1. The studies were reported between 2021 and 2025 and they all focused on nursing roles, interventions, outcomes, and patient characteristics in ostomy care. 1 study was conducted in 2021 (González et al., 2021), 3 in 2023 (Indrebø et al., 2023; Momeni Pour et al., 2023; Hao et al., 2023), 4 in 2024 (Matsubara & Hirohata, 2024; Yan et al., 2024; Li et al., 2024; Lin et al., 2024), and 4 in 2025 (Persson et al., 2025; Wang et al., 2025; Luo et al., 2025; Nan et al., 2025). This result shows an increasing attention to structured nursing role alongside continued focus on peristomal skin integrity and complication prevention.

In terms of research methodology, all the 12 included studies utilised a quantitative approach. 6 were retrospective cohort studies (Persson et al., 2025; Wang et al., 2025; Yan et al., 2024; Luo et al., 2025; Nan et al., 2025; Li et al., 2024). These retrospective studies used existing clinical data to examine relationships between patient characteristics and outcomes. 1 study (Lin et al., 2024) conducted a randomised controlled trial (RCT) to evaluate nurse-led discharge planning. 1 study (Hao et al., 2023) utilised an experimental design (randomised grouping) to test continuous nursing roles via virtual platforms. Momeni Pour et al. (2023) used a quasi-experimental pretest-posttest design to measure the impact of nursing process-based education on self-care knowledge among elderly patients. 1 study (González et al., 2021) applied multivariate logistic regression. 1 study (Matsubara & Hirohata, 2024) used a cross-sectional survey design and 1 study (Indrebø et al., 2023) used a longitudinal explorative design to track patient-reported outcomes over time. Validated data collection tools were used across the reviewed studies. These include

adjustment/self-care tools (OAI-20, OAS, SSES, ESCA), Quality of life (Stoma-QoL, SF-36, EORTC QOL-C30, COH-QOL-OQ), Process/experience (QDTS, RHDS, GS-PEQ, MES-OCE, SBQ-CEP), and Clinical outcomes (Complication records, OST (DET score), readmissions).

## 5.2 Patient Characteristics

A total of 2,050 patients were described in the articles. One study (Matsubara & Hirohata, 2024) was a cross-sectional survey of 773 nurses and was excluded from the aggregate patient count. The sample sizes of the clinical studies varied significantly, ranging from a small cohort of 50 patients (Wang et al., 2025) to a large multicenter analysis of 871 patients (González et al., 2021).

Regarding gender distribution, not all studies provided specific male-to-female ratios. However, gender was identified as a relevant variable in determining outcomes in specific instances; for example, Persson et al. (2025) noted that female gender was associated with higher rates of leakage and peristomal skin complications.

The type of stoma varied considerably across the included studies. The majority of studies focused on patients with colostomies or ileostomies. Specific distinctions were made regarding the duration of the stoma; Wang et al. (2025) compared temporary ileostomies with temporary colostomies, while several studies specifically targeted patients with permanent ostomies following colorectal or rectal cancer surgery (Luo et al., 2025; Nan et al., 2025; Li et al., 2024). Other studies analysed intestinal stomas or ostomies broadly without differentiating by subtype (Indrebø et al., 2023; Momeni Pour et al., 2023).

Geographically, the reviewed articles were predominantly conducted in Asia and Europe. A significant cluster of studies originated from China, evidenced by the use of platforms such as WeChat and specific reference to Chinese healthcare settings (Li et al., 2024; Lin et al., 2024; Luo et al., 2025; Hao et al., 2023). European data was represented by a large-scale study across 148 institutions in Spain (González et al., 2021). Additionally, the survey of nursing practices was conducted in Japan (Matsubara & Hirohata, 2024). The remaining studies did not clearly state the geographic scope of the research.

