Quality of Life and Self Efficacy of Patients with Permanent Colostomy

Ghada Shalaby Hasnin Hasan[(1)], Manal Hussien Nasr[(2)], Yosreah Mohamed Mohamed[(3)]
[(1)] Nursing Instructor at Bahtim Female Nursing School-Assiut University
[(2)] Professor of Medical Surgical Nursing.
[(3)] Assistant Professor of Medical Surgical Nursing.Faculty of Nursing, Ain Shams University

Abstract

Background: Colostomy means an artificial opening of the colon onto the abdominal surface. It may originate from: The sigmoid colon, the descending colon, the transverse colon or the ascending colon. The colostomy need care so that the patients can determine self-care to prevent complications. **Aim:** This study aimed to assess quality of life and self-efficacy of patients with permanent colostomy. **Research Design** A descriptive exploratory design was used in this study. **Setting:** The present study was conducted in the outpatient surgical clinic of El-Demerdash Surgical Hospital with a capacity of beds (27 beds), which is affiliated with Ain Shams University. The hospital's affiliation with the university ensures continuous advancements in medical education and research, contributing to the development of innovative surgical techniques and treatments. It was a teaching hospital equipped with 497 beds. **Tools**: Three tools were used **Tool I.** Patients` interviewing questionnaire, **Tool II.** The Stoma Quality of Life (S-QoL) and **Tool III.** Stoma Self-Efficacy Scale. **Results:** there was highly statistically significant positive correlation between total level of quality of life and total level of self-efficacy among the studied patients.at p. value <0. 001. **Conclusion:** Nearly two thirds of studied patients have low total QOL moreover, and more than half of them had low total self-efficacy. **Recommendations**: Provide ongoing education and support to patients and their caregivers on stoma care, coping strategies, dietary adjustments, and managing psychosocial challenges associated with living with a colostomy.

Keywords: Permanent colostomy, Quality of life, Self-efficacy.

Introduction

A colostomy is a surgical procedure that involves diverting a portion of the large intestine (colon) to a small opening on the surface of the abdomen to facilitate waste elimination. This is achieved by cutting the colon and creating a small opening known as a stoma on the abdominal surface. Waste is directed to the colostomy through a collecting device called a colostomy bag. Colostomy is typically performed when there is a need to bypass a specific portion of the colon due to health issues such as cancerous tumors, colon bleeding, or chronic intestinal inflammations **(Abdelkader et al., 2023).**

Quality of life (QOL) refers to an individual's overall well-being and satisfaction with various aspects of their life, including physical health, mental and emotional well-being, social relationships, and overall life satisfaction. It encompasses subjective perceptions and objective conditions, reflecting both the individual's internal experiences and external circumstances**.** Research has demonstrated that living with a stoma significantly affects not only physical, social and psychological but also religious aspects of lifestyle **(WHO, 2022).**

Quality of life for patients with a colostomy can vary significantly depending on various factors such as their overall health, adjustment to the colostomy, and access to support and resources. Research indicates that many individuals with colostomies can lead fulfilling lives and adapt well to their new circumstances. However, challenges related to body image, social interactions, and self-care may impact their quality of life **(Grant et al., 2020).** Permanent colostomy may impair patient's QOL by adapting to their new anatomy, managing their stoma, and living in the same sociocultural environment may cause patients to exclude themselves from society and from their families. Psychosocial problems, including anxiety, depression, decreased self-confidence, changes in body image, and sexual problems, can lead to important health problems **(Koc et al., 2023).**

Self-efficacy is one's beliefs related to the production of the levels of performance abilities in the events that affect individuals'

lives. Humans' beliefs, feelings, and thoughts determine how they motivate themselves and behave. The response given and effort made when confronted with a problem is affected by one's level of self-efficacy **(Özden & Kılıç, 2023).** Stoma patients with high self-efficacy gain positive health behaviors and have a high level of psychosocial adaptation, quality of life [18, 19], and self-respect. In addition, there is a high correlation between self-efficacy, patient quality of life and stoma adaptation **(Yasar & Ustundag, 2021).**

Nurses play a crucial role in improving the quality of life for patients with permanent colostomies through comprehensive care, education, and support. Nursing roles encompass various aspects, including physical care, emotional support, and patient education. Patients who receive stoma care education adapt more quickly and easily to this new condition, have less anxiety and depression and have a better quality of life. Pre-rehabilitation in many aspects of surgery improves both function and quality of life moreover, introducing the ostomy appliance and its care into the preoperative period in addition to counseling and stoma education might be beneficial to accelerate adaptation **(Cinar et al., 2021).**

Nursing education should not only focus on stoma care, but also take a holistic approach for satisfying all the patients' requirements. This teaching should be approached in a holistic and organized manner to help ostomy patients gain optimal functions (including physical, psychosocial, sexual, and emotional health). This is done to minimize problems, improve patient confidence, and overcome the challenges that accompany stoma formation. To meet each patient needs, stoma care education needs to be carried out in a holistic manner with psychological and emotional support being provided and practical stoma care skills being developed **(Mohamed et al., 2022).**

Physically, nurses assist patients in managing colostomies by providing guidance on proper stoma care, including changing and emptying colostomy bags, preventing skin irritation, and managing complications such as stoma blockages or leaks. They also monitor patients for any signs of infection or other health issues related to the colostomy. Emotionally, nurses provide empathetic support and counseling to help patients cope with the psychological and emotional challenges associated with living with a colostomy. This may involve addressing body image concerns, fears of stigmatization, or feelings of loss and grief related to the changes in bodily function **(Wu & Wu, 2021).**

Significance of the study:

