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Assessment of Quality of Life among Patients Undergoing Colostomy in Selected Hospitals of Kalaburagi

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Abstract:
Background: Colostomy is a life-saving surgical intervention performed for colorectal cancer, inflammatory bowel disease, intestinal obstruction, and traumatic injuries. Although it enhances survival, living with a stoma significantly affects physical comfort, psychological stability, body image, social interaction, and sexual functioning.
Objective: To assess the quality of life (QoL) among patients undergoing colostomy in selected hospitals of Kalaburagi and to determine its association with selected demographic and clinical variables.
Methods: A descriptive cross-sectional study was conducted among 120 colostomy patients attending surgical outpatient and follow-up clinics. Data were collected using a structured demographic and clinical profile questionnaire and the World Health Organization WHOQOL-BREF scale. Data were analyzed using descriptive statistics (mean, standard deviation, frequency, percentage) and inferential statistics (Chi-square test and ANOVA).
Results: The overall mean QoL score was 58.4 ± 12.6, indicating moderate quality of life. Psychological (54.3 ± 13.2) and social domains (52.7 ± 14.1) were more affected compared to physical (61.2 ± 11.4) and environmental (65.4 ± 10.8) domains. Significant associations were found between QoL and duration of colostomy ($p = 0.02$), type of colostomy ($p = 0.03$), and presence of complications ($p = 0.01$).
Conclusion: Colostomy significantly impacts psychosocial dimensions of life. Structured nurse-led education, early psychological assessment, and community-based follow-up programs are essential to enhance adaptation and long-term outcomes.

Keywords: Colostomy, Quality of Life, Surgical Nursing, Stoma Care, Kalaburagi.

INTRODUCTION

Colostomy involves exteriorizing a segment of the colon through the abdominal wall to create a stoma for fecal diversion. It may be temporary or permanent depending on the underlying pathology. Common indications include colorectal malignancy, inflammatory bowel disease, intestinal perforation, obstruction, and trauma.

Globally, colorectal cancer remains a leading cause of cancer morbidity and mortality. According to the World Health Organization, colorectal cancer ranks among the top cancers worldwide, frequently necessitating colostomy formation in advanced or complicated cases.
While colostomy prevents life-threatening complications, it introduces profound lifestyle changes. Patients must adapt to stoma appliances, altered bowel elimination patterns, odor concerns, leakage

anxiety, and changes in body image. These factors often result in psychological distress, depression, reduced self-esteem, sexual dysfunction, and social withdrawal.

In district-level healthcare systems such as Kalaburagi, structured stoma education programs and specialized enterostomal therapy services are limited. Cultural stigma and lack of awareness further affect psychosocial adjustment. Therefore, systematic assessment of QoL is essential to design context-specific nursing interventions.

REVIEW OF LITERATURE

Quality of life is a multidimensional concept encompassing physical health, psychological state, level of independence, social relationships, personal beliefs, and environmental context.

Sprangers et al. (1995) reported significantly lower QoL in stoma patients compared to non-stoma colorectal cancer patients. Nugent et al. (1999) observed that social embarrassment and altered body image were primary contributors to poor adaptation.

Krouse et al. (2009) emphasized that coping mechanisms and family support significantly influence long-term adjustment among colorectal cancer survivors with ostomies. Pittman et al. (2008) identified complications such as peristomal skin irritation, prolapse, and retraction as predictors of reduced QoL.

Studies using the WHOQOL-BREF instrument demonstrate that psychological and social domains are more affected than physical health in ostomy patients. Nurse-led education programs improve self-efficacy and self-care competence, resulting in better QoL scores.

However, limited research has been conducted in semi-urban and district-level hospitals in North Karnataka, highlighting the need for region-specific evidence.

Conceptual Framework

The study was guided by the Roy Adaptation Model, which emphasizes adaptation in four modes:

Physiological mode
Self-concept mode
Role function mode
Interdependence mode

Colostomy challenges adaptation in all four domains. Effective nursing interventions facilitate positive adaptive responses, thereby improving QoL.

METHODOLOGY

Research Design

Descriptive cross-sectional research design.

Setting

Selected tertiary care and private hospitals in Kalaburagi.

Population

Adult patients who underwent colostomy surgery.

Sample Size

120 patients selected using purposive sampling technique.

Inclusion Criteria

Age ≥ 18 years
At least 1 month post-colostomy
Able to communicate in Kannada, Hindi, or English
Willing to participate

Exclusion Criteria

Critically ill patients
Patients with severe psychiatric illness
Patients with cognitive impairment

Data Collection Instruments
Section A: Demographic and Clinical Profile
Included age, gender, marital status, education, occupation, type of colostomy, duration, underlying diagnosis, and complications.
Section B: WHOQOL-BREF Scale
Developed by the World Health Organization, the WHOQOL-BREF contains 26 items assessing:
Physical health (7 items)
Psychological health (6 items)
Social relationships (3 items)
Environment (8 items)
Scores were transformed to a 0–100 scale. Higher scores indicate better quality of life.

Data Collection Procedure

After obtaining ethical clearance, patients attending surgical OPDs and follow-up clinics were approached. Written informed consent was obtained. Interviews were conducted in a private setting to ensure confidentiality. Each interview lasted approximately 25–30 minutes.