### **5.3 Nurses' Roles Characteristics**

Across the 12 reviewed studies, nurses played a central and multifaceted role in the care of patients with intestinal stomas, with interventions spanning the preoperative, postoperative, discharge, and long-term follow-up phases. The dominant role identified was that of a specialist stoma care nurse or wound, ostomy, and continence nurse (WOCN), particularly in studies conducted in Europe and Asia. A predominant theme was the shift from routine task-oriented care to structured, patient-centered interventions designed to enhance self-efficacy and adaptation.

Nurses play critical roles in all phases of the care continuum. In the preoperative phase, wound, ostomy, and continence nurses (WOCNs) were responsible for stoma siting and education to mitigate postoperative risks (González et al., 2021; Matsubara & Hirohata, 2024). Postoperatively, the nursing role focused on technical management, such as the application of hydrocolloid dressings to prevent skin complications (Luo et al., 2025) and the use of the nursing process framework to guide elderly patients in self-care (Momeni Pour et al., 2023).

#### **5.3.1 Stoma-related Complication Prevention and Management**

The 12 reviewed studies establish that nurses play a decisive role in the prevention and clinical management of stoma complications, particularly leakage and peristomal skin complications (PSCs). The nursing role is characterized by proactive assessment, technical intervention, and the implementation of structured care models. Persson et al. (2025) demonstrated that stoma care nurses played a pivotal role in monitoring, preventing, and responding to leakage and peristomal skin complications during the first year after ostomy creation. Nurses conducted repeated assessments of the stoma and surrounding skin, adjusted appliances, and provided targeted interventions following each complication episode, directly influencing healthcare utilisation and outcomes.

In terms of direct clinical interventions, Luo et al. (2025) demonstrated that nurses applying hydrocolloid dressings and maintaining a moist wound environment significantly reduced the incidence of dermatitis, infection, and edema compared to standard care. Similarly, Yan et al.

(2024) outlined specific preventive nursing protocols, such as using neutral solutions for cleaning, applying zinc oxide for skin protection, and utilising abdominal belts to prevent hernias; these measures reduced complication rates from 36.67% to 16.67%. Wang et al. (2025) also highlighted the nurse's responsibility in selecting appropriate two-piece bags to prevent leakage and protect the skin.

González et al. (2021) identified preoperative stoma siting by nurses as an independent predictor of optimal skin health, emphasising the specialist nurse's role in anticipating risks to preserve skin integrity. Persson et al. (2025) noted that nurses are essential in assessing peristomal skin and addressing leakage concerns, which drives healthcare resource utilisation. Furthermore, structured interventions such as the IKAP model (Nan et al., 2025) and nurse-led discharge planning (Lin et al., 2024) effectively reduced complication rates by enhancing patient self-efficacy.

### **5.3.2 Education**

Nurses consistently provided structured instruction on stoma hygiene, pouch changing, skin protection, dietary management, and complication recognition. Several of the reviewed studies explicitly described individualised, needs-based education, often supported by validated assessment tools to tailor care plans and evaluate progress. In elderly and permanent ostomy populations, education was delivered face-to-face and reinforced through written materials and practical demonstrations. Several studies highlighted the importance of preoperative education and skills training in reducing anxiety, promoting self-care, and improving adaptation.

### **5.3.3 Continuous and Transitional Care**

Multiple studies evaluated nurse-led interventions that extended beyond hospital discharge, including scheduled follow-ups, telephone calls, and home-based or outpatient support. A significant characteristic of the reported interventions was the integration of theoretical models and digital technology to bridge the transition from hospital to home. Several studies evaluated continuous nursing models, such as the Ahmadi Continuing Nursing Model (Yan et al., 2024) and the Information-Knowledge-Attitude-Practice (IKAP) model (Nan et al., 2025), which emphasised structured, long-term support. The use of virtual platforms was a recurrent intervention strategy;

nurses utilised WeChat, QQ, and specific internet platforms to provide 24-hour consultations, remote monitoring, and psychological support (Hao et al., 2023; Li et al., 2024). These nursing approaches facilitated ongoing assessment, psychological support, and timely handling of complications, thereby enhancing self-efficacy and quality of life.