Globally, colorectal cancer is the third most common cancer diagnosis and the fourth most common cancer cause of death. Treatment can be grueling, with curative options including major surgery, chemotherapy, and radiotherapy **(Siegel et al., 2020)**. In Egypt, 7.8%, and 8 new cases per hundred thousand people per year complain from colon cancer **(Khaled, 2019 & Sabea, & Shaqueer, 2021).** Egypt represents the 13th level around the world of cancer incidence and 10th level in cancer mortality also in Egypt 21.8% among standardized rate per 100.000 were diagnosed with colon cancer and 13.1% cancer mortality rate **(Ferlay et al., 2018 & Sabea, & Shaqueer, 2021).**

Today, patients who are extremely suffering from colorectal cancer face physical, psychological, and social difficulties with deterioration of body image and loss of body functions. Upon stoma surgeries, patients suffer from problems such as changes in excretion habits, involuntary farting, smell and dependence on pouches, seeing themselves different from others, being ashamed of self, fear of rejection by family members and friends and limitations in social activities, a change in perception of their bodies, a decrease in self-respect, deterioration in sexual activities, and problems that originate from partner compatibility that cause depression and psychiatric problems **(Yu, & Chan, 2021).**

Colostomy patients are facing many difficulties both physical and psychological that impact on their QoL. The impact of a colostomy on a patient's physiological, functional, and psychosocial well-being can be profound. Poor body image, depression, sexual dysfunction, and financial hardship have been linked to colostomies. Individuals undergoing colostomy require ongoing care and education on how to manage the colostomy and cope with the psychological and physical changes that may arise from it so that, it is very important to assess patient's QOL and self-efficacy to identify the defect area and need of education and rehabilitation **(Colbran et al., 2024).**

Aim Of The Study

This study aimed to assess quality of life and self-efficacy of patients with permanent colostomy through the following:

A. Assessing physical, psychological, social and spiritual domains of quality of life for patients with permanent colostomy.

B. Assessing self-efficacy of patients with permanent colostomy.

Research questions

1. What's the level of quality of life for the patients with permanent colostomy?
2. What's the level of self-efficacy for the patients with permanent colostomy?

METHODOLOGY

This study was presented with four main designs as follows:

I) Technical design
II) Operational design
III) Administrative design
IV) Statistical design

I) Technical design

Technical design included research design, setting, subject, and data collection tools.

Research design:

A descriptive explaratory design was used in this study. This design helped the investigator describe and document a situation's aspects as they naturally occur Explaratory research is a research method that explores why something occurs when limited information is available. Explaratory research can also be explained as a "cause and effect" model, investigating patterns and trends in existing data that haven't been previously investigated. This study aimed to explore and explain possible causes or contributors to variations in quality of life and self-efficacy among patients with permanent colostomy **(Sileyew, 2019).**

Setting:

The present study was conducted in the outpatient surgical clinic of El-Demerdash Surgical Hospital with a capacity of beds (27 beds), which is affiliated with Ain Shams University. The hospital's affiliation with the university ensures continuous advancements in medical education and research, contributing to the development of innovative surgical techniques and treatments. It was a teaching hospital equipped with 497 beds.

Subjects:

A convenient sample of all available patient were included in the study (50) patients from the beginning of sample collection while to 6 months, due to the scarcity of the sample.

***Tools of data collection*:**

The study included three tools:

Tool I. Patients' interviewing questionnaire.

It was designed by the investigator in light of the relevant and related Literature and written in simple Arabic language ***(Al-Amer, et al., 2016; Silva, et al., 2019).***

The tool consisted of two parts:

Part 1: sociodemographic data that consisted of 13 items include patients, age, gender, marital status, level of education, occupation, residence, income, housing condition, and family members.

Part 2: patient's health medical history that consisted of (8 item) present medica (Operation type, onset of colostomy, type of colostomy, place of colostomy, causes of colostomy) and previous medical history (the presence of chronic diseases, type of disease, family history for colostomy).

Tool II. The Stoma Quality of Life (S-QoL)

It was used to assess the quality of life of patients with permanent colostomy and was developed by the researcher based on ***(Baxter, et al., 2006; Ware et al., 1996).***

1- Physical domain:
- Physical health condition (4 items)
- physical function (2 items)
- Pain (1 item)
- Nutrition (2 items)

2- Function of colostomy (6 items)
3- Psychological domain (6 items)
4- Social domain (6 items)
5- Spiritual the domain (5 items)
6- Financial domain (1 item)
7- Skin irritation (1 item)
8- Overall satisfaction (2 items)

The tool consisted of 36 items. It was divided into 8 domains as follows:

Scoring system for Stoma Quality of Life (S-QoL):

It included 36 items with three responses with scores (1- 3) as follows;

Always (3), Sometimes (2), Never (1)

The total score was (36 items)

- ❖ High level of quality of life >75% (79-108 degrees)
- ❖ Moderate level of quality of life ≥50:75% (53-78 degrees)
- ❖ Low level of quality of life <50% (36-52 degrees)

Tool III. Stoma Self-Efficacy Scale:

It was adopted from ***(Bekkers, 1996)*** stoma care self-efficacy refers to the conviction by patients that they can successfully manage their stoma to minimize adverse outcomes. It included 19 questions, and each question was scored by always (3), sometimes (2), and never (1).

Scoring System for Self-efficacy

It consisted of two subscales:

- ➢ Stoma care self-efficacy (12 items)
- ➢ Social self-efficacy (7 items)

The total score was (19items) as follows:

- ❖ High level (≥75%) (45-57degrees)
- ❖ Moderate level (≥50%:75%) (31-44 degrees)
- ❖ Low level (<50%) (17-30 degrees)

II) Operational design

It includes the Preparatory phase, content validity and reliability, pilot study, and fieldwork.

