

Original Research Article

KNOWLEDGE, ATTITUDE, AND PRACTICE REGARDING COLOSTOMY CARE AMONG NURSES AT A TERTIARY LEVEL HOSPITAL IN JHAPA, NEPAL: A CROSS SECTIONAL STUDY

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ABSTRACT

Background

Colostomy care is essential for preventing complications and improving the quality of life of patients with intestinal stomas. Nurses play a key role in providing this care; however, gaps in knowledge, clinical skills & attitude may affect patient outcomes.

Objectives

To assess the knowledge, attitude, and practice (KAP) of nurses regarding colostomy care in two hospitals of Eastern Nepal.

Methods

A descriptive cross-sectional study was conducted among 116 registered nurses selected through convenience sampling. Data were collected using a structured self-administered questionnaire adapted from previously validated tools. Descriptive statistics were used to analyze the data in SPSS version 25. Ethical approval and informed consent were obtained.

Results

Most nurses demonstrated average knowledge, with 57.76% scoring within the average range and 36.21% showing good knowledge. However, item-specific performance revealed gaps in applied knowledge, especially in identifying the common type of colostomy (14.66%) and dietary management (27.59%). Practice scores showed that 52.59% had average practice, while only 28.45% demonstrated good practice. Procedural competencies Correct timing of pouch emptying (16.38%) and proper peristomal skin care (25.86%) were notably low. In contrast, attitudes were largely positive, with a mean attitude score of 42.10 ± 4.14 , and 99.13% of nurses agreed that training in colostomy care is necessary.

Conclusions

Nurses exhibited positive attitudes toward colostomy care but demonstrated only moderate knowledge and suboptimal practical skills. The discrepancy between confidence and competence highlights the need for structured, hands-on training and continuous professional development. Strengthening clinical education and skill-based workshops is recommended to enhance the quality of colostomy care and patient outcomes.

Keywords: *Colostomy care, Knowledge, Attitude, Practice, Nurses, Stoma care*



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INTRODUCTION

A colostomy is one of the most common surgical modalities for the management of the obstructive or malignant problems of the colon. It can be made at the ascending, descending, transverse, or sigmoid colon depending on the underlying problem to allow stool evacuation through an opening to the abdominal wall.

It is defined as an artificial opening in the abdominal wall created surgically to allow stools to pass outside the body, and it is the most frequent type of ostomy. Colostomies may be temporary or permanent; temporary colostomies can be reversed to restore normal bowel function, whereas permanent colostomies provide a permanent exit for stool.

Although colostomy is a lifesaving intervention, it can lead to various physical, social, and psychological challenges such as flatus odor, fecal leakage, peristomal skin problems, fatigue, anorexia, nausea, diarrhea, constipation, and pain. Nursing care plays a critical role in improving patients' quality of life by preventing complications and assisting patients with physiological and psychological adaptation. The knowledge, attitude, and practices of nurses significantly influence patient outcomes, adjustment to colostomy, and family support, which emphasizes the need for adequate training and resources for nurses to provide optimal care [1].

METHODS

A descriptive cross-sectional study was conducted among 116 registered nurses from B&C Hospital and Purbanchal Cancer Hospital to assess their knowledge, attitude, and practice regarding colostomy care. Participants were selected using convenience sampling, including nurses of clinical experience and active patient care involvement. Data were collected using a structured self-administered questionnaire adapted from validated tools, comprising sections on knowledge, attitude, and practice. Data collection occurred over four weeks, with informed consent obtained from all participants. Responses were analysed using descriptive statistics (frequencies, percentages, means, and standard deviations) in SPSS version 25.0. Ethical approval was obtained from the hospitals' Institutional Review Boards, and confidentiality and voluntary participation were maintained.

RESULTS

Respondent Profile

A total of 116 nurses participated in the study, all of

whom were female. The majority of respondents were aged 26–35 years (56.9%, n=66), followed by those aged 18–25 years (37.1%, n=43). Most nurses held a Diploma (PCL) qualification (67.2%, n=78), while 31.9% (n=37) had a Bachelor's degree. In terms of professional experience, the highest proportion had 1–3 years of experience (37.9%), followed by 4–7 years (23.3%), less than one year (19.8%), and more than seven years (19.0%). 103 nurses were from general wards, and 13 nurses were from the oncology department. Notably, 90.5% of the respondents reported no formal training in colostomy care, with only 9.5% having received such training.

Part I: Analysis of Knowledge Regarding Colostomy Care

Table 1: Distribution of Respondents by Knowledge Level (116)

Knowledge Level	Score Range	Frequency (n)	Percentage (%)
Poor	0–4	7	6.03%
Average	5–7	67	57.76%
Good	8–10	42	36.21%
Total		116	100.00%

Table1: Shows that most nurses (57.76%, n=67) demonstrated an average level of knowledge in colostomy care, scoring between 5-7. Additionally, 36.21% (n=42) scored between 8-10, demonstrating a good level of knowledge. However, 6.03% (n=7) scored between 0–4, reflecting poor/insufficient knowledge.

