The Quality of Life for Patient with Permanent Colostomy Among Critically Ill Patients

Bolus Kamal Malek Seal[1], Manar Fathy Hamza, [2] Rasha awad Abd Elmagied [3]

1) B.Sc 2017. Faculty of Nursing- Ain Shams University
2) Assistant Professor at Adult Health Nursing Department Faculty of Nursing / Helwan University,
3) Assistant Professor at Adult Health Nursing Department Faculty of Nursing / Helwan University

Abstract

Background Quality of life is a series of subjective components reflecting aspects of patients' physical, emotional, occupational and social experiences. **Aim:** This study aimed to assess quality of life for patient with permanent colostomy. **Research Design:** A descriptive exploraty design was utilized in this study. **Setting:** This study was conducted in the Intensive Care (medical and surgical) Unit at El-Zayton hospital, Cairo governorate. **Subjects**: A purposive sample of one hundred and twenty adult male and female patients with permanent colostomy who admitted to intensive care unit at EL-zayton specialized hospital. **Tools:** Two tools were utilized in this study: Tool 1-Astructure interviewing questionnaire: divided into three parts: the first part: represent the demographic data, the second part: Patient medical history, the third part: knowledge assessment. Tool 2- Permanent colostomy quality of life (PCQOL)-45 instrument. **Results**: This study shows that more than half of the studied patients had unsatisfactory level of knowledge, while less than half of the studied patients had poor quality of life, and there was anon-significant correlation between total level of quality of life and total level of knowledge among the studied patients. **Conclusion:** Based on the study results, the present study revealed that near to two third of the studied patients had unsatisfactory level of knowledge with permanent colostomy. Also, less than half of the studied patients had poor quality of life with permanent colostomy, **Recommendation:** Provide patients **with** Permanent colostomy **comprehensive education** about colostomy care.

Keywords: Critical; Permanent colostomy; Quality of life

Introduction:

Quality of life (QOL) is a series of subjective components reflecting aspects of patients' physical, emotional, occupational and social experiences. World Health Organization (WHO) has defined quality of life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. *(Yan, et al., 2020).*

Stoma is a surgically opening in the skin of the abdomen that allows intestinal contents to pass from the bowel rather than being eliminated through the anus. It may be placed on a permanent or temporary basis. Colostomy, ileostomy, and urostomy are the common categories of stoma. These surgical procedures are done to treat gastrointestinal malignancy or other causes including trauma, intestinal obstruction, ischemia, or inflammatory diseases that require feces diversion *(Capilla, et al, .2019).*

Using stoma, either permanent or temporary, greatly reduces the patient's quality of life (QOL). Some patients complain about Inflammation around the stoma, sleep disturbance, and inability to control gas. Fear of the future and concerns about their relationships with families and friends are among some of the psychological problems these patients face .The stoma patients suffered from sexual difficulties, restriction of physical activity, dietary restrictions, and in general changes in lifestyle. Assessing QOL of stoma patients and its determinants will lead to better understanding of patient's QOL pattern and improving their QOL   *(Gomes, et al, .2019)*

Based on the results of this research shows that the quality of life of persons with colostomy vary widely. The quality of life of persons with permanent colostomy is very important to explore so as to determine anticipatory programs and improve the rehabilitation results of permanent colostomy. *(Saunders, et al, .2019)*

Critically ill patients are patients who have severe illnesses with Life threatening conditions that have serious consequences, including malnutrition they are typically associated with increased hyper- metabolic and the presence of lean body mass reduction that leads to malnutrition. **(Koontalay,** *et al, .2020*)

Significance of the study

Intestinal stoma can be created using either the small or the large bowel. More than 75% of all stoma are placed as part of the treatment of colorectal cancer. The incidence of stoma-related complications is reported to be 10–70%. Skin irritation, erosion, and ulceration are the most common early complications, with a combined incidence of 25–34%, while stoma prolapse is the most common late complication, with an incidence of 8–75%. Most early complications can be managed conservatively, while most late complications require surgical revision. In 19% of cases, an ostomy that was initially planned to be temporary becomes permanent. Inappropriate stoma location and inadequate ostomy care are the most common causes of early complications. Both surgical and patient-related factors influence late complications *(Vonk, et al, .2016).*

In Egypt according to Ain Shams university hospitals data, the disease had no pre-detection to a specific age group. 38percent of the tumors occurred in patients aged less than 40 years, and only 15 percent of patients were aged above 60 years. None of the young patients fulfilled the criteria for hereditary nonpolyposis colorectal cancer. 75 percent of tumors occurred in the left side, Data from different centers were remarkably similar to Ain Shams results. *(Shaukat, et al, .2021)*

In El -Zayton hospital every year (1000) patient admitted to emergency unit with abdominal pain under diagnosis while (100) patient of this cases suffers from intestinal obstruction (IO) and needed to done colostomy. So preparing the patient for colostomy surgery is very important to prevent complication to improve their quality of life (El Zayton hospital medical record center 2021).

Research Questions

Q1: What is the level of knowledge among patients with permanent colostomy?

Q2: What are the quality of life for patient with permanent colostomy?