#### **5.3.4 Psychological and Psychosocial Support**

Several studies highlighted the role of nurses in addressing anxiety, body image concerns, self-efficacy, and adaptation to life with a stoma. Nan et al. (2025) and Luo et al. (2025) framed psychosocial support through the enhancement of self-efficacy and confidence. Nurses acted as counselors and motivators, helping patients rebuild confidence in self-care and social reintegration, which was closely linked to improved quality of life and reduced complication rates. Indrebø et al. (2023) reported that nurses used a clinical feedback system incorporating patient-reported outcome measures to identify hidden psychosocial concerns, particularly issues related to self-esteem, body image, and sexuality. Yan et al. (2024) demonstrated a comprehensive psychological support role within the Ahmadi Continuing Nursing Model. Nurses provided ongoing emotional support from hospitalisation through post-discharge follow-up, addressing anxiety, negative emotions, and difficulties accepting the stoma. Hao et al. (2023) reported that nurses delivering care via virtual platforms actively addressed anxiety and emotional distress, leading to significant improvements in mental health scores. Likewise, Li et al. (2024) highlighted psychological interventions during discharge planning, where nurses encouraged emotional expression, supported acceptance of the stoma, and mobilized family support.

#### **5.3.5 Individualised and Multidisciplinary Approaches**

The reviewed studies show that interventions were increasingly data-driven and personalised. Nurses tailored interventions based on patient needs, using validated assessment tools and patient-reported outcomes to guide care. Multidisciplinary collaboration was evident, with nurses coordinating with physicians and family members to ensure holistic support. Indrebø et al. (2023) highlighted the role of Stoma Care Nurses in using Clinical Feedback Systems (CFS) based on patient-reported outcome measures to tailor consultations. Similarly, nurse-led discharge planning

was identified as a critical intervention for coordinating multidisciplinary care and ensuring readiness for discharge (Lin et al., 2024).

## **5.4 Statistical Outcomes of Nurses' Roles and Intervention**

The reviewed studies reveal that structured nursing interventions significantly improve clinical, functional, and psychosocial outcomes for stoma patients. The effectiveness of these interventions was quantified through reductions in complication rates, improvements in self-efficacy scores, and enhanced quality of life (QOL).

### **5.4.1 Reduction in Complications and Clinical Improvement**

Targeted nursing interventions consistently yielded statistically significant reductions in postoperative complications. Yan et al. (2024) reported that the Ahmadi Continuing Nursing Model reduced the complication rate to 16.67% in the intervention group compared to 36.67% in the control group ( $p < 0.05$ ). Similarly, Luo et al. (2025) demonstrated that combining hydrocolloid dressings with continuous nursing decreased stoma-related complications (including infection and dermatitis) from 32.8% to 12.5% ( $p = 0.032$ ). Nan et al. (2025) corroborated these trends, finding that the IKAP nursing model resulted in a significantly lower complication rate (6.38% vs. 18.09%,  $p = .041$ ). Conversely, Persson et al. (2025) highlighted the burden of adverse outcomes, noting that 38.8% of patients experienced leakage and 60.0% experienced peristomal skin complications, with each episode necessitating an average of one additional nurse visit.

### **5.4.2 Self-Efficacy Outcomes**

Interventions focusing on education and self-management demonstrated robust statistical improvements in patient competency. Nan et al. (2025) reported that patients receiving IKAP interventions achieved significantly higher self-efficacy scores ( $92.09 \pm 10.12$ ) compared to the control group ( $66.17 \pm 12.83$ ) at three months post-surgery ( $p < .001$ ). Momeni Pour et al. (2023) found similar efficacy in elderly patients, where nursing process-based education led to significantly greater improvements in self-care knowledge and performance ( $p < .001$ ).

