Effectiveness of an Educational Program on Self-Care Management of Colostomy Patients

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ABSTRACT

Background: Colostomy is crucial in the treatment of many gastrointestinal problems and has long been one of the procedures that save lives in the globe. Colostomy can be used for many causes as bowel diseases, anastomotic site protection, stool diversion, or a combination of these. Self-care management program is vital for supporting, educating and improving patients' self-care practice with colostomy. **Aim**: To evaluate the effect of an educational program on self-care management of colostomy patients'. **Subject and Method: Design,** Quasi-experimental design (one group). **Setting**: This study was conducted in the outpatient department of Al-Azhar University Hospital, New Damietta City. **Subjects:** The sample size was 50 patients. **Tools**: Three tools were used for data collections: **Tool I**: structure interview questionnaire to assess knowledge of patients' self-care management regarding colostomy care, **Tool II**: Patient's observational checklist to assess patient practice for colostomy care and **Tool III**: Stoma care Self - Efficacy scale to assess coping with difficulties of daily colostomy care. **The Results**: there was improvement in patients' knowledge, self-care practice and self-efficacy post program implementation with highly significant difference between pre and post program implementation (p<0.005). **Conclusion:** the educational program had positive effect to improve patients' knowledge, self-care practice and self-efficacy regarding colostomy care. **Recommendations**: In order to confirm the findings and generalizability, more studies should be conducted on a larger number of colostomy patients.

Keywords: Colostomy, Educational program, Self-care, Self-care management.

INTRODUCTION

Education is critical for the development of a person's capacity for self-care, independence, and disease adaption. People often want to know what life would be like in the initial years following an ostomy. The treatment of ostomies has gained more attention (Berti-Hearn and Elliott, 2018; Cheng et al., 2013; Cross et al., 2014; Elshatarat et al., 2020).

An opening (stoma), stoma, is made in the large intestine during surgery known as a colostomy (colon). A hole between the patient's body surface and the gut serves as the orifice, which allows waste to be expelled. Around 1.2 million colorectal cancer patients received colon ostomies in the United States in 2012. Adoption of intestinal stomas has grown by about 3.5 percent worldwide (Hooper & Gutman, 2017). A colostomy is named after where it forms in the intestine.

A sigmoid, transverse, ascending, or descending colostomy can be used. The location of the gut utilized determines the kind of secretion. Ascending colostomies produce discharges that range from liquid to heavy and smelly. From the transverse colostomy, a pasty to semi-formed discharge is coming out. The left lateral colostomy's outflow is soft and semi-plastic in nature. In descending and sigmoid colostomies, the outflow can be soft or stiff (Berti-Hearn & Elliott, 2019).

Self-management education includes traditional patient education but also involves helping patients to set American Journal of Nursing Research 192 achievable goals and learn techniques of problem-solving. Self-Management Support Programs aim to Change Patient Behavior by increasing the patients' self-efficacy and knowledge (Berti-Hearn & Elliott, 2019). Self-efficacy is characterized as a person's confidence in their capacity to attain a particular degree of success, which affects the factors that have an impact on their life. Beliefs influences how individuals feel, think, behave, and are motivated by a number of other impacts, including: Processes including cognition, motivation, emotion, and selection. Patients are instructed in how to self-manage their ostomies as part of ostomy self-care (Roshandel, Ghonsooly, & Ghanizadeh, 2018).

According to research, stoma issues reduce the quality of life for those who have them and frequently result in physical and psychological restrictions for them as well as their family (Pittman, Colwell, & Mulekar, 2022). In addition to dealing with a devastating diagnosis that is sometimes life-threatening, patients with stomas also need to make significant lifestyle adjustments. To better understand the results of this frequent surgical surgery, research is required to identify risk factors specific to stoma problems (Baltazar et al., 2019).