Q3: Is there a relation between patients with permanent colostomy demographic characteristics and their knowledge?

Q4: Is there a relation between patients with permanent colostomy demographic characteristics and their quality of life?

Q5: Is there a relation between patients with permanent colostomy knowledge and their quality of life?

Subjects and Methods:

A. Research design:

A descriptive exploratory design was be utilized in this study.

Study Setting:

This study was conducted in the Intensive Care (medical and surgical) Unit at El-Zayton hospital, Cairo governorate.

Sample:

A purposive sample of 120 adult male and female patients with permanent colostomy who admitted to intensive care unit at EL-zayton specialized hospital.

Inclusion criteria:

-The post -operative permanent colostomy patients.

-The adult patient from both genders.

-Patients able to communicate verbally and agreed to participate in the study.

Tools of data collection:

The required data were be collected through the following tools:

Tool 1-Astructure interviewing questionnaire: this tool were be developed by the investigator after extensive literature review *(Ali et al., 2010)* (*Mohamed et al., 2022) (El-Rahman et al., 2020)* in a simple Arabic language to assess the quality of life for patients with permanent colostomy, divided into three parts:

A) **The first part: represent the demographic data**: it includes the following (age, gender, educational level, financial income, types and causes of colostomy…etc.)

B) **The second part: Patient medical history**: It was reviewed to identify patient diagnosis, medical history…etc.)

C) **The third part: knowledge assessment:** it about the colostomy care was used to assess the knowledge of patient with permanent colostomy (definition, signs and symptoms, causes, complication and follow up…..etc.)

The total scores of knowledge were summed up, converted into a percentage score and categorized as following:

• Satisfactory level of knowledge if total score <60%

• Unsatisfactory level knowledge if total Score ≥60%.

Tool 2- Permanent colostomy quality of life (PCQOL)-45 instrument: this tool adapted from *(Ali et al., 2010)* (*Mohamed et al., 2022) (El-Rahman et al., 2020)* it were be used to assess quality of life for patient with permanent colostomy.

- It is divided into four domains according to QOL model as following:

1-Physical domain (11 items), 2-psychological domain (17 items), 3-social domain (12items) and 4-spiritual domain (5 items)

-This items rated on 5 point likert scale as following (Never =1, rarely=2, sometimes=3, usually=4 and always=5)

The total scores of Qol will be summed up, converted into a percentage score and categorized as following:-

• Poor Qol if total score < 50%.

• Average Qol if total score from 50- <75%.

• Good Qol if total score from ≥75%.

B. Operational Design:

The operational design included preparatory phase, content validity, a pilot 00study, ethical consideration and field work.

The preparatory phase:

It will include reviewing of past, current, national and international related literature and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop tools for data collection.

Pilot study:

The pilot study will be done on 10% of the sample to examine the clarity of questions and time needed to complete the study tools. Based on the results, modification will be done. Subjects included in the pilot study will be excluded from the study if major modifications are required.

Content validity:

The developed tool were reviewed by five experts in critical care and medical surgical nursing to assess the content validity, needed modifications were be done.

Reliability:

Cronbach's Alpha were be used to determine the internal reliability of the knowledge tool is (0.87) and for quality of life (QOL) tool is (0.89).

Fieldwork:

- The investigator collects data 2 days/week in the morning shift from 8 AM to 2 PM to detect the number of patients post permanent colostomy patients that were admitted ICU during the time of the study.

- Each patient was interviewed and assessed individually and the patient's acceptance to be included in the study was obtained after explaining the purpose and the nature of the study and the interviewing questionnaire was filled. The investigator interviewed about (2-3) patients per day.

- The structured patient questionnaire was filled in a time ranged between (20-40) minutes according to patients' tolerance. Tool 1 filled in a time ranged between (5-10) minutes, tool 2 filled in a time ranged from (10-30) minutes. Every patient can feel free to ask any question to clear any misunderstanding in the questions.

C. Administrative Design:

Approval to carry out this study was obtained from the dean of the faculty of nursing and directors of governmental hospitals in Helwan city.

Ethical considerations:

An official permission to conduct the proposed study was obtained from the Scientific Research Ethics Committee. Participation in the study is voluntary and subjects will be given complete full information about the study and their role before signing the informed consent. The ethical considerations will include explaining the purpose and nature of the study, stating the possibility to withdraw at any time, confidentiality of the information where it will not be accessed by any other party without taking permission of the participants. Ethics, values, culture and beliefs will be respected.

D. Statistical Design:

Upon completion of data collection, data will be computed and analyzed using Statistical Package for the Social Science (SPSS), version 24 for analysis. The P value will be set at 0.05. Descriptive statistics tests as numbers, percentage, mean $\pm$ standard deviation ($\pm$ SD), will be used to describe the results.

Results:

Part (I): Demographic data and medical history of the studied patients

Table (1): Frequency and percentage distribution of the studied patients according to their demographic data (n=120).