Preparatory phase:

It included reviewing related literature, and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals, and magazines to develop tools for data collection.

Tools Validity and reliability:

Content Validity:

Face and content validity of the used tools were ascertained by a group of seven experts from the Medical Surgical Nursing departments at the Faculty of Nursing at Ain Shams University; Their opinions was not be elicited regarding relevance of the tools to the aim and it's appropriateness to achieve the objectives.

Face validity: refers to the extent to which a test appears to measure what it claims to measure based on face value **(King et al., 2020).**

Content validity: is the degree to which a test or assessment instrument evaluates all aspects of the topic, construct, or behavior that it is designed to measure **(Hong et al., 2019).**

The tool's reliability:

Reliability was tested statistically for the developed tools using Cronbach's alpha statically test for internal consistency of the tool items the data was analyzed; The reliability coefficient for the study tools were calculated as, the self-efficacy tool reliability score was **0.905**, and the reliability score for quality of life tool was **0.917**.

Pilot study:

Before embarking on the study, a pilot was carried out on 10% from the study patients equal to 5 patients of the study subject to test the applicability, clarity and efficiency of the tools, as well as to estimate the time needed to fill it in answer it. No obvious modifications were done for the used tools according to the results of polit study then the final form were developed. The sample of the polit were included with the main study sample.

Field Work

- The actual field work started and completed within six months from November 2022 to April 2023.
- One to three patients per week were interviewed.
- Testing validity of proposed tools using face and content validity added to testing reliability was simply explained to the patients who agreed to participate in the study prior any data collection.
- The purpose of the study was simply explained to the patients who agreed to participate in the study prior any data collection.
- The tools for data collection were filled in by researcher.
- The researcher started data collection by introducing herself to the patients and explaining the aim of the study, and oral approval from patients to participate in the study was obtained before any data collection. Tool I, Tool II, and Tool III were filled in the morning shift.
- The time needed for completing the three tools was about 45 -60 minutes. Each tool needed about 15 -20 minutes.

III) Administrative design

To carry out the study,an official letter were directed from the Faculty of Nursing, Ain shams university Hospital in which the study was conducted to obtain permission and help to conduct the study in thier facilities. The study was carried out with full cooperation of the different levels of authority after official letters were issued from the Faculty of Nursing, Ain shams university to the medical directors, nursing directors and nursing supervisor of the setting under the study, explaining the purpose and methods of the date collection for the study confidentiality was assured.

Ethical considerations:

Ethical approval was obtained from scientific ethical committee of the faculty of nursing of Ain shams university before starting the study. The purpose of the study was explained to the patients and oral consent was obtained from them to participant in the study. They assured that anonymity, confidentiality and right to withdraw from the study at any time would be guaranteed, ethical, values, culture and beliefs were respected.

IV) Statistical design

The data was organized, analyzed, and presented in numbers and percentages in the form of tables, figures, and diagrams as required and suitable statistical tests will be used the significance of the results obtained. Quantitative data were expressed as mean and standard deviation (SD). Qualitative data were expressed as frequency and percentage. The Chi-square (X^2) test was used when comparing related sample. P-value <0.05 was considered significant, P ≤0.001 was considered as highly significant and P value >0.05 was considered insignificant.

Results

Table 1: shows that 48.0% of patients aged 30 - < 50 years old with mean age in years was 4**2.38± 9.87**. Regarding the marital status, 76.0% of them were married whenever, and 68.0% of them didn't have enough income. In relation to the housing condition, it was found that 78.0% of the studied patients' lives in well ventilated homes. Regarding working status, it was declared that only 48.0% of the patients were working after colostomy, while 79.2% of the working patients, their work type needs mental effort only. The study results revealed that, Also, 90.0% of the studied patients have been supported by their spouse.

Table 2: reveals that 42.0% of patients has resection of the transverse colon operation and 64.0% had a colostomy less than one year. Whenever, regarding to the type of colostomy, the current study reveals that 72% had excretory opening of the terminated colon, 62.0% of them had colostomy at the right side of the abdomen. Regarding the cause of colostomy, the current study reveals that 48.0% of patients had colorectal cancer.

Table 3: reveals that 60.0% of studied patients had chronic disease and hyperglycemia, respectively. Also, 88.0% of them didn't have family history of colostomy.

Table 4: reveals that 70.0%, 68.0%, 54.0%, 54.0%, 68.0 and 64.0% of studied patients had low quality of life regarding general health, function of colostomy, psychological domain, social domain, financial domain and skin irritation respectively. Whenever, 46.0% of patients had moderate QOL regarding nutrition and 60.0% of them had high QOL regarding spiritual domain.

Figure 1 revealed that 62.0% of studied patients had low total QOL, 22.0% of them had moderate quality of life and 16.0% of them had high quality.

Table 5: shows that 62.0%, 68.0 and 60.0% of studied patients always have the ability to prevent clogging of the external waste pouch, wear most preferable clothes and do some light tasks inside and outside the house respectively. Also, 50.0% and 56.0% of them sometimes had the ability to prevent the leakage and properly care for the external pouch output at home respectively.

Table 6 that, 54.0%, 56% of studied patients had low self-efficacy regarding stoma care and total social stoma care self-efficacy.

Figure 2 reveals that 58.0% of studied patients had low total self-efficacy whenever, 24.0% of them had moderate total self-efficacy and only 18.0% of them had high total self-efficacy.

Table 7: reveals that there was highly statistically significant relation between patients' total QOL and their demographic characteristics regarding age, educational level, marital status and work after colostomy (p ≤ 0.001**) while regarding family income there

were no statistically significant relation (p>0.10).