Significance of the Study

The third greatest cause of cancer-related mortality globally is colorectal cancer. Over 70% of his cancer-related fatalities take place in low- and middle-income nations. The rate of new colorectal cancer cases worldwide has increased at the quickest rate since 1975, when there were 500,000 cases. Additionally, 9.4% of all malignancies are colorectal cancers. Colostomy is one of the most typical issues affecting colostomy patients who have undergone surgery (Gillian & Lew, 2018). In addition to the ongoing issues and consequences of colostomy on the patient's condition and everyday life, colostomy patients may also have a number of physical and psychological difficulties. When assessing the effectiveness of various treatment methods and their long-term effects on the patient's life in this situation, lifestyle is important to take into account (Cox et al., 2016).

AIM OF THE STUDY

Evaluate the effect of an educational program on self-care management of colostomy patient's.

Research hypothesis

Patient's colostomy self-care management will be improved after implementation of an educational program.

SUBJECT AND METHOD

The subjects & method for this study were portrayed under 4 main designs as follow:

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

(I) Technical design

The technical design included design, setting, participants and tools of data collection

Research Design

A quasi experimental design was utilized (pretest and posttest) quasi-experimental research design in which the same dependent variable is measured in one group to evaluate the effect of an educational program for patient's colostomy self-care management.

Study Setting

The study will be carried out at the AL-Azhar University Hospital's New Damietta outpatient surgery and oncology clinic. It worked two days a week in an oncology clinic and every day in a surgical clinic at the hospital, which was affiliated to AL- Azhar University.

Subjects

A total of 50 colostomy patients were treated at the Surgical and Oncology Clinic of AL Azhar University Hospital, New Damietta, for postoperative follow-up. Purposive sampling was employed to choose research participants.

Inclusion criteria

Adult patients have permanent or temporary colostomy, both sexes, who were able to care for themselves and were attending the clinic at the time of data collection;

Exclusion criteria

Handicapped patients.

Sample size

Two-sided confidence level(1-alpha)	95
Power (% chance of detecting)	80
Ratio of Controls to Cases	1
Hypothetical proportion of controls with exposure	40
Hypothetical proportion of cases with exposure:	66.67
Least extreme Odds Ratio to be detected:	3.00
Odds Ratio:	12
Risk/Prevalence Ratio:	7.6
Risk/Prevalence difference:	33

$$\text{Nkelesy} = \frac{(Z_{\alpha/2} + Z_{\beta})\ 2\ p\ (1-p)\ (r+1)}{r\ (p0-p1)2}$$

N=number of cases and number of controls

($Z_{\alpha/2}$) standard normal deviate for two-tailed test based on alpha level (relates to the confidence interval level)

(Z_{β}) standard normal deviate for one-tailed test based on beta level (relates to the power level)

r = ratio of controls to cases

p_1 = proportion of cases with exposure and $q_1 = 1-p_1$

p_0 = proportion of controls with exposure and $q_0 = 1-p_0$

	Kelsey	**Fleiss**
Total sample size:	50	49

Tools of data collection

The study data were collected by using three tools:

Tool I: Structure interview questionnaire

This tool was developed by the researchers to assess patient knowledge of self-care management regarding colostomy care after studying the literature (Grant et al.,

2011; Piras &Hurley, 2011; Meisner et al., 2012; Anaraki et al., 2012). There will be three parts, as follows:

Part 1: Socio-demographic data

This part includes data related to patients' demographic data as (age, sex, marital status, occupation, level of education, income and residence).It composed of 8 multiple choice questions.

Part 2: Patient' medical history

This part includes patient's medical history as past health history, present history, chronic disease, type of colostomy, and current treatment) it composed of 7 multiple choice questions.

Part3: Patient's knowledge

Including colostomy purposes, ostomy care, food types, ostomy color ,and colostomy irrigation) 50 true or false questions on the patient's knowledge of the colostomy and its care, skin around colostomy, food, bowel elimination, and physical activity, there are 10 multiple-choice questions regarding colostomy problems, and 4 of them (yes or no) are about activities.

Scoring system of patients' knowledge

Using model answers, researchers examined the knowledge of Colostomy patients. Correct responses to each closed question received a "1," while wrong responses received a "0." To get the mean and standard deviation (SD) of the section, the scores for each knowledge domain's items were added, and the total score was divided by the number of items.

