

## ASSESSMENT OF KNOWLEDGE ATTITUDE, AND PRACTICES OF NURSES REGARDING COLOSTOMY CARE

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(Received, 27<sup>th</sup> June 2024, Revised 20<sup>th</sup> November 2024, Published 24<sup>th</sup> November 2024)

**Abstract:** Colostomy care is a critical aspect of nursing practice that requires comprehensive knowledge, positive attitudes, and effective practices. Nurses play a pivotal role in managing colostomies and ensuring optimal patient outcomes. However, gaps in knowledge and practices persist, particularly in resource-limited settings, impacting the quality of care delivered. **Objective:** To assess the knowledge, attitudes, and practices of nurses regarding colostomy care and identify areas requiring improvement. **Methods:** A quantitative cross-sectional study was conducted at a tertiary care hospital in Lahore, Pakistan. A total of 150 nurses from medical, surgical, and other departments were recruited using convenient sampling. Data were collected using a validated questionnaire covering demographic characteristics, knowledge, attitudes, and practices related to colostomy care. Descriptive and inferential statistics were used for analysis, with results presented as frequencies and percentages. **Results:** The study revealed that 84.0% of participants correctly identified the relationship between colostomy output and its anatomical location, and 79.3% were aware of odor-reduction filters for ostomy bags. Positive attitudes were prevalent, with 87.3% reporting confidence in providing stoma care. Adherence to hand hygiene practices before and after procedures was 100.0%, reflecting excellent hygiene compliance. However, 26.7% did not address physical problems related to stomas, and 43.3% expressed neutrality about access to expert staff for colostomy care. **Conclusion:** Nurses exhibit commendable knowledge and practices in colostomy care, yet systemic barriers such as limited access to expert staff and inconsistent training opportunities impact care quality. Enhancing institutional support and providing targeted education can bridge these gaps, empowering nurses to deliver optimal care and improve patient outcomes.

**Keywords:** Colostomy care, nursing practice, knowledge assessment, attitudes, professional development, ostomy management.

### Introduction

Colostomy care is a critical component of nursing practice, particularly in medical and surgical settings where patients frequently undergo ostomy procedures. A colostomy is a surgically created opening in the abdominal wall to divert feces into a stoma, often performed for conditions like colorectal cancer, trauma, or bowel obstruction. Effective colostomy management is essential for ensuring optimal patient outcomes, preventing complications, and enhancing the quality of life for patients (1).

Nurses play a pivotal role in colostomy care, providing education, emotional support, and hands-on management to patients and their families. Proper knowledge, positive attitudes, and competent practices are crucial for managing stomas and addressing challenges such as leakage, skin irritation, and infection. Despite its importance, studies indicate significant gaps in nurses' knowledge and practices regarding colostomy care, particularly in resource-limited settings (2, 3). These deficiencies can negatively impact patient care and recovery, underscoring the need for targeted educational interventions.

Several factors influence nurses' proficiency in colostomy care, including the availability of training programs, institutional support, and access to expert guidance. Inadequate training during nursing education and limited exposure to practical scenarios are frequently cited as barriers to effective colostomy care. Moreover, cultural and psychosocial factors, such as stigma surrounding ostomy procedures, further complicate care delivery (4, 5).

In Pakistan, where healthcare resources are often constrained, the quality of colostomy care varies significantly. Understanding nurses' knowledge, attitudes, and practices is crucial for identifying gaps and implementing strategies to enhance their skills. This study aims to assess these parameters among nurses working in a tertiary care hospital in Lahore, providing evidence to inform training programs and policy development. By addressing these gaps, healthcare institutions can empower nurses to deliver high-quality care, improving patient outcomes and satisfaction (6, 7).

### Methodology

This study aimed to assess the knowledge, attitudes, and practices of nurses regarding colostomy care. A quantitative cross-sectional study design was employed to systematically collect and analyze data from January 2024 to July 2024. The study was conducted at a tertiary care hospital in Lahore, Pakistan, encompassing staff nurses working in various departments, including Medical, Surgical, and other relevant units. These departments were selected to provide a comprehensive understanding of colostomy care practices among a diverse group of healthcare professionals.