Demographic information	N	%
Age (in years)		
18<25	3	2.5
25<35	8	6.7
35<45	50	41.7
45-<60	59	**49.2**
Mean ±SD	45.5±8.23	
Gender		
Male	83	**69.2**
Female	37	30.8
Educational level		
Neither read nor write	4	3.3
Basic education	22	18.3
Intermediate education	64	**53.4**
University education	30	25.0
Other	0	0.0

Financial income		
Sufficient	25	21.0
Not enough	95	**79.0**
Type of colon opening		
Temporary	0	0.0
Permanent	120	100.0
Cause of the colon opening		
Malignant	98	**82.0**
Tumor	22	18.0
Other causes	0	0.0

Table (1) shows that, 49.2% of the studied patients were in age group 45<60 with mean age 45.5±8.23 and 69.2% of them were males. Also, 53.4% of them had Intermediate education and 79.0% of them reported insufficient income. Additionally, cause of the colon opening was malignant among 82.0% of the studied patients.

Table (2): Frequency and percentage distribution of the studied patients according to their medical history (n=120)

Medical history	N	%
Chronic diseases		
Yes	83	**69.2**
No	37	30.8
If yes mention (N=83)		
Hypertension	42	35.0
Diabetes	38	31.7
Renal disease	3	2.5
Hepatic disease	7	5.8
Cardiac disease	11	9.2
Respiratory disease	9	7.5
Previous surgeries		
Yes	23	19.2
No	97	**80.8**
If yes mention (N=23)		
GIT surgeries	16	69.6
Orthopedic surgeries	9	39.1
ENT & ophthalmic surgeries	4	17.4
Family history of chronic diseases		
Yes	73	**60.8**
No	47	39.2
If yes mention (N=73)		
First degree	49	67.1
Second degree	24	32.9

Table (2) shows that, 69.2% of the studied patients had chronic disease where hypertension and diabetes were the most common among 35.0% and 31.7% of them. Also, 80.8% of them had no history of previous surgeries. Additionally, 60.8% of the studied patients had family history of chronic disease.

Part II: Knowledge of patient with permanent colostomy.

Table (3): Frequency and percentage distribution of the studied patients according to their knowledge about colostomy (n=120).

Patient's knowledge about colostomy	Correct		Incorrect	
	N	%	N	%
1) Definition of colostomy	62	51.7	58	48.3
2) The most common cause of colostomy	80	**66.7**	40	33.3
3) The purpose of a colonoscopy	71	**59.2**	49	40.8
4- The normal appearance of the colostomy	58	48.3	62	51.7
5) After surgery, when will the colostomy return to normal	73	**60.8**	47	39.2
6) How should we clean the colostomy	42	35.0	78	65.0
7) The correct technique for cleaning the colostomy	57	47.5	63	52.5
8) What are the precautions to be followed when placing bags	41	34.2	79	65.8
9) Types of colostomy	22	18.3	98	81.7
10) When are the bags changed	38	31.7	82	68.3
11) When will the colostomy bag be emptied	55	45.8	65	54.2
12) What kind of food should be avoided after colostomy	63	52.5	57	47.5
13) What is the reason for avoiding certain types of foods after colostomy surgery	44	36.7	76	63.3
14) The type of diet given after colostomy	19	15.8	101	**84.2**
15) Kind of clothes should be worn after the colostomy procedure	32	26.7	88	73.3
16) How long does it take to return to work after surgery	20	16.7	100	**83.3**
17) How will you return to work after a colostomy	58	48.3	62	51.7
18) the warning signs that should be noticed on the colostomy	70	**58.3**	50	41.7
19) Do you make hand washing before emptying stoma pouch?	21	17.5	99	**82.5**
20) Do you make hand washing after emptying stoma pouch	32	26.7	88	73.3
21) The most dangerous complication of colostomy	16	13.3	104	**86.7**
22) The correct practice to solve the problem of leakage	30	25.0	90	75.0
23) The correct practice regarding odor dissolution	25	20.8	95	**79.2**

Table (3) shows that, 66.7% of the studied patients had correct answer regarding the most common cause of colostomy and 60.8% of them had correct answer regarding after surgery, when will the colostomy return to normal. Also, 59.2% of the studied patients had correct answer regarding the purpose of a colonoscopy and 58.3% of them had correct answer regarding the warning signs that should be noticed on the colostomy.

On the other hand, 84.2% of the studied patients had incorrect answer regarding the type of diet given after colostomy and 83.3% of them had incorrect answer regarding how long it takes to return to work after surgery. Also, 86.7% of the studied patients had incorrect answer regarding the most dangerous complication of colostomy and 79.2% of them had incorrect answer regarding the correct practice regarding odor dissolution.
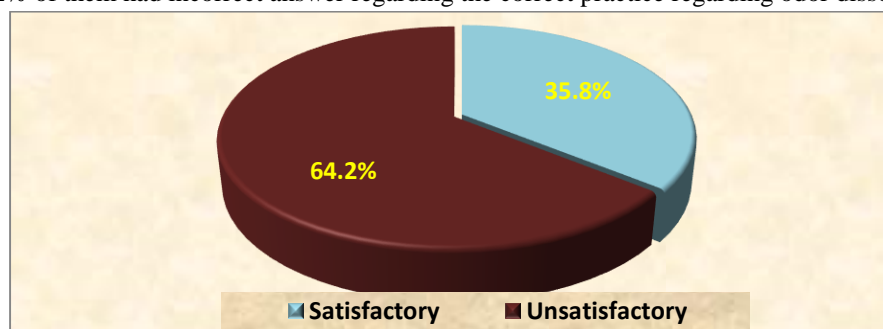

35.8%
64.2%
Satisfactory Unsatisfactory

Figure (1): Distribution of the studied patients according to their total knowledge about colostomy (n=120).