Tool II: Patient's observational checklist

It offers a validated observational checklist for patient-centered care that is adapted from **medical-surgical thinking**. (Lemone et al., 2014) posed 10 questions (if any) on colostomy care, flushing, changing colostomy pouch, disposing of old pouch,

preparing equipment, and 22 questions about changing pouch. Colostomy cleansing in 18 steps

Scoring system

Each step of performance was rated from 0-2.the scores were being allotted "Most of times" which take (2), "many times" scored as (1), and "rarely" scored as (zero). The scores of the items were totaled for each region, and the mean + SD score for the area was transformed into percent scores by dividing the total score by the number of items.

Tool III: Stoma care Self - Efficacy Scale

It was adopted by (Bekkers et al., 1996), and assesses the general sense of self-efficacy perceived in coping with day-to-day problems and adaptations after going through stressful life events of any sort that make disease more challenging. It has 13 items and was created to assess the validity of the scale's items using the Alpha Cronbach test, which came back at 0.94.

Scoring system

Patients` responses were categorized as follow: 1= not being confident at all, 2 = slightly confident, 3 = fairly confident, 4 = highly confident and 5 = extremely confident. Positive self-efficacy, or the subjective presence of ability, is what high scores represent. Hence, the total score is 100; a score of 50 or less indicates low (-ve) self-efficacy while a score of 50 or more indicates high (+ve) self-efficacy. 20% are unconfident, 20%–40% are slightly, >40–60% are fairly confident, >60–80% are highly confident, and >80% are extremely confident (Hegazy, Ibrahim, Sabry, & Abass,2017).

(II) Operational design

The operational design included preparatory phase, content validity, Reliability, pilot study and fieldwork.

A. The Preparatory Phase

Finding relevant and recent literature on the study topic, numerous studies, and information on many aspects of the problem

involves accessing all official websites, including PubMed, Google Scholar, academic books, papers, journals, etc. There was also a review of related theoretical knowledge.

B. Content Validity

A jury of nine professorial specialists conducted it (2 assistant professors and 4 lecturers from the Medical-Surgical Department of Nursing, Port Said University, and 1 assistant professor and 2 professors, 1 lecturer from Al-Azhar University). Who revised the tools for clarity, relevance), completeness, understanding, and simplicity of application. Changes were made in response to their feedback.

C. Reliability

It was done using alpha "Cronbach's alpha test" to assess the internal consistency of the tool and its value was (0.792) for knowledge regarding colostomy care, (0.831) for patient's self-efficacy and (0.758) for practice regarding colostomy care.

D. Pilot Study

Prior to data collection, a pilot study including 10% of the studied patients was carried out to assess the first and second tool while omitting them from the research's total sample. The purpose of the pilot research was to see whether the study tool was applicable, clear, and how long it would take to complete. It also assisted in identifying problems and barriers that would impair data collecting. Based on the findings of the pilot research, certain adjustments to the tool were made.

E. Field work description

Field study was conducted for nine months from the beginning of September (2021) to the end of May (2022). The study was carried out through the following phases:

- **Assessment phase**

Researchers will assess patient self-care management in relation to colostomy care after the tool is finished. To aid in the creation of educational interventions, analysis

of the collected pretest data will be done. Using tools I, II, and III. Tool I was developed to assess a patient's knowledge of how to manage their own colostomy care. For each patient, the researcher completes (Tool I). Nearly 30 minutes, the components were filled. As each patient was being watched by researchers during actual clinical practice, Tool II was created to evaluate patient practice. The Observation Checklist was used to evaluate patients (Tool II). The tool took between 30 and 45 minutes to finish. To assess how well people are managing the problems of routine colostomy care, Tool III was developed. Researchers developed a technique that revealed the most recent literature in approximately 15-20 minutes.