### 5.4.3 Quality of Life Outcomes

Quality of life (QOL) outcomes also improved across multiple studies. Indrebø et al. (2023) documented 96% patient satisfaction with nurse-led follow-up using a clinical feedback system, with significant longitudinal improvements in daily functioning and health-related QOL scores. Wang et al. (2025) reported significantly better postoperative QOL among ileostomy patients receiving targeted nursing care compared with colostomy patients ( $p < .05$ ). González et al. (2021) identified a strong statistical correlation between optimal nursing management (preserving a DET score of 0) and patient wellbeing ( $p < .0001$ ). Li et al. (2024) and Hao et al. (2023) further confirmed that continuous nursing models, whether delivered via internet platforms or virtual conferences, resulted in significantly higher QOL scores and lower anxiety levels compared to routine care ( $p < 0.05$ ). While Lin et al. (2024) confirmed improvements in readiness for discharge and stoma self-efficacy, the study noted that nurse-led discharge planning did not significantly impact the hospital length of stay, suggesting that while nursing interventions optimise recovery quality, they may not alter hospitalization duration in the short term.

## 6 Discussion

The findings from the 12 reviewed studies provide a clear and evidence-based answer to the research question of this present study. To address the research question “What is the role of nurses in providing care for a stoma patient?”, the findings from the systematic review of the 12 included studies demonstrate that nurses play a central, multidimensional role across the entire stoma care continuum, including preoperative preparation, postoperative management, discharge planning, and long-term follow-up. The results show that the nursing role has evolved from routine wound management to a proactive, holistic practice that significantly influences clinical and psychosocial outcomes for patients with a stoma.

In the preoperative phase, specialist stoma nurses or wound, ostomy, and continence nurses (WOCNs) were responsible for stoma siting and patient education, which significantly reduced postoperative peristomal skin complications and leakage (González et al., 2021; Matsubara & Hirohata, 2024). These findings from the review are consistent with extant studies, which have highlighted the role of nurses in providing stoma care. Existing studies emphasise that nursing care

extends beyond technical management to include education, psychosocial support, and long-term follow-up (Rolls et al., 2023; Heydari et al., 2023).

Postoperatively, the review finding shows that nurses play a critical technical role in preventing complications, specifically, the application of hydrocolloid dressings (Luo et al., 2025) and structured protocols using zinc oxide and abdominal belts (Yan et al., 2024) were shown to significantly reduce the incidence of dermatitis, infection, and herniation. Previous studies established that peristomal skin complications (PSCs) and leakage are the most prevalent post-surgical issues, affecting up to 88% of patients and driving healthcare costs (Fellows et al., 2021; Bedford, 2022). The findings from this present review are consistent with this, as Persson et al. (2025) confirmed that 60% of patients experienced PSCs and 38.8% experienced leakage in the first year. The result shows that nurses play a crucial role in managing these complications. Nurse-led interventions such as the use of hydrocolloid dressings (Luo et al., 2025) and zinc oxide protocols (Yan et al., 2024) significantly reduced complication rates compared to standard care.

Beyond physical care, the reviewed studies demonstrate that nurses play a significant role in enhancing patient self-efficacy, psychological adaptation, and quality of life. Structured education, individualised care planning, and continuous nursing models including digital follow-up via platforms such as WeChat were associated with improved self-care scores, reduced anxiety, and better quality-of-life outcomes (Hao et al., 2023; Li et al., 2024; Nan et al., 2025). Finally, the result from the review identifies a crucial transitional and psychosocial support role. By utilising digital platforms for continuous follow-up (Hao et al., 2023; Li et al., 2024) and employing clinical feedback systems to monitor mental health (Indrebø et al., 2023), nurses bridge the gap between hospital and home. These interventions address anxiety and body image issues, directly correlating with improved quality of life (Wang et al., 2025). Collectively, these findings confirm that the nurse's role is central to minimising complications and maximising patient adaptation.

## **6.1 Theoretical Contribution**

This study makes significant theoretical contributions by applying the Neuman Systems Model (NSM) to systematically synthesise and interpret the role of nurses in stoma care. The findings of this present systematic literature review theoretically advance the field of stoma care by bridging

the gap between fragmented, task-oriented care and holistic system stabilisation, as conceptualised by the Neuman Systems Model (NSM).