Figure (1) shows that, 64.2% of the studied patients had unsatisfactory level of knowledge while 35.8% of them had satisfactory level of knowledge.

Part III: Quality of life among patient with permanent colostomy.

Table (4): Frequency and percentage distribution of the studied patients according to their quality of life in relation to physical dimension (n=120).

Physical dimension	Never		Rarely		Sometimes		Usually		Always	
	N	%	N	%	N	%	N	%	N	%
1- I feel tired and need to sleep during the day	20	16.7	15	12.5	31	25.8	25	20.8	29	24.2
2- The nature of my sleep has changed because of the presence of the colonic opening on the abdominal wall.	26	21.7	21	17.5	19	15.8	12	10.0	42	35.0
3- My night's sleep is intermittent due to the presence of the colonic opening on the abdominal wall.	15	12.5	19	15.8	22	18.3	31	25.8	33	27.5
4- I avoid sleeping in certain positions due to the presence of the colonic opening on the abdominal wall.	9	7.5	12	10.0	20	16.7	27	22.5	52	**43.3**
5- The presence of the colonic opening on the abdominal wall interferes with daily and recreational activities.	6	5.0	18	15.0	26	21.7	16	13.3	54	**45.0**
6- My diet has been modified due to the presence of the colonic opening on the abdominal wall.	5	4.2	14	11.7	21	17.5	29	24.2	51	**42.5**
7- I avoid eating certain foods to reduce the occurrence of audible gases.	10	8.3	16	13.3	24	20.0	32	26.7	38	31.7
8- I find special preparations related to the care of the colonic opening on the abdominal wall when I go outside the house.	31	25.8	22	18.3	20	16.7	16	13.3	31	25.8
9- I avoid being outside the house for a long time due to the frequent need to empty the bag.	20	16.7	12	10.0	19	15.8	25	20.8	44	36.7
10- I always need to know the nearest toilet to where I am.	8	6.7	17	14.2	22	18.3	20	16.7	53	**44.2**
11- The style of my choice of clothing has changed due to the presence of the colonic opening on my abdominal wall.	11	9.2	13	10.8	33	27.5	21	17.5	42	35.0

Table (4) shows that, 45.0% of the studied patients reported always regarding presence of the colonic opening on the abdominal wall interferes with daily and recreational activities. Also, 44.2% of them reported always regarding I need to know the nearest toilet to where I am. Additionally, 43.3% and 42.5% of them reported always regarding avoid sleeping in certain positions due to the presence of the colonic opening on the abdominal wall and diet has been modified due to the presence of the colonic opening on the abdominal wall respectively.

Table (5): Frequency and percentage distribution of the studied patients according to their quality of life in relation to psychological dimension (n=120).

Psychological dimension	Never		Rarely		Sometimes		Usually		Always	
	N	%	N	%	N	%	N	%	N	%
12- I feel depressed after the colonoscopy was performed on the abdominal wall.	12	10.0	19	15.8	22	18.3	31	25.8	36	30.0
13- Annoyed by the presence of gases.	13	10.8	15	12.5	26	21.7	18	15.0	48	**40.0**
14- I get worried when the bag is full.	10	8.3	22	18.3	31	25.8	15	12.5	42	35.0
15- I am concerned about the change in my family's treatment due to the presence of the colonic opening on the abdominal wall.	8	6.7	14	11.7	29	24.2	32	26.7	37	30.8
16- I am concerned that my friends may reject me as a result of the presence of the colonic opening on the abdominal wall.	31	25.8	12	10.0	20	16.7	17	14.2	40	33.3
17- I worry about being a burden to the people close to me because of the presence of the colonic opening on the abdominal wall.	18	15.0	23	19.2	32	26.7	21	17.5	26	21.7
18- I am concerned about the complications that occur to the skin around the colonic opening on the abdominal wall.	7	5.8	13	10.8	24	20.0	30	25.0	46	38.3
19- I feel embarrassed by the sound of the bag.	14	11.7	22	18.3	30	25.0	28	23.3	26	21.7
20- I am worried about a foul smell or gases from the bag.	22	18.3	19	15.8	31	25.8	25	20.8	23	19.2
21- I'm worried that the bag will open and what's inside will come out.	10	8.3	16	13.3	23	19.2	21	17.5	50	**41.7**
22- I avoid changing my clothes in the presence of others.	9	7.5	18	15.0	27	22.5	31	25.8	35	29.2
23- I would like to wear clothes that hide the fact that I am connected to a bag to collect stool.	18	15.0	20	16.7	31	25.8	19	15.8	32	26.7
24- I feel less than other people.	21	17.5	15	12.5	29	24.2	17	14.2	38	31.7
25- My lifestyle became bad after the colonic opening was performed on the abdominal wall.	15	12.5	21	17.5	16	13.3	20	16.7	48	**40.0**