Table 2: Item Analysis of Knowledge Questionnaire (N=116)

Q. No.	Question	Correct Re-sponses (n)	Correct Re-sponse (%)	Item Difficulty (P)	Discrimination Quality
1	What is a colostomy?	100	86.21%	0.86	Low
2	What is the primary purpose of a colostomy?	108	93.10%	0.93	Very Low
3	What is the most common type of colostomy?	17	14.66%	0.15	Very Low
4	What is the normal color of a stoma?	69	59.48%	0.59	Good
5	What action should be taken for excessive cramping?	45	38.79%	0.39	Good
6	What is the definition of "stoma retraction"?	68	58.62%	0.59	Good
7	What action should be taken for a leaking pouch?	93	80.17%	0.80	Low
8	Which foods are most likely to cause gas?	32	27.59%	0.28	Good
9	What is the correct position for applying a new pouch?	59	50.86%	0.51	Good
10	What is a common complication of colostomy surgery?	84	72.41%	0.72	Moderate

Table 2: Item analysis of the knowledge questionnaire revealed that nurses demonstrate a strong understanding of fundamental definitions but significant gaps in applied colostomy care. High scores were observed for basic knowledge: 93.10% correctly identified the primary purpose of

a colostomy (Q2), 86.21% defined the procedure correctly (Q1), and 80.17% knew the correct initial action for a leaking pouch (Q7). In contrast, applied and technical knowledge was limited: only 14.66% identified the most common type of colostomy (Q3), 38.79% selected the correct first action for excessive cramping (Q5), 50.86% knew the proper patient position for pouch application (Q9), and just 27.59% correctly recognized foods likely to cause gas (Q8)

Part II: Analysis of Self-Reported Practices in Colostomy Care

Table 3: Distribution of Respondents by Practice Level (N=116)

Practice Level	Score Range	Frequency (n)	Percentage (%)
Poor	0-4	22	18.97%
Average	5-7	61	52.59%
Good	8-10	33	28.45%

Table 3: Practice scores showed that the majority of nurses (52.59%) demonstrated an average level of colostomy care practice. A smaller proportion (28.45%) achieved a good level of practice, while 18.97% showed poor practice performance.

Table 4: Item Analysis of Practice Questionnaire (N=116)

Q. No.	Question (Practice Item)	Correct Re-sponses (n)	Correct Re-sponse (%)	Item Diffi-culty (P)	Dis-crimination Quality
1	When should the colostomy pouch be emptied?	19	16.38%	0.16	Very Low
2	How should the peristomal skin be cleaned?	30	25.86%	0.26	Very Low
3	What is the correct position to empty the pouch?	20	17.24%	0.17	Very Low
4	What is important to monitor in colostomy patients?	102	87.93%	0.88	Very Low
5	What is the appropriate action if the stoma turns swollen or blue?	90	77.59%	0.78	Low
6	What should be done first in case of stoma blockage?	56	48.28%	0.48	Good
7	What is the most important factor when selecting pouch size?	88	75.86%	0.76	Low
8	What should be done if the pouch detaches due to sweating?	77	66.38%	0.66	Good
9	What is good practice when applying a new pouch?	59	50.86%	0.51	Good
10	How should a used pouch be disposed of?	73	62.93%	0.63	Good

Table 4: The item analysis of practice demonstrates clear disparities between assessment and procedural skills. A total of 87.93% of nurses correctly monitored stoma appearance (Q4), and 77.59% responded appropriately to a discolored stoma (Q5).

However, only 16.38% correctly identified when to empty the pouch (Q1), 25.86% used the correct peristomal skin-cleaning method (Q2), and 17.24% applied the correct position for pouch emptying (Q3). Additionally, only 48.28% managed initial stoma blockage appropriately (Q6) and 50.86% followed recommended practice when applying a new pouch (Q9). These numerical patterns indicate that while observational and emergency recognition skills score above 75% accuracy, routine procedural skills remain below 50%.

Part III: Assessment of Attitudes Towards Colostomy Care (N=116)

Table 5: Distribution of Respondents Attitudes Towards Colostomy Care (N=116)

Variable	Mean	Median	Std. Devia-tion (SD)	Mini-mum Score	Maxi-mum Score
Attitude Score (out of 50)	42.10	43.00	4.14	33	50

Table 5: The attitude scores were generally positive, with a mean of **42.10** and median of **43** out of 50. The **standard deviation was 4.14**, indicating moderate variability, and scores ranged from **33 to 50**, showing that all participants demonstrated a positive attitude toward colostomy care.