- **The educational program development phase**

Based on patient demands and requirements obtained during the assessment phase and a study of literature review, the educational program was created. Included in this period were the following;

a) Setting objectives

The aim of educational program was to improve patients' performance related to care colostomy management:

- o Improve knowledge related to patients' self-care management regarding colostomy care.
- o Improve self-care practice related to patients' self-care management regarding colostomy care.
- o Improve patients' self-efficacy regarding colostomy care.

b) Preparation of the content

Content covered all areas about of patient' self-care management regarding colostomy care was prepared which included the following:

1. Definition, purpose, and types of colostomy.
2. Caring skin around colostomy.
3. Nutrition (types of food and amount of water), elimination, personnel physical activities, and sports activities.
4. Colostomy care(changing pouch ,colostomy irrigation)

5. Self-efficacy regarding colostomy care.

c) Planning of action

In this step the researcher designed a plan for educational program implementation.

o   The 12-week educational program included four sessions divided out during that time. Early meeting schedules and 30- to 45-minute meeting lengths were the standard. There were ten groups in all (5 subjects each). The ideal timing for each group to receive the educational program was completely up to them. Additionally, the following was chosen as the educational program's strategy.

o   Appropriate educational strategy selected in the form of (lectures, small group discussions, demonstrations, re-demonstrations)

o   Choosing the right teaching media, such as handouts, video materials (lab), and real objects.

o   Handouts provide theoretical information and procedural instructions designed to refresh patients' knowledge of colostomy care knowledge and practices.

●   **Educational program implementation phase**

The evaluated patients were then separated into 10 groups of five each, and each group was then brought together individually in a conference room. They participated in a 12-week education program for the morning shift. There were 30–45 minute each session.

Each group received a personalized explanation of the training program's introduction, its significance, the presentation of the plan for the training program, and the presentation of the program's learning objectives at the start of its execution.

As part of the care plan, the patient came to 4 sessions. The following timetable was used.

Session	Time	Content
1ˢᵗ session	15 Minutes	• Purpose of colostomy • Types of colostomy
	15 Minutes	• Sites of colostomy • Types of food and fluids
	15 Minutes	• Physical activities
2ⁿᵈ session	15 Minutes	• Equipment needed for Colostomy care
	15 Minutes	• Skin care around colostomy
	15 Minutes	• complications of colostomy
3rd session	15 Minutes	• How removal old pouch
	15Minutes	• How change new pouch
4th session	15 Minutes	• Colostomy irrigation
	15 Minutes	• Types of colostomy need colostomy irrigation
	15 Minutes	• How overcome on complications of colostomy

A copy of the handout was distributed to each patient so they could remember the information and procedures for the theoretical portion's explanation and to see how the program works.

The curriculum was delivered simply and concisely utilizing a range of instructional techniques, including lectures, small-group discussions, demonstrations and remonstrations, as well as suitable audiovisual (laboratory) and material teaching media.

Each session should have started with a quick review of the content that was previously presented. The goal of the current meeting was then established. All operations were demonstrated in front of the patient, and the researchers went through the benefits and potential drawbacks of each one.

Patients were questioned following the researcher's presentation to determine whether there were any steps that needed to be clarified or repeated.

Researchers emphasized that the objective of this session was instruction, not assessment. Finally, the researcher offered feedback first with the positives and then the negatives,

promptly correcting any weaknesses or errors to save future patients from making the same mistakes. As a result, any inaccuracies or omissions were permitted and instantly remedied by the researchers. Additionally, patients were questioned about their opinions of the researchers.

- **Evaluation phase**

Tools I, II, and III were used to assess program results. The evaluation was carried out three months later through using Tool II to assess patient practice; Patient theoretical knowledge was assessed using Tool I, and Tool III to assess coping life style.

III. Administrative design

A formal letter from the associate dean of the nursing Faculty at Port Said University was sent to the hospital administration to request official permission for data collecting at Al-Azhar University Hospital. Before beginning data collection, verbal communication with patients was gathered. Meetings and talks between investigators and administration personnel were arranged to inform them of the research's aims and objectives and to encourage greater collaboration throughout the study implementation stage. There was agreement.