Table 8: reveals that, there was highly statistically significant relation between total patients' self-efficacy and their (family income, work after colostomy and psychological support from family) (p ≤0.001**) and there was statistically significant relation between total patients' self-efficacy and their (age, educational level and marital status) (p ≤0.05*).

Table 9: reveals that, there was highly statistically significant positive correlation between total level of quality of life and total level of self-efficacy among the studied patients (p≤0.001**).

Table (1): Frequency distribution of the studied patients according to their socio-demographic characteristics (n=50).

Socio-demographic characteristics	No.	%
Age/ years		
18 - < 30	5	10.0
30 - < 50	24	**48**.0
≥50	21	42.0
Mean ±SD 42.38± 9.87		
Marital status		
Single	12	24.0
Married	38	**76.0**
Family income		
Enough	16	32.0
Not enough	34	**68.0**
Treatment cost		
Private	7	14.0
Health insurance	43	86.0
Well ventilated house		
Yes	39	**78.0**
No	11	22.0
House type		
Shared house	28	56.0
Private house	22	44.0
Working status		
Work	24	**48.0**
Not work	26	52.0
Work type (n=24)		
Need mental effort	19	**79.2**
Need muscular effort	2	8.3
Need both muscular and mental effort	3	12.5
Family support		
Yes	33	66.0
No	17	34.0
Source of family support (n=33) **Numbers aren't mutually exclusive		
Son or daughter	28	84.8
Brother or sister	17	51.5
Spouse	30	**90.9**

Table (2): Frequency distribution of the studied patients according to their present medical health history (n=50).

Medical health history	No.	%
Operation type		
Resection of the transverse colon	21	**42.0**
Resection of part of the large intestine	8	16.0
Resection of part of the small intestine	6	12.0
Intestinal obstruction	15	30.0
Onset of colostomy/ year		
< year	32	**64.0**
1-3 years	13	26.0
>3 years	5	10.0
Type of colostomy		
Excretory opening of the double cylindrical colon	7	14.0
Excretory opening of the terminated colon	36	**72.0**
Excretory opening of the annular colon	7	14.0
Place of colostomy		
From the left side of the abdomen	19	38.0
From the right side of the abdomen	31	**62.0**
Causes of colostomy		
Intestinal obstruction	15	30.0
Genetic disorders and birth defects	11	22.0
Colorectal cancer	24	**48.0**

Table (3): Frequency distribution of the studied patients according to their previous medical health history (n=50).

Previous Medical health history	No.	%
Presence of chronic diseases		
Yes	30	**60.0**
No	20	40.0
Type of diseases(Numbers aren't mutually exclusive**)**		
Hypertension	25	50**.0**
Hyperglycemia	30	**60**.0
Cancer	10	20.0
Cardiac disease	15	30.0
Crohn's disease	6	12.0
Family history for colostomy		
Yes	6	12.0
No	44	**88.0**

Table (4): Distribution of the studied patients' according to quality of life's subtotal domains (n=50).

Domain	Low		Moderate		High	
	No.	%	No.	%	No.	%
General health condition	35	**70.0**	6	12.0	9	18.0
Physical health	28	56.0	14	28.0	8	16.0
Pain	32	64.0	12	24.0	6	12.0
Nutrition	20	40.0	23	**46.0**	7	14.0
Function of colostomy	34	**68.0**	9	18.0	7	14.0
Psychological domain	27	**54.0**	17	34.0	6	12.0
Social domain	27	**54.0**	16	32.0	7	14.0
Spiritual domain	0	0.0	20	40.0	30	**60.0**
Financial domain	34	**68.0**	8	16.0	8	16.0
Skin irritation	32	**64.0**	9	18.0	9	18.0
Overall satisfaction	20	40.0	14	28.0	16	32.0

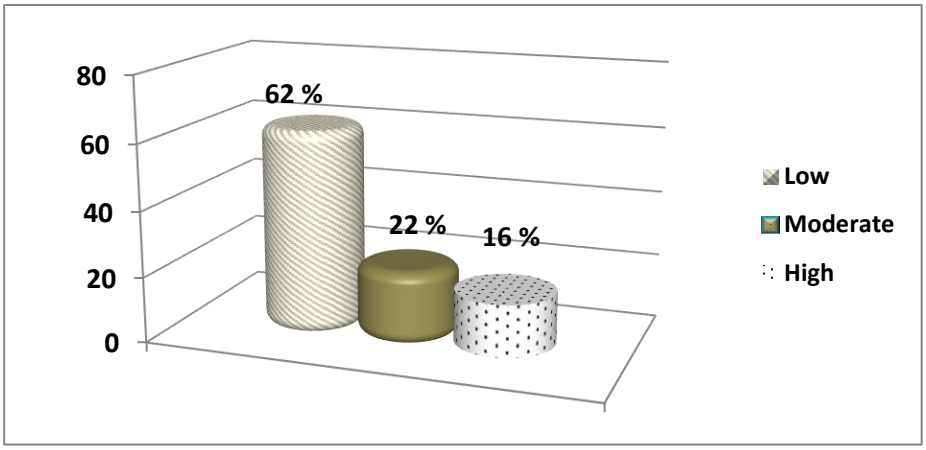

Figure (1): Total level of quality of life for patients with permanent colostomy.

Table (5): Frequency distribution of the studied patients according to subtotal self-efficacy (n=50).