Table 6: Nurses' Attitudes Toward Colostomy Care: Item-Level Analysis (n=116)

State-ment No.	Item (Abbreviated)	SA + A (%)	D + SD (%)	Neutral/Other (%)
S1	Feel comfortable?	93.10%	0.00%	6.90%
S2	Provide care frequently?	62.50%	14.29%	23.22%
S3	Maintain dignity	97.42%	0.86%	0.72%
S4	Open to learn more	93.91%	0.00%	6.95%
S5	Avoid care (lack confidence)	8.62%	80.18%	11.21%
S6	Treat with compassion	96.52%	0.87%	2.61%
S7	Responsible for compli-cations	96.56%	0.86%	2.59%
S8	Listen to emotional concerns	89.66%	0.72%	8.62%
S9	Education was adequate	13.63%	78.18%	8.18%
S10	Training is necessary	99.13%	0.00%	0.86%

Table 6: Shows that nurses demonstrated high empathy and professionalism, with SA+A responses ranging from 89.66% to 99.13% for items on dignity, compassion, accountability, and willingness to learn (S3, S4, S6, S7, S8, S10). In contrast, only 13.63% felt their education was adequate (S9), and just 8.62% reported avoiding care due to lack of confidence

(S5), highlighting an educational gap despite high self-reported confidence.

DISCUSSION

The reviewed literature demonstrates that nurses' knowledge regarding colostomy care remains inconsistent across different healthcare settings. Studies conducted in Ethiopia, Iran, Turkey, Brazil, Ireland, and the United Kingdom reported varying levels of knowledge, with deficiencies commonly observed in complication management, psychosocial care, and postoperative stoma assessment [2–7]. Educational level, years of experience, participation in scientific meetings, and previous ostomy-care training were identified as significant predictors of better knowledge [4,5]. Similarly, the present study found a moderate level of knowledge among nurses, with 57.76% demonstrating adequate knowledge and 42.24% showing inadequate knowledge. Although nurses were generally aware of routine stoma care procedures, gaps existed in specialized areas such as stoma assessment, complication recognition, and dietary management. These findings support previous evidence suggesting that continuous professional education and structured training programs are essential for strengthening nurses' knowledge and clinical competence in colostomy care [2,6,7].

Studies examining nurses' attitudes toward colostomy care generally reported favorable perceptions and recognition of the importance of ostomy care in improving patients' quality of life [8–14]. However, positive attitudes were often accompanied by concerns regarding insufficient training, lack of confidence, and uncertainty about professional responsibilities [8–10]. Consistent with these findings, the present study revealed predominantly positive attitudes, with 84% of nurses expressing empathy, dignity, and willingness to learn. Nevertheless, approximately 16% demonstrated negative perceptions toward colostomy care. Previous studies have shown that participation in educational programs, scientific meetings, and access to clinical guidelines significantly enhance nurses' attitudes and confidence levels [9,10,12]. The findings suggest that while nurses appreciate the importance of colostomy care, ongoing educational support remains necessary to sustain positive professional attitudes and improve confidence in practice.

The literature further indicates a persistent gap between nurses' theoretical knowledge and practical implementation of colostomy care. Studies from Portugal, Ethiopia, China, Saudi Arabia, and the United States found that practical performance

was frequently hindered by inadequate resources, staffing shortages, workload pressures, and limited access to specialist support [15–20]. Qualitative studies additionally identified organizational barriers, insufficient training opportunities, and resource constraints as major factors affecting quality care delivery [13,14]. In the present study, 52.59% of nurses demonstrated average practice levels, while only 28.45% achieved good practice scores. Although many nurses reported performing routine stoma care procedures, deficiencies were observed in evidence-based practices such as complication monitoring, peristomal skin assessment, and systematic patient education. These findings align with previous reports indicating that nurses often possess theoretical knowledge but encounter challenges translating that knowledge into consistent clinical practice due to institutional and environmental barriers [15–20]. Overall, the reviewed literature consistently demonstrates that structured educational interventions significantly improve nurses' knowledge, attitudes, and practices related to colostomy care [21–26]. Quasi-experimental studies reported improvements ranging from 35% to 45% in knowledge, practical skills, and attitude scores following educational programs, video-assisted teaching, and hands-on training sessions [6,21–24]. Suggesting that positive attitudes alone do not guarantee optimal clinical performance. This observation supports previous evidence emphasizing that competency development requires not only favorable attitudes but also adequate knowledge, continuous training, clinical supervision, and organizational support [13,20].

CONCLUSIONS

Based on the findings, nurses demonstrated a moderate level of knowledge and a generally positive attitude toward colostomy care; however, but their practical skills remain suboptimal. While most nurses understand the theoretical aspects of colostomy management, gaps were evident in translating knowledge into practice, particularly regarding dietary guidance, stoma complication management, and patient education. The study emphasizes the need for structured educational programs, hands-on training, and continuous professional development to enhance nurses' competence and confidence in colostomy care.

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