Ethical Considerations

The ethical considerations in this study (NUR (4/4/2021) (1) included the following:

The studied participants' patients were informed of the studied aim. Patients' data are kept private and anonymous by researchers. Patients were advised that they may opt to participate in the study or not, and that they could do so at any moment and without providing a reason. Each patient's data is gathered in a discreet setting to preserve privacy.

IV. Statistical design

At the end of the fieldwork, data were coded and transformed into coding sheets.The following statistical measures were used:

Statistical analysis of data

Using the SPSS program, the collected data were arranged, tabulated, and statistically examined (Statistical Package for Social Sciences, version 23, SPSS Inc. Chicago, IL, USA). Utilizing counts and percentages, Wilcoxon's signed rank (z) test was performed to compare two groups (frequency). After calculating the mean and standard deviation, the paired t-p-value test's (t) was produced, and the ANOVA test's p-value (f) was used to compare two sets of parametric data. A minimum of two sets of parametric data are now available. For a statistically significant interpretation of the significance test findings, significance was determined at $p < 0.05$. To check between variables, the Spearman's correlation test was used.

RESULTS

Table (1): shows that (42%) of the studied patients were at age group 40-50 years old. with a mean age of 41.98 ± 11.87. Regarding **sex,** (54%) of them were females and 80% were married As regards level of education, 42% of the studied patients were having high level of education and 58% were working, 46% had enough income, and 66% of the studied patients were from urban.

Table (2) illustrates mean scores of total patients' knowledge pre and post educational program intervention, There was an improvement in mean score of total knowledge 58.64 ± 4.71 post educational program compared to 26.08 ± 5.41 pre-educational program. There were statistically significant difference ($t = 34.771$, $p < 0.001$).

Table (3) show levels of patient self- efficacy of colostomy care pre and post educational program intervention there were positive statistically significant difference ($z = 6.367$, $p < 0.001$), There was an improvement in mean score of levels of patient self-efficacy 58.64 ± 4.715 post educational program compared to 22.94 ± 5.669 pre-educational program. There were positive statistically significant difference ($t = 23.019$, $p < 0.001$).

Table (4): illustrates mean scores of patient stoma care practice pre and post program intervention among Studied sample, There was an improvement in mean score of total patient stoma care practice 42.94±4.34 post educational program compared to 18.91±4.08 pre- educational program. There were statistically significant difference (t =40.390, p <0.001).

Table (5): show relation between patient's practice and knowledge in different phases of program intervention among the studied sample, it reveals that there was statistically significant difference between patients' practice and knowledge regarding colostomy self-care management post educational program(p = 0.004).

Table (6): show relation between patient's efficacy , patient's knowledge and patient's practice in different phases of program intervention among the studied sample, it reveals that there was statistically significant difference between patients' efficacy and patient's knowledge regarding colostomy self-care management post educational program(r = 0.283, p = 0.047) .

Table (1): Demographic characteristics of the studied patients (n=50)

Variable	Patients (n=50)	
	N	**%**
Age group (Years)		
<30	4	8.0
30: <40	13	26.0
40: <50	21	42.0
50-60	12	24.0
Mean±SD	41.98 ± 11.87	
Marital Status		
Single	10	20.0
Married	40	80.0
Occupation		
Employee	29	58.0
Private work	4	8.0
Not- work	17	34.0
Level of education		
Not-educated	8	16.0
Read and write	10	20.0
Primary education	11	22.0
University	21	42.0
Sex		
Male	23	46.0
Female	27	54.0
Income		
Enough	23	46.0
Not-enough	22	44.0
Enough and more	5	10
Residence		
Rural	17	34.0
Urban	33	66.0

Table (2): Mean scores of patients' knowledge pre and post educational program intervention of the colostomy care   (n=50).