Items			Low		Moderate		High	
			No.	%	No.	%	No.	%
Stoma care self -efficacy			27	**54.0**	14	28.0	9	18.0
Social self-efficacy	28	**56.0**	12	24.0	10		20.0	

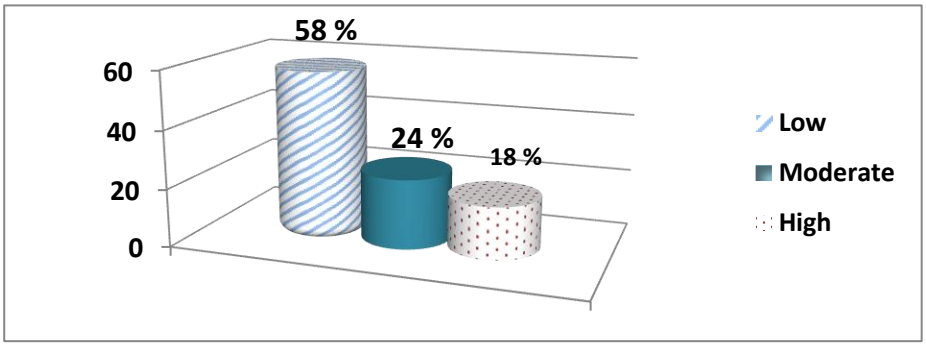

Figure (2): Percentage distribution of the studied patients regarding their total self-efficacy.

Table (6): Relation between total level of quality of life and socio- demographic characteristics among the studied patients (n=50).

Socio-demographic characteristics	Total quality of life level						X^2	p-value
	Low (n=31)		Moderate (n=11)		High (n=8)			
	No.	%	No.	%	No.	%		
Age/ years								
18<30	5	10	0	0.0	0	0.0	16.031	0.003**
30<50	18	36	6	12	0	0.0		
≥50	8	16	5	10	8	16		
Educational level								
Don't read or write	3	6	0	0.0	0	0.0	19.783	0.003**
Basic education	25	50	9	18	2	4		
Secondary education	2	4	2	4	3	6		
High qualification	1	2	0	0.0	3	6		
Marital status								
Single	4	8	2	4	6	12	13.705	0.001**
Married	27	54	9	18	2	4		
Family income								
Enough	6	12	4	8	6	12	9.172	0.10
Not enough	25	50	7	14	2	4		
Work after colostomy								
Yes	19	38	5	10	0	0.0	9.607	0.008**
No	12	24	6	12	8	16		
Psychological support from family								
Yes	15	30	10	20	8	16	11.448	0.003*
No	16	32	1	2	0	0.0		

** Highly statistically significance p≤ 0. 001 * Statistically significance p≤ 0. 05

Table (7): Relation between total level of self-efficacy and -demographic characteristics among the studied patients (n=50).

Demographic characteristics	Total self- efficacy level						X^2	p-value
	Low (n=29)		Moderate (n=12)		High (n=9)			
	No.	%	No.	%	No.	%		
Age/ years								
18<30	5	10	0	0.0	0	0.0	11.357	0.023*
30<50	17	34	5	10	2	4		
≥50	7	14	7	14	7	14		
Educational level								
Don't read or write	3	6	0	0.0	0	0.0	20.190	0.003*
Basic education	25	50	8	16	3	6		
Secondary education	1	2	3	6	3	6		
High qualification	0	0.0	1	2	3	6		
Marital status								
Single	3	6	6	12	3	6	7.824	0.020*
Married	26	52	6	12	6	12		
Family income								
Enough	4	8	5	10	7	14	13.601	0.001**
Not enough	25	50	7	14	2	4		
Work after colostomy								
Yes	22	44	1	2	1	2	21.491	0.000**
No	7	14	11	22	8	16		
Psychological support from family								
Yes	13	16	11	22	9	18	13.952	0.001**
No	16	32	1	2	0	0.0		

**** Highly statistically significance p ≤ 0. 001 * statistically significance p ≤ 0. 05**

Table (8): Correlation between total level of quality of life and self-efficacy among the studied patients

Study variable	Total self-efficacy level	
	r	p- value
Total quality of life level	0.438	0.001**

*** * Highly statistically significance p≤ 0. 001**

Discussion

Patients who are suffering from colorectal cancer face physical, psychological, and social difficulties with deterioration of body image and loss of body functions. Upon stoma surgeries, patients suffer from problems such as changes in excretion habits, involuntary farting, smell, dependence on pouches/carrier bags, seeing themselves as different from others, being ashamed of themselves, limitations in social activities, a decrease in self-respect, deterioration in sexual activities, and problems that originate from partner compatibility that cause depression and psychiatric problems ***(Jin, et al., 2020).***

Therefore, the present study aimed to assess the quality of life and self-efficacy of patients with permanent colostomy through; assessing physical, psychological, social, and spiritual domains of quality of life for patients with permanent colostomy, and, assessing self-efficacy of patients with permanent colostomy.

Regarding the demographic characteristics of the studied patients, the current study revealed that less than half of them were aged from thirty to less than fifty years with a mean ±SD 42.38± 9.87.

From the researcher's point of view, ostomy creation tends to strike in middle age between thirty and fifty years as reported by the ***United Ostomy Associations of America, (2023),*** requiring more support in adapting to life with a stoma physically and mentally. Furthermore, an age greater than forty years was considered one of the risk factors for colon cancer.

This finding was consistent with ***Ashraf et al., (2022),*** whose study entitled "Effect of Colostomy Care Education on Self-care among Patients with Permanent Colostomy", in Pakistan found that less than half of their study patients were from thirty-one- forty years.

Concerning marital status, the current study revealed that more than three-quarters of the studied patients were married.

This finding might be due to the highest percent of the studied patients their age were more than 50 who usually in the marriage age.