26- I feel uncomfortable with my body shape as a result of the presence of the colonic opening on my abdominal wall.	14	11.7	19	15.8	12	10.0	21	17.5	54	**45.0**
27- It is difficult for me to see the colonic opening on the wall of my abdomen.	19	15.8	12	10.0	23	19.2	18	15.0	48	**40.0**
28- I am satisfied with my external appearance after the colonic opening on the abdominal wall.	2	1.7	33	27.5	11	9.2	34	28.3	40	33.3

Table (5) shows that, 45.0% of the studied patients reported always regarding feel uncomfortable with my body shape as a result of the presence of the colonic opening on my abdominal wall. Also, 41.7% of them reported always regarding worried that the bag will open and what's inside will come out. Additionally, 40.0% of them reported always regarding annoyed by the presence of gases, lifestyle became bad after the colonic opening was performed on the abdominal wall and it is difficult for them to see the colonic opening on the wall of their abdomen.

Table (6): Frequency and percentage distribution of the studied patients according to their quality of life in relation to social dimension (n=120).

Social dimension	Never		Rarely		Sometimes		Usually		Always	
	N	%	N	%	N	%	N	%	N	%
29- The presence of the colonic opening on the abdominal wall interferes with social relations	21	17.5	12	10.0	25	20.8	13	10.8	49	**40.8**
30- I prefer isolation from people due to the presence of the colonic opening on the abdominal wall.	26	21.7	10	8.3	30	25.0	15	12.5	39	**32.5**
31- I avoid close contact with my friends.	21	17.5	15	12.5	33	27.5	19	15.8	32	26.7
32- There are new financial burdens as a result of the colonic opening on my abdominal wall.	30	25.0	19	15.8	20	16.7	14	11.7	37	30.8
33- My disease is a burden on my family.	22	18.3	16	13.3	23	19.2	17	14.2	42	**35.0**
34- I receive support from family and friends after the presence of the colonic opening on the abdominal wall.	15	12.5	24	20.0	35	29.2	15	12.5	31	25.8
35- The support I receive from family and friends is sufficient to meet my needs	21	17.5	18	15.0	34	28.3	16	13.3	31	25.8
36- I changed my profession after performing the colonic opening on the abdominal wall.	16	13.3	22	18.3	36	30.0	14	11.7	32	26.7
37- I need to change my work schedule after performing the colonic opening on the abdominal wall	12	10.0	28	23.3	31	25.8	19	15.8	30	25.0

38- I have health insurance that covers my medical expenses.	29	24.2	13	10.8	35	29.2	18	15.0	25	20.8
39- I suffer from the inability to perform my marital duties.	25	20.8	10	8.3	36	30.0	22	18.3	27	22.5
40- I feel that my husband / wife's attention is starting to get away from me.	22	18.3	11	9.2	20	16.7	38	31.7	29	24.2

Table (6) shows that, 40.8% of the studied patients reported always regarding the presence of the colonic opening on the abdominal wall interferes with social relations. Also, 35.0% of them reported always regarding my disease is a burden on my family. Additionally, 32.5% of them reported always regarding I prefer isolation from people due to the presence of the colonic opening on the abdominal wall.

Table (7): Frequency and percentage distribution of the studied patients according to their quality of life in relation to spiritual dimension (n=120).

Spiritual dimension	Never		Rarely		Sometimes		Usually		Always	
	N	%	N	%	N	%	N	%	N	%
41- I find meaning and purpose in my life.	29	24.2	16	13.3	34	28.3	21	17.5	20	16.7
42- I have a feeling of inner peace.	30	25.0	18	15.0	26	21.7	25	20.8	21	17.5
43- I am optimistic and have hope for the future.	26	21.7	15	12.5	30	25.0	12	10.0	37	**30.8**
44- The support I receive from personal spiritual activities such as prayer is sufficient for my comfort and psychological calm.	6	5.0	13	10.8	21	17.5	29	24.2	51	**42.5**
45- My religious and spiritual activities were not affected.	19	15.8	22	18.3	31	25.8	34	28.3	14	11.7

Table (7) shows that, 42.5% of the studied patients reported always regarding the support I receive from personal spiritual activities such as prayer is sufficient for my comfort and psychological calm. Also, 30.8% of them reported always regarding my disease is a burden on my family. Additionally, 32.5% of them reported always regarding I am optimistic and have hope for the future.

Table (8): Frequency and percentage distribution of the studied patients according to their quality of life in (Physical, Psychological, Social and Spiritual) dimension (n=120).