Items	Programs phases				t	P
	Before program (n=50)		Post program (n=50)			
	Mean	SD	Mean	SD		
Definition of colostomy	1.88	1.17	4.72	1.08	13.482	**0.001***
Care of the colostomy	3.26	1.74	8.42	1.76	17.512	**0.001***
Colostomy irrigation	4.26	1.71	8.88	1.96	14.83	**0.001***
Care of the skin surrounding the stoma	1.82	1.02	4.61	0.78	15.523	**0.001***
Nutrition and elimination	6.98	2.28	14.86	1.55	21.967	**0.001***
Sports activities	1.98	0.89	4.38	0.72	16.166	**0.001***
Personnel physical activities	3.48	1.54	6.84	1.55	12.625	**0.001***
Complications associated with colostomy	1.02	0.76	2.52	0.95	8.174	**0.001***
Complications associated with colostomy	1.40	0.94	3.42	1.14	10.482	**0.001***
Total knowledge	26.08	5.41	58.64	4.71	34.771	**0.001***

*Significant (P<0.05).   t= paired t-test
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Table (3): Total levels of patient self- efficacy of colostomy care pre and post educational program intervention of the colostomy care   (n=50).

Items	Programs phases				Z	P
	Before program (n=50)		Post program (n=50)			
	Number	Percent	Number	Percent		
Levels of Patient self- efficacy						
Not confident	0	0	0	0	6.367	0.001*
Slightly confident	36	72.0	0	0		
Fairly	14	28.0	2	4.0		
Highly confident	0	0	45	90.0		
Extremely confident	0	0	3	6.0		
Scores of Patient self- efficacy						
	Mean	SD	Mean	SD	t	P
Scores of Patient self- efficacy	22.94	5.669	58.64	4.715	23.019	0.001*

*Significant (P<0.05).   Z= Wilcoxon Signed Ranks test.   t= paired t-test

Table (4): Mean scores of patient stoma care practice among Studied sample (n=50).

Items	Programs phases				T	P
	Before program (n=50)		Post program (n=50)			
	Mean	SD	Mean	SD		
Preparation of equipment	4.26	1.49	8.48	1.46	16.8	**0.001***
Stoma Care and changing appliance stoma appliance procedure	5.54	2.43	11.42	1.98	16.008	**0.001***
In case of using new stoma pouch	1.21	0.88	2.51	0.61	9.436	**0.001***
In case of using old stoma pouch	2.31	1.16	4.46	1.07	10.448	**0.001***
Colostomy irrigation	4.32	1.68	11.90	1.61	24.623	**0.001***
After colostomy irrigation complete	1.28	0.94	4.18	0.77	17.602	**0.001***
Total practice	18.91	4.08	42.94	4.34	40.390	**0.001***

*Significant (P<0.05).   **t=** paired t-test

Table (5): Correlation between patient's Practice and knowledge among the Studied sample (n=50).

Variables		patient's practice	
		Pre program	Post program
patient's knowledge	Pre program	r = -0.110- p = 0.446	r = -0.166- p = 0.250
	Post program	r = -0.123- p = 0.394	r = 0.401 p = 0.004*

*Significant (P<0.05)   **Spearman's correlation**

Table (6): Correlation matrix between patient's efficacy, patient's Practice and patient's knowledge among the Studied sample (n=50).

Variables		patient's knowledge		patient's Practice	
		Pre program	Post program	Pre program	Post program
patient's efficacy	Pre program	r = -0.158- p = 0.275	r = 0.021 p = 0.884	r = 0.218 p = 0.128	r = -0.166- p = 0.250
	Post program	r = 0.059 p = 0.682	r = 0.283 p = 0.047*	r = -0.028- p = 0.849	r = -0.110- p = 0.446

*Significant (P<0.05)   Spearman's correlation

DISCUSSION

A colostomy is a surgical operation that creates an artificial opening, or stoma, to disrupt the natural bowel bath. Acute diverticulitis, rectal malignancy, trauma, or inflammatory bowel disease are the causes for this operation. This intervention might be either short-term or long-term (Mohamed, Salem, & Mohamed, (2017)). In addition to having a tough time adjusting to their cancer, patients who have colostomy surgery also experience physical and psychological issues that gravely jeopardize their quality of life. There are several difficulties with self-care and self-efficacy (Seo, 2019). Ostomies have been proven in several studies to have a detrimental effect on patients' quality of life and way of life (Vonk-Klaassen et al., 2016; Nasvall et al., 2017). Depression, dissatisfaction with appearance and body image, dressing challenges, travel challenges, and job loss (Ayaz-Alkaya, 2019).