The results confirm the Neuman Systems Model's assertion that patient wellness depends on the ability to defend against intrapersonal, interpersonal, and extra-personal stressors. Regarding intrapersonal stressors and the physiological variable, the review demonstrates that technical nursing competence is essential for protecting the client's core structure. Interventions such as preoperative stoma siting and the application of hydrocolloid dressings (Luo et al., 2025; Yan et al., 2024) directly mitigate physical threats like peristomal skin complications and leakage. By preserving skin integrity, nurses maintain physiological stability, a prerequisite for broader adaptation.

The findings also highlight the nurse's role in strengthening the psychological and developmental variables. Structured educational interventions, such as the IKAP model (Nan et al., 2025) and nursing process-based education (Momeni Pour et al., 2023), function as primary prevention. These interventions strengthen the client's "flexible line of defence" by enhancing self-efficacy. As the Neuman Systems Model suggests, when patients acquire knowledge and skills, they are better equipped to repel the psychological impact of altered body image and anxiety. Finally, the review addresses extra-personal and interpersonal stressors through transitional care. The use of virtual platforms and continuous follow-up (Hao et al., 2023; Li et al., 2024) bridges the gap between hospital and home environments. By mitigating the stress of navigating the healthcare system and providing psychosocial support, nurses treat the patient as a "total person." This holistic approach ensures that stability is maintained across all system variables, ultimately resulting in the improved Quality of Life observed across the reviewed studies.

## **6.2 Method Discussion**

This present systematic literature review (SLR) adopted a rigorous and transparent methodology, enhancing the credibility of its findings. The review followed PRISMA guidelines, ensuring systematic identification, screening, and inclusion of studies. The use of the PICO framework (Population, Intervention, Comparison, Outcome) for eligibility criteria further strengthened the methodological rigor by clearly defining inclusion and exclusion criteria. The search spanned three

major databases (CINAHL, Web of Science, PubMed), utilised Boolean operators, and included only peer-reviewed, primary quantitative studies published in English between 2015 and 2025, minimising selection bias.

A notable strength is the diversity of study designs among the 12 included papers: retrospective cohort studies, randomized controlled trials, quasi-experimental designs, cross-sectional surveys, and longitudinal explorative studies. This methodological heterogeneity allowed for a comprehensive synthesis of evidence across different healthcare settings and populations. Also, the consistent application of validated quantitative instruments, such as the Stoma-QoL, DET score, and self-efficacy scales (González et al., 2021; Indrebø et al., 2023; Nan et al., 2025). The use of these standardised tools enhances the internal validity of the findings and allows for reliable measurement of patient-reported outcomes across different cohorts.

However, several limitations are evident. The exclusive focus on quantitative studies may have excluded valuable qualitative insights into patient experiences and contextual factors. Most studies were conducted in Asia and Europe (Hao et al., 2023; Li et al., 2024), potentially limiting generalizability to other regions. Some studies had small sample sizes, and not all reported gender distribution or stoma subtypes in detail, which may affect the robustness of subgroup analyses. Additionally, the exclusion of non-English studies introduces language bias.

Based on these strengths and weaknesses, future reviews should include qualitative and quantitative studies to adequately capture both quantitative outcomes and patient experiences, providing a more holistic understanding of nursing interventions in stoma care. Additionally, given the geographic concentration of existing evidence in Asia and Europe, multi-center studies across diverse healthcare systems are recommended to enhance generalizability.

## **7 Conclusion**

This systematic review critically examines the role of nurses in stoma care. The results from 12 included quantitative studies establish that the nursing role in stoma care is a critical determinant of patient recovery, evolving from task-oriented practices such as reactive wound management to proactive and holistic patient-centered interventions. The review applied the Neuman Systems Model as its theoretical framework. The application of the Neuman Systems Model in this review

provides a robust framework for understanding and operationalising holistic care, emphasising the nurse's role in mitigating environmental stressors and stabilising the patient system. This theoretical grounding moves nursing practice beyond routine care, advocating for individualised assessment, patient education, and continuous support as standards of excellence.