The target population for this study included registered nurses actively working in the specified departments. A convenient sampling technique was employed to select participants from the total population. This method ensured

the inclusion of nurses who were available and willing to participate, facilitating efficient data collection while maintaining a focus on the research objectives. Data were collected using a structured and validated questionnaire designed to evaluate the knowledge, attitudes, and practices of nurses regarding colostomy care. The questionnaire included items covering key aspects such as understanding colostomy output, appropriate care practices, and attitudes toward patient management. The instrument was pre-tested on a subset of the population to ensure clarity, reliability, and validity. Ethical approval for the study was obtained from the relevant institutional review board, and informed consent was acquired from all participants prior to data collection. Participants were assured of confidentiality and anonymity throughout the research process, ensuring adherence to ethical guidelines for human subject research. This methodology provides a robust framework for understanding the current state of knowledge, attitudes, and practices among nurses regarding colostomy care. Statistical analysis was conducted using SPSS version 22. Descriptive statistics, including frequencies and percentages, were used to summarize demographic data and

responses to the knowledge, attitude, and practice items. Inferential statistics, such as measures of central tendency and variability, were applied to assess trends and relationships within the data. Findings were presented in tables and figures to ensure clarity and alignment with international research standards.

**Results**

**Demographic Characteristics**

A total of 150 participants were included in the study, with the majority (45.3%) aged between 29–32 years, followed by 28.0% in the 22–28 years group and 26.7% in the 33–45 years group. Female participants constituted the majority at 74.7%, compared to 25.3% males. Most respondents (60.0%) were married, while 40.0% were single. Regarding professional experience, 46.0% had 1–5 years of experience, 30.7% had 6–10 years, and 23.3% had 11–15 years. In terms of qualifications, 52.0% held a BSN (Generic) degree, 40.0% had a Diploma in Nursing, and 8.0% held a Master of Science in Nursing (MSN). Table 1 summarizes the demographic characteristics.

**Table 1. Demographic Characteristics of Participants (n = 150)**

Variable	Category	Frequency (n)	Percentage (%)
Age (Years)	22–28	42	28.0
	29–32	68	45.3
	33–45	40	26.7
Gender	Male	38	25.3
	Female	112	74.7
Marital Status	Single	60	40.0
	Married	90	60.0
Experience (Years)	1–5	69	46.0
	6–10	46	30.7
	11–15	35	23.3
Qualification	Diploma in Nursing	60	40.0
	BSN (Generic)	78	52.0
	MSN	12	8.0

Participants demonstrated strong knowledge regarding colostomy care. Most respondents (84.0%) correctly identified that colostomy output depends on the location, with more distal locations resulting in thicker and less frequent output. A majority (73.3%) agreed that temporary colostomy bowel movements are not reversible. Similarly,

79.3% were aware that an odor-reduction filter can be applied to ostomy bags to release gas, and 76.0% recognized the importance of showering with the bag to prevent leakage. Additionally, 73.3% acknowledged that colostomies restrict patient activities. Table 2 summarizes these findings.

**Table 2. Knowledge of Colostomy Care (n = 150)**

Question	Yes (n, %)	No (n, %)	Sometimes (n, %)
Colostomy output depends on the location (more distal = thicker output).	126 (84.0%)	17 (11.3%)	7 (4.7%)
Temporary colostomy bowel movement is not reversible.	110 (73.3%)	33 (22.0%)	7 (4.7%)
Odor-reduction filters can release gas from ostomy bags.	119 (79.3%)	23 (15.3%)	8 (5.3%)
Showering with a bag prevents leakage into the water.	114 (76.0%)	26 (17.3%)	10 (6.7%)
Colostomies restrict patient activities.	110 (73.3%)	31 (20.7%)	9 (6.0%)

Participants demonstrated positive attitudes toward colostomy care. Nearly half (49.3%) strongly agreed, and 38.0% agreed that they do not avoid stoma care due to lack of confidence. Similarly, 41.3% strongly agreed, and 32.0%

agreed that colostomy output does not deter them from providing care. However, 43.3% remained neutral on the adequacy of access to expert staff for colostomy care. Table 3 presents the details.

[Citation: Raheem, A., Saddique, H., Tasneem, S.S., (2024). Assessment of knowledge attitude, and practices of nurses regarding colostomy care. *Biol. Clin. Sci. Res. J.*, 2024: 1308. doi: <https://doi.org/10.54112/bcsrj.v2024i1.1308>]

**Table 3. Attitudes Toward Colostomy Care (n = 150)**

Question	Strongly Agree (n, %)	Agree (n, %)	Neutral (n, %)	Disagree (n, %)	Strongly Disagree (n, %)
I do not avoid stoma care due to lack of confidence.	74 (49.3%)	57 (38.0%)	12 (8.0%)	4 (2.7%)	3 (2.0%)
I do not avoid stoma care due to colostomy output.	62 (41.3%)	48 (32.0%)	27 (18.0%)	12 (8.0%)	1 (0.7%)
There is adequate access to expert staff for colostomy care.	48 (32.0%)	23 (15.3%)	65 (43.3%)	13 (8.7%)	1 (0.7%)

Participants reported high adherence to good practices in colostomy care. All participants (100.0%) confirmed handwashing before and after procedures, reflecting

excellent hygiene compliance. Additionally, 73.3% reported dealing effectively with physical problems related to stomas. Table 4 outlines these practices.