Dimensions	Poor		Average		Good	
	N	%	N	%	N	%
Physical dimension	54	45.0	35	29.2	31	25.8
Psychological dimension	51	42.5	40	33.3	29	24.2
Social dimension	43	35.8	39	32.5	38	31.7
Spiritual dimension	32	26.7	42	35.0	46	38.3

Table (8) shows that, 45.0% of the studied patients had poor quality of life regarding physical dimension and 42.5% of them had poor quality of life regarding psychological dimension. Also, 35.8% of them had poor quality of life regarding social dimension. While, 38.3% of them had good quality of life regarding spiritual dimension.
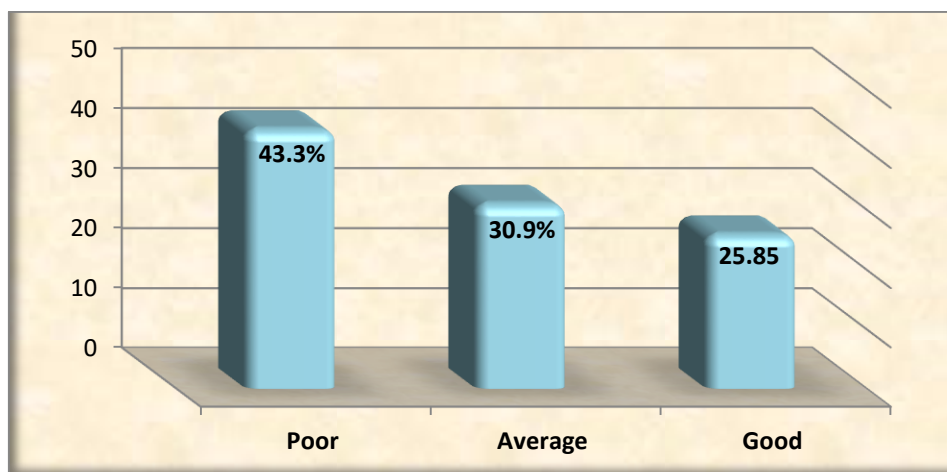
Figure (2): Distribution of the studied patients according to their total level of quality of life (n=120).

Figure (2) shows that, 43.3 % of the studied patients had poor quality of life and 30.8% of them had average level of quality of life. While, 25.8% of them had good quality of life.

Part IV: Relation and correlation between the studied variables among the studied patients

Table (9): Relationship between demographic characteristics of the studied patients and their total level of knowledge (n=120).

Demographic information		Total level of knowledge				X^2	P–value
		Satisfactory (n=43)		Unsatisfactory (n=77)			
		N	%	N	%		
Age (in years)	18<25	2	1.7	1	0.8	12.219	**0.007* (S)**
	25<35	2	1.7	6	5.0		
	35<45	26	21.7	24	20.0		
	45<60	13	10.8	46	38.3		
Gender	Male	27	22.5	56.	46.7	1.277	0.258 (NS)
	Female	16	13.3	21	17.5		
Educational level	Neither read nor write	2	1.7	2	1.7	1.422	0.723 (NS)
	Basic education	6	5.0	16	13.3		
	Intermediate education	25	20.8	39	32.5		
	University education	10	8.3	20	16.7		
Financial income	Sufficient	8	6.7	17	14.2	0.202	0.653 (NS)
	Not enough	35	29.2	60	50.0		
Cause of the colon opening	Malignant	32	26.7	66	55.0	2.351	**0.025* (S)**
	Tumor	11	9.2	11	9.2		
	Other causes	0	0.0	0	0.0		

     Table (9) shows that, there was a significant statistical relationship between total level of knowledge of the studied patients and their age and cause of colostomy at P-value=0.007 and 0.023 respectively.

While, there was no significant statistical relationship between total level of knowledge of the studied patients and their gender, educational level and financial income at P-value=0.258, 0.723 and 0.653 respectively.

Table (10): Relationship between medical history of the studied patients and their total level of quality of life (n=120).

Medical history		Total level of quality of life						X^2	P – value
		Poor (n=52)		Average (n=37)		Good (n=31)			
		N	%	N	%	N	%		
Age (in years)	18<25	1	0.8	0	0.0	2	1.7	3.946	0.684 (NS)
	25<35	4	3.3	2	1.7	2	1.7		
	35<45	23	19.2	14	11.7	13	10.8		
	45<60	24	20.0	21	17.5	14	11.7		
Gender	Male	35	29.2	29	24.2	19	15.8	2.458	**0.029* (S)**
	Female	17	14.2	8	6.7	12	10.0		
Educational level	Neither read nor write	1	0.8	1	0.8	2	1.7	3.577^{FET}	0.734 (NS)
	Basic education	8	6.7	6	5.0	8	6.7		
	Intermediate education	30	25.0	21	17.5	13	10.8		
	University education	13	10.8	9	7.5	8	6.7		
	Other	0	0.0	0	0.0	0	0.0		
Financial income	Sufficient	8	6.7	10	8.3	7	5.8	1.854	**0.036* (S)**
	Not enough	44	36.7	27	22.5	24	20.0		
Cause of the colon opening	Malignant	46	38.3	30	25.0	22	18.3	3.982	**0.013* (S)**
	Tumor	6	5.0	7	5.8	9	7.5		
	Other causes	0	0.0	0	0.0	0	0.0		

Table (10) shows that, there was a significant statistical relationship between total level of quality of life of the studied patients and their gender, financial income and cause of colostomy at P-value=0.029, 0.026 and 0.013 respectively.

While, there was no significant statistical relationship between total level of quality of life of the studied patients and their age and educational level at P-value=0.684 and 0.734 respectively.

Table (11): Relationship between medical history of the studied patients and their total level of quality of life (n=120).