This present review critically highlights that optimal patient outcomes are not merely a result of surgical success but are dependent on structured nursing interventions, specifically preoperative stoma siting, standardised skin care protocols, and continuous psychosocial support (González et al., 2021; Luo et al., 2025). A key implication of this finding for evidence-based nursing practice is the necessity of structured, theory-driven interventions that address not only physiological needs but also psychological, sociocultural, and developmental dimensions. The findings demonstrated that structured educational frameworks, such as the IKAP model, are to be prioritised over routine care and this requires a shift in clinical policy. Thus, stoma care must be formalised into specific pathways rather than delivered informally (Nan et al., 2025). Furthermore, the proven efficacy of nurse-led digital follow-up systems in reducing anxiety and improving quality of life (Hao et al., 2023; Li et al., 2024) suggests that healthcare providers should integrate virtual health platforms into transitional care curricula. To bridge the gap between hospital and home, nursing practice must prioritise the early identification of self-efficacy deficits and peristomal complications using validated assessment tools.

However, the review also exposes persistent gaps, including limited access to specialist nurses, variability in training, and systemic barriers in emergency and resource-constrained settings. The predominance of quantitative studies and geographic concentration in Asia and Europe suggests the need for broader, more inclusive research that incorporates qualitative insights and diverse healthcare contexts. Addressing these gaps will require investment in nursing education, the development of standardised guidelines, and the integration of digital health solutions to extend care beyond hospital walls.

In summary, the findings of this systematic literature review highlight the centrality of nursing in optimising stoma care outcomes and advocate for the adoption of holistic, evidence-based models in clinical practice. These insights should inform policy, curriculum development, and future research, ultimately advancing the quality and equity of care for individuals living with a stoma.

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## Appendix 1: Summary of Reviewed Studies

Author/Year	Country/Context	Sector	Nursing Team	Method	Sample Size	Focal Constructs	Key Findings
<b>Persson et al. (2025)</b>	Sweden Hospital Setting	Acute Care / Outpatient	Specialist Stoma Care Nurses	Quantitative (Retrospective Chart Review)	240 patients	Leakage, Peristomal Skin Complications (PSCs), Healthcare resource utilization (nurse visits).	The nurse's role is critical in providing patient- tailored education and assessing skin integrity to reduce the clinical and economic burden of complications.
<b>Wang et al. (2025)</b>	China Hospital Setting	Acute Care	Surgical/Stoma Nursing Team	Quantitative (Retrospective Cohort Study)	50 patients	Postoperative recovery, Quality of Life (QoL), Stoma complications (Ileostomy vs. Colostomy).	Nurses play a central role in blinding assessment, providing specialised stoma care (bag selection), and offering psychological counseling. Ileostomy patients showed better recovery metrics,

							highlighting the need for targeted support for colostomy patients.
<b>Yan et al. (2024)</b>	Not specified	Transitional Care (Hospital to Home)	Intervention Team (Nurse-led with virtual support)	Quantitative (Retrospective Analysis)	120 patients	Ahmadi Continuing Nursing Model (ACNM), Self-care ability, Stoma adaptation.	The ACNM, facilitated by nurses using WeChat for remote monitoring, significantly improved gastrointestinal recovery, self-care ability, and QoL while reducing complications compared to routine nursing.
<b>Indrebø et al. (2023)</b>	Norway Hospital Setting	Outpatient Follow-up	Stoma Care Nurses (SCNs) using Digital Tools	Quantitative (Longitudinal Explorative)	69 patients	Clinical Feedback Systems (CFS), Patient satisfaction, Psychosocial adjustment.	Nurse-led follow-up using CFS resulted in 96% patient satisfaction. The system helped nurses tailor consultations to address sensitive issues like sexuality and body image, improving