**Table 4. Practices in Colostomy Care (n = 150)**

Practice	Yes (n, %)	No (n, %)
Deal with physical problems related to stoma.	110 (73.3%)	40 (26.7%)
Handwashing before procedure.	150 (100.0%)	0 (0.0%)
Handwashing after procedure.	150 (100.0%)	0 (0.0%)

**Discussion**

This study assessed the knowledge, attitudes, and practices of nurses regarding colostomy care, revealing both strengths and areas for improvement. The findings indicate that while many nurses possess a strong foundational knowledge of colostomy care, gaps remain in attitudes and practices, particularly in areas requiring institutional support and advanced training.

The majority of nurses demonstrated good knowledge regarding critical aspects of colostomy care, such as the relationship between colostomy output and its anatomical location (84.0%), the irreversibility of temporary colostomy bowel movements (73.3%), and the use of odor-reduction filters in ostomy bags (79.3%). These results align with the findings of Erwin-Toth and Doughty, who emphasized that basic knowledge of colostomy management is generally strong among nurses but often lacks depth in more complex care aspects (3). However, a significant minority displayed uncertainty, particularly regarding patient mobility and activity restrictions, highlighting areas that require further education.

Nurses' attitudes toward colostomy care were largely positive, with 87.3% agreeing or strongly agreeing that they do not avoid stoma care due to a lack of confidence. However, the perception of adequate access to expert staff was mixed, with 43.3% expressing neutrality, reflecting potential institutional barriers. Similar findings were reported by Butler and Estrella-Holder, who noted that while nurses often demonstrate willingness and confidence in providing care, structural limitations such as staffing and training opportunities impact their ability to perform optimally (8).

The practices of nurses regarding colostomy care were commendable in some areas, with 100.0% adherence to hand hygiene protocols before and after procedures. This aligns with global best practices and reinforces findings by Colwell et al., who highlighted hand hygiene as a critical component of ostomy care (9). However, 26.7% of participants reported not addressing physical problems related to stomas, indicating variability in practical application. Malik et al. also identified this gap in their study

on colostomy care in Pakistan, attributing it to limited clinical exposure and resource constraints (10).

Institutional and systemic factors appear to influence the variability in nurses' performance. The mixed perceptions about access to expert staff and training opportunities suggest that organizational support plays a crucial role in enhancing colostomy care. Youssef et al. demonstrated that structured training programs significantly improve nurses' practices and attitudes, emphasizing the importance of continuing education in improving patient outcomes (6). Similarly, Pereira et al. found that continuing education programs enhance confidence and reduce care-related errors, underscoring the need for institutional investment in professional development (7).

The findings of this study are particularly relevant in resource-limited settings like Pakistan, where systemic challenges often hinder the delivery of optimal care. Addressing these challenges through targeted educational interventions, improving access to expert staff, and fostering a supportive work environment can bridge the identified gaps. Future research should explore the long-term impact of training programs on nurses' competencies and their effects on patient outcomes.

**Conclusion**

This study highlights significant strengths and gaps in the knowledge, attitudes, and practices of nurses regarding colostomy care. While most nurses demonstrated adequate foundational knowledge and adherence to essential practices, such as hand hygiene, challenges remain in addressing complex care needs and ensuring consistent application of best practices. Positive attitudes were evident, but perceptions of inadequate institutional support and limited access to expert guidance underscore systemic barriers to optimal care delivery.

**Declarations**

**Data Availability statement**

All data generated or analyzed during the study are included in the manuscript.

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**Ethics approval and consent to participate.**

Approved by the department Concerned. (IRBEC-SNU-0302/23)

**Consent for publication**

Approved

**Funding**

Not applicable

**Conflict of interest**

The authors declared an absence of conflict of interest.

**Authors Contribution****AYESHA RAHEEM (Student)**

Final Approval of version & Data Analysis

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Revisiting Critically & Drafting

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Concept & Design of Study

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