Medical history		Total level of quality of life						X^2	P –value
		Poor		Average		Good			
		N	%	N	%	N	%		
Chronic diseases	Yes	36	30.0	27	22.5	20	16.7	0.566	**0.054* (S)**
	No	16	13.3	10	8.3	11	9.2		
Previous surgeries	Yes	7	5.8	4	3.3	12	10.0	10.402	**0.006* (S)**
	No	45	37.5	33	27.5	19	15.8		

| Family history of chronic diseases | Yes | 32 | 26.7 | 21 | 17.5 | 20 | 16.7 | 0.445 | 0.827 |
| | No | 20 | 16.7 | 16 | 13.3 | 11 | 9.2 | | (NS) |

Table (11) shows that, there was a significant statistical relationship between total level of quality of life of the studied patients and their history of chronic diseases and previous surgeries at P-value=0.054 and 0.006 respectively.

While, there was no significant statistical relationship between total level of quality of life of the studied patients and their family history of chronic diseases at P-value=0.827.

Table (12): Correlation between total level of quality of life and total level of knowledge among studied patients (n=120).

Variables	Total level of quality of life	
	r	**P-value**
Total level of knowledge	0.390	0.079 (NS)

Table (12) shows that, there was non-significant statistical correlation between total level of quality of life and total level of knowledge among the studied patients at P-value=0.079

Discussion:

Living with a permanent colostomy introduces various challenges that can significantly affect a patient's quality of life (QoL), including physical, psychological, and social dimensions. One of the critical aspects of patient care is ensuring that patients are equipped with adequate knowledge about colostomy management. This knowledge is essential for patients to handle the daily responsibilities of stoma care, prevent complications, and maintain personal hygiene. Proper education enables patients to manage their condition with more confidence, potentially reducing anxiety and improving their physical health. However, the extent to which knowledge directly impacts a patient's overall quality of life is a topic of interest, as many factors beyond knowledge can influence how well a patient adapts to life with a colostomy.

The aim of the current study was to assess quality of life for patient with permanent colostomy through: Recognizing patient with permanent colostomy knowledge regarding colostomy care and determine the quality of life for patient with permanent colostomy.

Part (I): Demographic data and medical history of the studied patients

Regarding the patients' demographic characteristics, the current study results revealed that, the largest age group of studied patients is between 45 and 60 years old, accounting for nearly the half of the total sample, with a mean age of 45.5±8.23 years. This indicates that middle-aged and older adults are most affected by conditions necessitating a permanent colostomy, such as colorectal cancer. This finding aligns with the global epidemiology of colorectal diseases, where the incidence of such conditions increases with age, particularly after 40. The current study result is consistent with results findings by **Ibrahim et al. (2021),** in the study entitled "Quality of Life and Characteristics of Colostomy Patients" by which also found that middle-aged adults are the most commonly affected group.

As regard gender distribution shows that more than two thirds of the patients were male, which suggests that men may be more likely to develop conditions requiring permanent colostomies, this may be due to lifestyle factors, genetic predisposition, or a tendency to delay seeking medical care. This gender imbalance could also reflect a higher prevalence of colorectal cancer among men, a pattern observed in various studies. This result agrees with **Mohamed et al., (2022)** in the study entitled "Effect of Educational Program on Self-efficacy and

Peristomal Skin Complications for Patients with Permanent Colostomy" and reported that 60% of the studied patients were males.

Part (II): Medical history of the studied patients with permanent colostomies

Concerning the medical history of the studied patients with permanent colostomies. The current study findings revealed that a more than two thirds of patients had chronic diseases, with hypertension and diabetes being the most prevalent, affecting more than one third and near to one third of patients, respectively. Hypertension and diabetes, in particular, are associated with an increased risk of vascular complications, which can exacerbate gastrointestinal problems and delay recovery post-surgery. Managing these comorbidities is crucial, as poorly controlled hypertension or diabetes can lead to further complications, impacting the patient's overall quality of life and the success of colostomy care.

Part (III): knowledge of patients with permanent colostomies:

As regard knowledge of patients with permanent colostomies, the current study revealed that two thirds of the patients correctly identified the most common cause of colostomy, and more than three fifths had the correct understanding of when the colostomy would return to normal after surgery. Furthermore, nearly three fifths of the patients were aware of the purpose of a colonoscopy, and more than half of patients correctly identified the warning signs that should be observed with a colostomy. These figures suggest that while many patients have a foundational understanding of certain essential aspects of their condition, particularly the causes of colostomies and postoperative expectations, there remain significant gaps in their broader understanding and day-to-day management.

Part (IV): Quality of life among patient with permanent colostomy:

As regard patient quality of life the physical dimension, findings of current study demonstrated that, is that near to the half of the studied patients reported that the presence of the colonic opening on the abdominal wall always interferes with their daily and recreational activities. This high percentage underscores the substantial lifestyle adjustments these patients must make. The presence of the colostomy not only affects their physical movements but also limits participation in social or leisure activities, which can lead to social isolation and a diminished sense of normalcy. For many patients, daily routines become centered around stoma management, and recreational activities may be avoided due to the fear of leaks, discomfort, or other stoma-related issues.