							adjustment to life with a stoma.
<b>Luo et al. (2025)</b>	China Hospital Setting	Acute & Post-discharge Care	Nursing Team	Quantitative (Retrospective Non-randomized)	128 patients	Hydrocolloid dressings, Continuous nursing intervention, Self-care agency (ESCA).	Combining hydrocolloid dressings with continuous nursing intervention (weekly follow-ups) significantly reduced dermatitis and infection rates (12.5% vs 32.8%) and improved self-care agency compared to standard care.
<b>Matsubara &amp; Hirohata (2024)</b>	Japan	Outpatient	Wound, Ostomy, and Continence Nurses (WOCNs)	Quantitative (Cross-sectional Survey)	773 nurses	Outpatient preoperative education, WOCN role implementation.	The nurse's role includes technical education and psychosocial support, which are crucial for patient preparedness and anxiety reduction.

<b>González et al. (2021)</b>	Spain	Multi-center (148 institutions)	Specialist Stoma Care Nurses	Quantitative (Secondary Analysis of Cross-sectional study)	871 patients	Peristomal skin status (OST), Stoma siting, Quality of Life (Stoma-QoL).	Preoperative stoma siting by nurses is an independent predictor of optimal skin health. Maintaining skin integrity (DET score 0) through nursing management is strongly correlated with improved patient wellbeing.
<b>Nan et al. (2025)</b>	Not specified	Acute Care	Nursing Team	Quantitative (Retrospective, Propensity Score Matching)	188 patients	IKAP Nursing Model, Self-efficacy (SSES), Quality of Life (EORTC QOL-C30).	The Information-Knowledge-Attitude-Practice (IKAP) nursing model significantly improved patients' self-efficacy and QoL while reducing complication rates compared to routine care.

<b>Momeni Pour et al. (2023)</b>	Iran Hospital Setting	Acute Care	Nursing Team	Quantitative (Quasi-experimental)	52 elderly patients	Nursing Process-based education, Self-care knowledge, Self-care performance.	Education structured around the nursing process significantly improved self-care knowledge and performance in elderly stoma patients compared to routine training.
<b>Hao et al. (2023)</b>	Not specified	Transitional Care	Virtual Nursing Team	Quantitative (Randomised/ Experimental)	100 patients	Continuous nursing model, Virtual platforms, Self-efficacy, Anxiety.	Continuous nursing delivered via virtual platforms (WeChat, QQ) significantly increased self-efficacy and QoL scores and reduced anxiety and postoperative complications compared to routine care.
<b>Li et al. (2024)</b>	China (Zhejiang)	Home Healthcare	Internet Plus Nursing Service	Quantitative (Retrospective)	72 patients	Discharge planning, Internet Home Ostomy Care	Integrating discharge planning with an internet-based home care platform significantly reduced post-

			(Virtual & On-site)			Platform, Self-management.	discharge complications and improved self-management behaviour and patient satisfaction.
<b>Lin et al. (2024)</b>	China	Acute & Transitional Care	Nurse-led Discharge Team	Quantitative (Randomised Controlled Trial)	160 patients	Nurse-led discharge planning, Readiness for discharge, Readmissions.	Nurse-led discharge planning significantly improved readiness for discharge, stoma self-efficacy, and QoL, and reduced unplanned readmissions, though it did not shorten hospital length of stay.

## Appendix 2: Per-Theme Evidence Synthesis

<b>Theme 1: Prevention and Management of Stoma-Related Complications</b>			
<b>Subtheme</b>	<b>Main Finding/Insight</b>	<b>Representative Evidence</b>	<b>Supporting Studies</b>
Preoperative stoma siting	Reduces risk of peristomal skin complications and leakage.	Preoperative stoma marking by nurses is an independent predictor of optimal skin health and fewer complications.	González et al. (2021)
Technical interventions	Hydrocolloid dressings and structured protocols lower complication rates	Use of hydrocolloid dressings and the use of zinc oxide with abdominal belts were shown to reduce complication rates, including dermatitis and herniation, compared to standard nursing care.	Luo et al. (2025); Yan et al. (2024)
Continuous assessment	Ongoing nurse monitoring prevents and manages complications	Repeated nurse assessments and timely interventions reduce leakage and peristomal skin complications.	Persson et al. (2025)