Obtaining the necessary knowledge to adjust to this new scenario is a significant problem for people with colostomies. As educators, nurses should concentrate on giving their patients the right health information while being generous with their comments and evaluation. Before and after colostomy patient education can help with adjustment, lower problems, and enhance general quality of life (Abdelmohsen, 2020).

Regarding demographic data of the studied patients, the present study revealed that two-fifths of the study sample was aged ranged between 40 >50 ,this result might be due to the age of greater than 40 years being considered one of the risk factors for colon cancer. While, Seo, (2019) found that nearly one-fifth of study patients were aged

between40-49 years. The same result disagreed with Abdelmohesen, (2020), who found that more than half of the studied patients aged between 14- to 35 year-old.

The current study reported that two-fifth of the study sample graduated from university, this result might be because two- thirds of patients live in urban area with more attention to education. This result agrees with Farahani, Dorri &Yousef, (2020) found one-third of the study sample had a Bachelor's degree.

The present study illustrated that two fifth of the studied patients were male .This may be due to most of men had fast food that increase the risk of developing colorectal cancer. In the agreement with the present results an Egyptian study done by Mohamed, Mahmoud&Ibrahim, (2022) reported two fifth of the studied patients were male.

Concerning the residence, and nature of work; the present study findings denoted that three-fifth of the studied patients were living in urban areas; this may be due to study setting serves new surrounding cities. These findings agree with El Sayed, AbdElhamead&Hassanen (2018), who found that nearly three-quarters of the studied patients were living in rural areas

Regarding mean total knowledge scores for colostomy care, the present study reported an improvement in mean total knowledge scores after educational programs compared to pre educational programs, with statistically significant differences. This is in line with a research done in Turkey Culha, Kosgeroglu, and Bolluk (2016) which discovered that stoma patients' understanding was low prior to the treatment and improved after it (Abdulmutalib, Al Nagshabandi, & Alansari , 2018). They discovered that the pre-total program's knowledge value was low and that it improved throughout the follow-up phase.

The current study illustrated that there was statistically significant difference, and there was an improvement in mean score of levels of patient self-efficacy 58.64±4.715 post educational program compared to 22.94±5.669 pre- educational program. This result is consistent with Pate et al., (2022) of an investigation on the use of written materials to promote self-efficacy in patients with new stomas in the United States, there was an average total self-efficacy score of 27.32 to 39.56 after clinic training and further to 47.20 at discharge following surgery, most likely as a result of enhanced patient self-efficacy brought on by more understanding of colostomy management.

The current study revealed that the mean score of overall patient ostomy care practice improved from 42.94 4.34 following the educational program with regard to the mean score of patient ostomy care practice in colostomy care. A statistically significant difference existed. Accordingly, Abdelmohsen, (2020) discovered a very statistically significant difference in all practice items when comparing before and post-application of the structured instruction. The rate of promotion of ostomy self-care performance in the intervention group was considerably higher, according to an Iranian study Momeni et al., (2023) that examined the effects of education based on the nursing process on ostomy self-care knowledge and performance with surgical stomas.

The current study revealed that there was a statistically positive correlation between patients' practice and knowledge regarding colostomy self-care management post-educational program, this might be due to the close relationship between knowledge and practice. In agreement with an Egyptian study conducted by Mohamed et al., (2022) who studied the effect of educational protocol on knowledge, practice and quality of life for two different age groups of colostomy patients and reported that there was a statistically significant correlation between knowledge & reported practice about colostomy in studied patients during post-intervention. This finding was in agreement with Campos et al., (2017) who stated that there was a positive correlation between knowledge and practices. Which mean the more increase knowledge level, the greater ability to perform the activity of daily living. Likewise, Qalawa & Moussa, (2019) clarified that there is a statistically significant correlation between patient's knowledge scores and practice among the studied patients with colostomy in post educational implementation phases comparing to pretest.