This finding was supported by, ***Abd El-Rahman et al., (2020),*** who studied the Effect of Nursing Instructions on Self-Care for Colostomy Patients, in Assuit, Egypt, and found that more than three-quarters of their studied patients were married. While, this finding was incongruent with ***Ashraf et al., (2022),*** who found that less than half of their study patients were married.

Concerning family income, the present study found that more than two-thirds of the studied patients didn't have enough income.

From the researcher's point of view, having an ostomy could result in additional expenses for patients, including the cost of ostomy supplies, medications, and transportation to and from medical appointments. These expenses could be a burden, particularly for patients with lower family incomes who might have difficulty affording the additional costs associated with an ostomy.

This finding was consistent with ***Qalawa, & Moussa, (2019),*** whose study entitled" Effectiveness of a Multimedia Educational Package for Cancer Patients with Colostomy on Their Performance, Quality of Life & Body Image", in Damietta, Egypt, found that more than two-thirds of their studied patient didn't have enough income.

While, this finding was incongruent with, ***Kozhimannil et al., (2021)***, whose study entitled: "Socioeconomic disparities in colorectal cancer incidence, mortality, and survival ", conducted in Canada, and found that one-fifth of their studied patients with colorectal cancer were in the lowest income quintile and one-fifth of their studied patients in the highest income quintile", while two-thirds of them were in middle-income quintile.

Concerning working status, the present study found that near half of the studied patients still work, often colostomy and near four fifths of them were need mental work.

This might be due to the fatigability which feature of considered physical as the main limitation postoperatively, and also the bad psychological condition that the patients had. Furthermore, the continuation of professional life seemed to have an important role in the socialization of patients with colostomy.

This finding was inconsistent with, ***Alansari et al., (2018),*** who found that the majority of their studied patients were employees. While, ***Abd El-Rahman et al., (2020),*** incongruently found that two-thirds of their studied patients were working.

Regarding gender, the current study revealed that more than three-fifths of the studied patients were females while less than two-fifths of them were males.

This might be due to cancer being more common in women than in men as reported by the ***American Cancer Society, (2023),*** one in twenty eight women will develop colorectal cancer in their lifetime, compared to about one in thirty five of men.

This finding was incongruent with, ***Ashraf, et al., (2022), who*** found that half of their study samples were females.

In terms of educational level, the present study found that less than three-quarters of the studied patients were basic education. This result might be due to more than two-fifths of the studied patients living in rural areas with less attention to education.

This finding was incongruent with, ***Abd El-Rahman, et al., (2020),*** who found that two-fifths of studied patients had secondary education.

Regarding the place of residence of the studied patients, the current study found that less than three-fifths of them were from urban areas while more than two-fifths of them were from rural areas. From the researcher's point of view, residence could be an important factor in the incidence, diagnosis, and treatment of colorectal cancer. Also, patients living in rural areas were less likely to receive recommended screening and diagnostic tests for colorectal cancer compared to those living in urban areas.

This finding disagreed with, ***Abd El Rahman, et al., (2020), who*** found that more than three-fifths of their studied sample lived in rural regions.

Regarding present medical health history, the current study found that more than two-fifths of the studied patients had the resection of the transverse colon operation and more than two-thirds had a colostomy less than one year whenever. In addition, the current study revealed that less than three-quarters their colostomy type is excretory opening of the terminated colon, and more than three-fifths of them had a colostomy at the right side of the abdomen.

This result might be due to the transverse colon cancer is the most common type of cancer

colon after cecum cancer, and it is a major surgery that can take several weeks to recover from. Furthermore, the right side of the abdomen is the most common location for a colostomy, because the transverse colon is located in the middle of the abdomen, also to avoid the spleen and other organs.

This finding disagreed with ***Giordano, et al., 2020,*** whose study entitled" Describing self-care and its associated variables in ostomy patients,", conducted in Rome, and found that one -third of their studied patients had a colostomy from less than one year.

Furthermore, this finding was contradicted with, ***Brouwer, et al., (2021),*** whose study entitled" Quality of life and satisfaction with care among patients with permanent colostomy", in Netherlands, found that the majority of participants had a colostomy on the right side of the abdomen, which includes patients who have had a resection of the transverse colon. In addition, regarding the duration of colostomy, they found that: The mean duration of the colostomy was 7.8 years, with a range of 0.5 to 44 years.

Regarding the cause of colostomy, the current study revealed that less than half of them had colorectal cancer. This result might be due to that, colorectal cancer being one of the most common reasons why a person may require a colostomy, as reported by the ***American Cancer Society, (2020).*** Furthermore, the specific cause of colostomy will depend on the individual patient's condition and medical history.

This finding disagreed with, ***Alansari et al., (2018)*** whose study entitled" The Effectiveness of Implementing a Designed Educational Protocol Regarding Knowledge among Clients with Intestinal Ostomy, ", conducted in Saudi Arabia, and found that less than three-fifths of their studied patients with stoma surgery were caused by colorectal cancer.

Regarding the previous medical health history, the present study found that three-fifths of the studied patients had a chronic disease, more than two-fifth of them had hyperglycemia, and nearly most of them didn't have a family history of colostomy.

This result might be due to the presence of comorbidities associated with an increased risk of postoperative complications, longer hospital stays, and higher healthcare costs following colostomy surgery for colorectal cancer. Individuals with a family history of colorectal cancer or other conditions affecting the colon or rectum may be at increased risk for these conditions themselves and may require closer monitoring and earlier intervention, as reported by ***Lu, et al., (2017).***

These findings were agreed by, ***Abd El Rahman, et al., (2020), who*** found that nearly most of their studied patients with no family history. Furthermore, ***Brouwer, et al., (2021),*** congruently found that less than two-fifths of their studied patients reported having at least one comorbidity, with hypertension being the most common.