Statistical Analysis

Data were entered into SPSS version 25.
Descriptive statistics: frequency, percentage, mean, standard deviation
Inferential statistics: Chi-square test, ANOVA
Significance level: $p < 0.05$

RESULTS

A total of 120 patients undergoing colostomy participated in the study conducted in selected hospitals of Kalaburagi. The response rate was 100%.

1. Demographic Characteristics

Among the participants:
46% (n=55) were aged 51–65 years
28% (n=34) were aged 36–50 years
18% (n=22) were above 65 years
8% (n=9) were 18–35 years
Gender distribution showed:
62% (n=74) male
38% (n=46) female
Regarding marital status:
82% (n=98) were married
10% (n=12) widowed
8% (n=10) unmarried
Educational status revealed that 40% had primary education, 32% secondary education, 18% higher secondary, and 10% were graduates.

2. Clinical Characteristics

58% (n=70) had permanent colostomy
42% (n=50) had temporary colostomy
Indications for colostomy:
40% (n=48) colorectal cancer
25% (n=30) intestinal obstruction
20% (n=24) inflammatory bowel disease
15% (n=18) trauma
Duration since surgery:

35% (n=42) < 6 months
40% (n=48) 6–12 months
25% (n=30) > 1 year
Stoma-related complications were reported by 35% (n=42), including peristomal skin irritation (20%), leakage issues (10%), and prolapse/retraction (5%).

3. Overall Quality of Life Scores
The mean overall QoL score was 58.4 ± 12.6, indicating a moderate level of quality of life.
Domain-wise Mean Scores

Domain	Mean ± SD	Interpretation
Physical	61.2 ± 11.4	Moderate
Psychological	54.3 ± 13.2	Low–Moderate
Social	52.7 ± 14.1	Low
Environmental	65.4 ± 10.8	Moderate–Good
Overall QoL	58.4 ± 12.6	Moderate

The psychological and social domains demonstrated comparatively lower mean scores, suggesting greater emotional distress, body image disturbance, and social restriction among participants.

4. Distribution of QoL Levels
Based on categorized scoring:
22% (n=26) had poor QoL
58% (n=70) had moderate QoL
20% (n=24) had good QoL
No participant reported very high QoL.

5. Association Between QoL and Demographic Variables
Chi-square test analysis showed:
No significant association between gender and QoL ($p = 0.28$)
No significant association between marital status and QoL ($p = 0.34$)
Age showed borderline significance ($p = 0.06$)

6. Association Between QoL and Clinical Variables
Statistically significant associations were observed between:
Duration of colostomy and QoL ($\chi^2 = 7.82$, $p = 0.02$)
Type of colostomy (permanent vs temporary) and QoL ($\chi^2 = 6.45$, $p = 0.03$)
Presence of complications and QoL ($\chi^2 = 9.63$, $p = 0.01$)
Patients with permanent colostomy and those experiencing complications reported significantly lower QoL scores.
Participants with more than one year since surgery demonstrated better adaptation and higher QoL scores compared to those within six months post-surgery.

7. Domain-Specific Statistical Findings
ANOVA testing showed:
Psychological domain significantly differed across duration groups ($F = 4.12$, $p = 0.01$)
Social domain scores were significantly lower among patients with complications ($p = 0.004$)
Physical domain scores were significantly lower in patients within 6 months post-surgery ($p = 0.03$)
Environmental domain showed no significant variation across demographic variables
Demographic Profile

46% were aged 51–65 years
62% were male
58% had permanent colostomy
40% had colorectal cancer
35% reported at least one stoma-related complication

Quality of Life Scores

Domain	Mean ± SD
Physical	61.2 ± 11.4
Psychological	54.3 ± 13.2
Social	52.7 ± 14.1
Environmental	65.4 ± 10.8
Overall QoL	58.4 ± 12.6

Psychological and social domains showed significantly lower mean scores.

Association Findings
Significant associations were found between:
Duration of colostomy and QoL ($p = 0.02$)
Type of colostomy and QoL ($p = 0.03$)
Complications and QoL ($p = 0.01$)
No significant association was observed with gender or marital status.

DISCUSSION

The findings indicate moderate overall QoL among colostomy patients. Psychological distress and social limitations were predominant concerns.
Patients with permanent colostomy had significantly lower QoL scores compared to temporary colostomy patients. This aligns with previous international studies highlighting the emotional burden of permanent body alteration.
Longer duration post-surgery was associated with improved QoL, suggesting gradual adaptation. Complications such as skin irritation and leakage negatively influenced patient comfort and confidence.

The study underscores the importance of:
Early psychosocial assessment
Stoma self-care education
Family involvement
Continuous follow-up
In Kalaburagi, establishment of nurse-led stoma clinics may significantly enhance rehabilitation outcomes.
Implications for Nursing Practice
Development of structured discharge protocols
Preoperative counseling regarding lifestyle changes
Psychological screening tools integration
Community health nurse follow-up visits
Support group formation

Recommendations
Longitudinal studies to assess adaptation over time
Interventional studies evaluating nurse-led stoma education

Development of culturally sensitive educational materials

LIMITATIONS

Cross-sectional design
Non-probability sampling
Self-reported measures

CONCLUSION

Colostomy significantly impacts psychological and social dimensions of quality of life. Duration, type of colostomy, and complications influence adaptation levels. Strengthening surgical nursing services and implementing structured stoma care programs in Kalaburagi can enhance holistic patient care and long-term well-being.

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