The current study illustrated that there was statistically positive correlation between patients' efficacy and knowledge regarding colostomy self-care management post-educational program. This might be due to self-efficacy has been shown to greatly influence patients' knowledge. This result supported by Pandey ,Baral, &Dhungana (2019) who studied the knowledge and practice of colostomy care among colostomy patients in Nepal, and found that there was a statistically significant difference between patients' efficacy and knowledge regarding colostomy self-care management post educational program. Also, Chinese study entitled 'The Effect of Patient education interventions on Colostomy Patients' conducted by Chen & Ning (2019), and found that there was a statistical relationship between overall knowledge and overall self-efficacy.

The present finding revealed that there was no statistically correlation between patients' efficacy and self-care practice regarding colostomy self-care management post educational program. This might be due to the psychological ability of studied patients for colostomy care procedure. This finding is inconsistent with that of Abdulmutalib, AlNagshabandi &Alansari, (2018), who found a relation between self-care competence and self-efficacy adjustment. Also, Ayaz-Alkaya, (2019) observed that ability to self-efficacy was correlated positively with self-care practice.

CONCLUSION

There were statistically significant differences in patients' knowledge, self-care practice, and self-efficacy before and   after completing the program (significant improvement of self-care management regarding colostomy care).

RECOMMENDATIONS

- Provide ongoing training program to help patients improving self-care management regarding colostomy care.

- Evaluation of the patient's self-care performance after first 6 months after surgery as evidence of educational, emotional, and psychological needs and concerns

- Repeat the current survey with large random samples from different regions for more general results.

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فاعلية برنامج تعليمي في إدارة الرعاية الذاتية لمرضى فغر القولون

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الخـــلاصــــة

فغر القولون أمر بالغ الأهمية في علاج العديد من مشاكل الجهاز الهضمي ، كما انه يلعب دورًا هاما في انقاذ كثير من المرضى بشكل متكرر في العالم. يُستخدم فغر القولون لعدة أسباب ، بما في ذلك تحويل مسار البراز أو تخفيف الضغط علي الأمعاء . فغر القولون وفغر اللفائفي هما من أكثر أنواع الفغرشيوعا التي يتم إجراؤها جراحيا. **الهدف من الدراسة:** تقييم تأثيرفعالية برنامج تعليمي علي الرعاية الذاتية لمرضي فغر القولون. **التصميم:** تم استخدام تصميم شبه تجريبي لمجموعة واحدة (قبل وبعد) في هذه الدراسة. **المكان :** أجريت هذه الدراسة في العيادات الخارجية بمستشفى الأزهر الجامعي بمدينة دمياط الجديدة.**العينة:** كان مجموع العينة 50 مريضا. **الأدوات:** تم استخدام ثلاث أدوات لجمع البيانات: الأداة الأولى: تقييم معلومات المريض للرعاية الذاتية لمرضى فغر القولون ، والأداة الثانية: تقييم ممارسة المريض للرعاية الذاتية لفغر القولون والأداة الثالثة: مقياس العناية الذاتية بالفغرة الذاتية . **النتائج:** كان هناك تحسن في معلومات المريض (34.771 = t، 0.001> p) ، والممارسة (40.390 = t، p 0.001>) والكفاءة الذاتية (6.367 = z، 0.001> p) ، فيما يتعلق برعاية فغر القولون. **الخلاصة:** تحسن البرنامج التعليمي في الرعاية الذاتية لمرضي فغر القولون. **التوصيات:** يجب إجراء مزيد من الدراسات على عدد كبير من المرضى الذين يعانون من فغر القولون للحصول على دليل على النتائج والتعميم.

الكلمات المرشدة : فغر القولون ، البرنامج التعليمي ، الرعاية الذاتية.