While, these findings disagreed with ***Mohamed et al., (2022)*** whose study entitled" Effect of Educational Protocol on Knowledge, Practice and Quality of Life for Two Different Age Groups of Colostomy Patients ", conducted in Sohag Governorate, Egypt found that: Cancer was the most common family history for more than three-fifths of them. Also, chronic diseases such as hypertension were less than three-quarters. Furthermore, ***Giordano, et al., 2020,*** disagreed and mentioned that less than two-fifths of their studied patients had other comorbid conditions (diabetes).

Regarding quality-of-life domains, the present study revealed that less than three-quarters of the studied patients, had low quality of life regarding general health, more than two-thirds had low quality of life about function of colostomy, of the financial domain, & same for the skin irritation domain.

From the researcher's point of view, it is a significant transition moment in people's life as they attempt to adjust to new conditions to continue their lifestyle and their daily functions with a permeant ostomy views their condition as having a positive chance of survival and considers it as part of solving health problems by finding a second chance to live.

These findings were consistent with, ***Qalawa, & Moussa, (2019),*** regarding general health who found that less than three-quarters had a low QOL. Furthermore, ***Mohamed, et al, (2017)*** were consistent with these findings in the financial domain and found that more than two-thirds of their studied patients were between not working, leaving work, or working part-time, so their financial level is inappropriate.

While, ***Xie et al., (2020)*** were contradicted to study finding about skin complications and found that more than two-thirds of the patients had moderate patients had moderate QOL.

In addition, the present study found that more than half of the studied patients had low

quality of life about physical health, the psychological domain, and the social domain.

From the researcher's point of view, Physical challenges included difficulties in performing daily activities, such as bathing and dressing, and concerns about leakage and odor, also the patients had Psychological challenges included anxiety, depression, and negative body image. Social challenges included social isolation, stigma, and difficulty in maintaining relationships.

Also, high spiritual quality of life was revealed in the current study which helped the participants feel less isolated and alone, and this could be due to those patients need spiritual activities to cope with the physical burden and psychological problems related to the stoma.

This finding was consistent with ***Kaya, et al., (2019),*** whose study entitled" Quality of Life in Patients with a Permanent Colostomy", in Turkey and reported that the physical domain had the lowest mean score (3.06, SD=0.76), indicating that patients experienced more physical symptoms and limitations.

Moreover, these findings were consistent with ***Brouwer, et al., (2021),*** who found that patients with permanent colostomies had a lower quality of life compared to the general population, particularly in the areas of physical functioning, role limitations due to physical health, and emotional well-being.

While, these findings were incongruent with ***Phan, et al., (2021),*** whose study entitled" Quality of Life of Patients with Permanent Colostomy: in Vietnam, found that: less than three-fifths of the studied patients had medium QoL in physical well-being. More than three-fifths of QoL for psychological well-being was medium. For nearly the majority of them, QoL for social well-being was medium. Furthermore, ***Qalawa, & Moussa, (2019),*** incongruently found that less than half of their studied patient had poor social quality of life.

Moreover, these results were incongruent with ***Grant et al., (2021)*** found that the mean score for emotional functioning was 6.5 out of 10, suggesting that, on average, individuals with permanent colostomy experience a moderate level of emotional distress. Similarly, the mean score for social functioning was 6.7 out of 10, indicating that, on average, individuals with permanent colostomy experience moderate difficulties in social situations.

Furthermore, the present study found that less than half of patients had moderate QOL regarding nutrition, and three-fifths of them had high QOL regarding the spiritual domain.

From the researcher's point of view, that patients had difficulty eating a healthy diet and maintaining a healthy weight, but they found comfort and meaning in their spiritual beliefs. This indicated that they needed nutritional counseling and support to help patients eat a healthy diet, and also offered spiritual care services, such as counseling, prayer, or meditation, to help patients find comfort.

These findings were contradicted by ***Qalawa, & Moussa, (2019),*** who found that one-third of their studied patient had poor spiritual quality of life.

Regarding the studied patients' total quality of life, the present study revealed that less than two-thirds of studied patients had low total QOL, while more than one-fifth had moderate quality of life.

From the researcher's point of view, two-thirds of those patients had chronic diseases, making it difficult to participate in activities that were important to the patient, such as work, hobbies, or spending time with loved ones. It might refer to the overall well-being and satisfaction of individuals in various aspects of their lives, such as physical health, emotional well-being, social relationships, and overall happiness.

This finding was consistent with ***Kaya, et al., (2019),*** who reported that more than one-fifth of their studied patients had a moderate level of quality of life. While, ***Davis, et al., (2020),*** was incongruent with the current results and found that: The mean score on the Stoma Quality of Life Scale (SQoL) was 48.6 out of 100, indicating that the majority of their studied patients had moderate impact of a stoma on the patient's quality of life.

Regarding the patient's subtotal self-efficacy, the current study found that more than half of the studied patients had low self-efficacy regarding stoma care while more than half of them had moderate total stoma care self-efficacy.

From the researcher's point of view, those patients were not confident in their ability to manage their stoma care, but they were somewhat confident in their ability to manage their overall stoma care; half of them had the ability to some degree to prevent leakage, and less than three-fifths properly cared for the external pouch output at home.

This finding was incongruent with ***Elesawy, et al., (2022),*** whose study entitled" Effect of Educational Program on Self-efficacy

and Peristomal Skin Complications for Patients with Permanent Colostomy, and found that less than three-quarters of studied patients had low self-efficacy level.