<b>Theme 2: Patient Education and Self-Management</b>			
<b>Subtheme</b>	<b>Main Finding/Insight</b>	<b>Representative Evidence</b>	<b>Supporting Studies</b>
Structured education	Individualized, needs-based education using validated tools led to better self-care and adaptation.	The implementation of the Information-Knowledge-Attitude-Practice (IKAP) model and nursing process-based education resulted in statistically significant improvements in self-efficacy and self-care knowledge, particularly in elderly populations.	Momeni Pour et al. (2023); Nan et al. (2025)
Preoperative education	Early education and preparation reduces anxiety and improves readiness.	Pre-op education by WOC nurses reduced anxiety and facilitated earlier self-care initiation.	Matsubara & Hirohata (2024)
Digital/virtual education	Enhances self-efficacy and QOL	Virtual platforms (WeChat, QQ) for education and follow-up improved self-efficacy, QOL, and reduced anxiety.	Hao et al. (2023); Li et al. (2024)

**Theme 3: Psychosocial and Emotional Support**

<b>Subtheme</b>	<b>Main Finding/Insight</b>	<b>Representative Evidence</b>	<b>Supporting Studies</b>
Psychological support	Nurses act as counselors to mitigate anxiety and support acceptance of the altered body image.	Continuous and virtual nursing interventions were effective in significantly lowering state and trait anxiety levels and improving mental health scores compared to routine care.	Hao et al. (2023); Li et al. (2024); Wang et al. (2025)
Individualised and Holistic Quality of Life (QoL)	Tailored interventions addressing specific needs (e.g., sexuality, social life) correlate with higher QoL	The use of patient-reported outcome measures allowed nurses to identify and address underreported issues such as sexuality, leading to improvements in daily functioning and overall quality of life.	Indrebø et al. (2023); Lin et al. (2024); Yan et al. (2024)

**Theme 4: Transitional and Long-Term Care**

<b>Subtheme</b>	<b>Main Finding/Insight</b>	<b>Representative Evidence</b>	<b>Supporting Studies</b>
Discharge planning	Structured nurse-led discharge and follow-up improve readiness and reduce readmissions	Nurse-led discharge planning significantly improved patients' readiness for hospital discharge and reduced unplanned readmissions, while clinical feedback systems ensured high patient satisfaction during follow-up.	Lin et al. (2024); Indrebø et al. (2023); Li et al. (2024)
Continuous follow-up	Ongoing support bridges hospital-to-home transition	Continuous nursing models utilising platforms like WeChat, QQ, and internet home care apps allowed for real-time symptom monitoring and consultation, leading to reduced anxiety and complications.	Hao et al. (2023); Li et al. (2024); Yan et al. (2024)
Multidisciplinary collaboration	Enhances holistic care and patient satisfaction	Collaboration among nurses, physicians, and family provided comprehensive support and improved satisfaction.	Matsubara & Hirohata (2024); Indrebø et al. (2023)

<b>Theme 5: Quality of Life and Self-Efficacy Outcomes</b>			
<b>Subtheme</b>	<b>Main Finding/Insight</b>	<b>Representative Evidence</b>	<b>Supporting Studies</b>
Self-efficacy improvement	Structured interventions boost self-efficacy	IKAP and continuous nursing models led to higher self-efficacy scores post-intervention.	Nan et al. (2025); Hao et al. (2023)
QOL improvement	Nursing interventions consistently enhance QOL	Patients receiving structured nursing care reported better QOL and satisfaction.	Indrebø et al. (2023); Wang et al. (2025)
Complication reduction	Lower complication rates linked to improved QOL	Reduced complications through nursing interventions directly correlated with higher QOL scores.	Luo et al. (2025); Yan et al. (2024)