Moreover, nearly half of patients reported that they always need to know the nearest toilet to where they are. This reflects the constant preoccupation with the need to empty the stoma bag, which can create anxiety, especially in unfamiliar environments.

Part (V): Relation and correlation between the studied variables among the studied patients:

As regard correlations between the demographic characteristics of the studied patients and their total level of knowledge about colostomy care. Notably, a significant statistical relationship was found between the total level of knowledge and both age and the cause of the colostomy. The significant relationship between age and knowledge indicates that younger patients tend to have a higher level of knowledge compared to older patients. Specifically, a larger proportion of patients aged 35 to 45 demonstrated satisfactory knowledge compared to those in the 45 to 60 age group, where a higher percentage had unsatisfactory knowledge.

From the researcher's perspective the level of knowledge variation between different age groups may be due to the fact that younger patients have easier access to sources of information and the result may be affected by the small number of younger patients.

Conclusion

Based on the study results, the present study revealed that near to two third of the studied patients had unsatisfactory level of knowledge with permanent colostomy. Also, less than half of the studied patients had poor quality of life with permanent colostomy. Furthermore, there was a significant statistical relationship between total level of knowledge of the studied patients and their age and cause of colostomy, while, there was no significant statistical relationship between total level of knowledge of the studied patients and their gender, educational level and financial income.

Moreover, there was a significant statistical relationship between total level of quality of life of the studied patients and their gender, financial income and cause of colostomy, while, there was no significant statistical relationship between total level of quality of life of the studied patients and their age and educational level. Additionally, there was a significant statistical relationship between total level of quality of life of the studied patients and their history of chronic

diseases and previous surgeries, while, there was no significant statistical relationship between total level of quality of life of the studied patients and their family history of chronic diseases. Also, there was non-significant statistical correlation between total level of quality of life and total level of knowledge among the studied patients at P-value=0.079.

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

Investigator Recommendations:

- Investigator should continuously create educational programs for permanent colostomy patients and their families about the disease, management, complication and treatment.
- Encourage investigators to conduct the study on a large sample size and different hospitals setting in order to generalize the results.

Patients Recommendations:
- Patients should adhere to medication program and physiotherapy to improve their quality of life.
- Instruct the patients to use assistive devices to help in movement and decrease their dependence.
- Instruct the patients to avoid stress, anxiety and depression.

Nurses Recommendations:
- Recommend nurses to improve patients care in out-patients clinics to provide more comfort.
- Nurses should provide additional program for in-home management with the training of cognitive

Community Recommendations:
- Encouraging social agencies to support patients with permanent surgeries such as permanent colostomy.
- The study provides recommendations for the healthcare system to facilitate a reduction in the financial burdens of this critical disease.

REFERENCES

Yan, M.H., Zheng, M.C., Jin, Y., Zhang, J, E. (2020). Quality of Life and Its Influencing Factors among Chinese Patients with Permanent Colostomy in the Early Postoperative Stage. A Longitudinal Study. Cancer Nurs.

Capilla , D, C., Nieves , C,B., Hernandez , S , M., Montoya ,R., Morales, J,M., Pérez , M,N., Hueso,M, C . (2019). Living With an Intestinal Stoma: A Qualitative Systematic Review. Qual. Health Res., 2019; 29, 1255–1265.

Gomes, P., Goncalves, D., Viana, C., Nougerira, F., Goulart, A. (2019). Quality of life (QoL) among ostomized patients.J Coloproctol 2019; 39:48-55.

Saunders, S., Brunet, J, A. (2019). qualitative study exploring what it takes to be physically active with a stoma after surgery for rectal cancer. Support Care Cancer. 2019; 27(4):1481–9.

Koontalay, A, sanqsaikaw, A, Khamrassane, A. (2020). Effect of a Clinical Nursing Practice Guideline of Enteral Nutrition Care on the Duration of Mechanical Ventilator for Critically Ill Patients, Asian nursing research (2), 17, p.p1723

Vonk, S, M., DeVocht, H, M., denouden,E,M., Eddes, E,H., Schuurmans, M,J.(2016). Ostomy-related problems and their Impact on quality of life of colorectal cancer ostomates: A systematic review. Qual. Life Res. **2016**, 25, 125–133.

Shaukat,A., Charles ,J., Kahi, L.(2021). Clinical Guidelines: Colorectal Cancer Screening 2021. *Gastroenterol*.2021; 116:458–79.

Mohamed Mohamed, A., Hamed Mahmoud, M., & Ali Ibrahim, R. (2022). Effect of Self Care Protocol for Colostomy Patients on Peristomal Skin Complications. *Journal of Nursing Science Benha University*, *3*(1), 398-415.

El-Rahman, A., Ali, W., Mekkawy, M. M., & Ayoub, M. T. (2020). Effect of nursing instructions on self-care for colostomy patients. *Assiut Scientific Nursing Journal*, *8*(23), 96-105.

Ali,G.,Ahmed,a.,Abd-Elatif,Z.(2010).
Development and validation of stoma ,quality of life scale in Arabic for patient with permenant colostomy ,journal of medicine and biomedical sciences,ISSN,37:2078-