Furthermore, ***Habiba, et al., (2021),*** whose study entitled" Assessment of knowledge and self-efficacy among patients with colostomy ", conducted in Egypt, incongruently found that more than two-thirds of the studied patients had low self-efficacy, while less than one-third of them had high self-efficacy. Moreover, ***Giordano et al., (2020)*** incongruently found that three-fifths of the patients had high levels of self-care.

Relation between total level of quality of life and socio-demographic characteristics among the studied patients, the present study revealed that there was a highly statistically significant relation between patients' total QOL and their age, education level, marital status, and work after colostomy while regarding family income there was no statistically significant relation.

From the researcher's point of view, younger patients may have greater difficulty adapting to life with a colostomy, leading to lower QOL. Older adults may have more established routines and coping mechanisms, potentially facilitating adjustment. Also, higher education may be associated with better access to information and support resources, leading to improved QOL. Additionally, individuals with higher education may have greater confidence in managing their stoma care and advocating for their needs, further contributing to their well-being.

This result might be due to the majority of married personnel had low quality of life due to their stressors related to their responsibility of family member which will be affected by the disease of stoma physically, psychologically and socially, so they had more stressors that lead to decreasing their quality of life.

These findings were supported by ***Phan, et al., (2021),*** who found that there was a highly statistically significant relationship between patients' total QOL and their demographic characteristics, specifically age, education level, marital status, and work after a colostomy.

Relation between total level of self-efficacy and socio-demographic characteristics among the studied patients the present study revealed that there was a highly statistically significant relation between total patients' self-efficacy and their (family income, work after colostomy, and psychological support from family), and there was a statistically significant relation between total patients' self-efficacy and their (age, educational level, and marital status).

The result of this study was supported by ***Habiba, et al., (2021),*** who found that there was a statistically significance relation between overall patients' self-efficacy level and age ($p = 0.011$), and educational level ($p = 0.001$).

Regarding the **c**orrelation between the total level of quality of life and self-efficacy among the studied patients, the present study revealed that there was a highly statistically significant positive correlation between the total level of quality of life and total level of self-efficacy among the studied patients.

From the researcher's point of view, this correlation was likely due to several factors, including the ability to take control of one's health, cope effectively with stress, and maintain a positive outlook. Also, people with high self-efficacy might be more likely to exercise regularly, eat a healthy diet, and get enough sleep. These behaviors could all contribute to a better quality of life.

Moreover, the patients who had chronic disease might have been dealing with a lot of stress and uncertainty; this could have made it more difficult for them to maintain a positive outlook and a sense of well-being, even if they had high self-efficacy. Also, the patients didn't have a family history of colostomy suggests that they might not have been as concerned about the potential complications of their condition.

The finding was consistent with ***Ming-hui, et al., (2022),*** who found that: there was a positive relationship between self-efficacy and quality of life (QoL) among patients with a permanent colostomy.

Future research should focus on developing culturally appropriate interventions to address the unique needs of patients with colostomy in Egypt. Suggestions for further research include exploring the experience of caregivers and families of patients with colostomy, investigating the views of stoma patients regarding home care as well and investigating nurses' views on patients' and families' needs.

Conclusion

In the light of the current study findings, it can be concluded that:

Nearly two thirds of studied patients have low total QOL moreover, about one quarter of them had moderate total QOL and the minority of them had high total QOL regarding permanent colostomy care. Regarding self-efficacy of

studied patients, more than half of them had low total self-efficacy whenever, about one quarter of them had moderate total self-efficacy and only about one fifth of them had high total self-efficacy. Also, there was highly statistically significant positive correlation between total level of quality of life and total level of self-efficacy among the studied patients.

Recommendations

Based on the current study finding the following recommendations were proposed:

- ❖ Comprehensive Education: Provide ongoing education and support to patients and their caregivers on stoma care, coping strategies, dietary adjustments, and managing psychosocial challenges associated with living with a colostomy.
- ❖ Peer Support Groups: Encourage participation in peer support groups or online communities where patients can connect with others who have undergone similar experiences, share advice, and offer mutual support.
- ❖ Counseling and Psychological Support: Offer access to counseling services or support groups led by mental health professionals to address emotional concerns, body image issues, anxiety, and depression related to living with a colostomy.
- ❖ Physical Rehabilitation: Provide access to physical therapy programs to help patients regain strength, mobility, and independence after surgery, focusing on activities of daily living and returning to regular physical activities.
- ❖ Self-care Training: Offer personalized training sessions to teach patients practical skills for managing their colostomies independently, including proper stoma care, appliance changes, and troubleshooting common issues.
- ❖ Health Promotion: Promote healthy lifestyle behaviors, including regular exercise, balanced nutrition, smoking cessation, and stress management techniques, to enhance overall well-being and QOL.
- ❖ Encourage Self-Advocacy: Empower patients to advocate for their own needs and preferences in healthcare settings, including discussing treatment options, addressing concerns with healthcare providers, and seeking timely medical attention when needed.
- ❖ Continuity of Care: Ensure continuity of care by establishing regular follow-up appointments with healthcare providers, including colorectal surgeons, enterostomal therapy (ET) nurses, and other members of the multidisciplinary team, to monitor stoma health and address any emerging issues promptly.
- ❖ Access to Resources: Provide patients with access to reliable sources of information, educational materials, and community resources to support ongoing self-management and adaptation to life with a colostomy.
- ❖ Periodic implementation of the designed self-care guideline booklets for patients with cancer and permanent colostomy in the clinics, outpatients and hospitals at patients' admission to provide them with the necessary and required knowledge and self-care practices about their disease is mandatory.
- ❖ Further research is needed to investigate the long-term effect of such educational intervention on the health of patients with colostomy and should be carried out on a larger number of colostomy patients for evidence of the results and generalization.

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