Effect of Self-care Management Program on Self-efficacy among Patients with Colostomy

Sabah S. Mohamed[1,*], Gihan S. Mohamed[2], Hayam Ahmed Mohamed[1]

[1]Lecturers of Medical Surgical Nursing, Faculty of Nursing, Benha University, Egypt
[2]Lecturer of Psychiatric Nursing, Faculty of Nursing, Benha University, Egypt
*Corresponding author: sabah.abdlrazek@fnur.bu.edu.eg

Abstract Self-management program is vital for supporting, educating and improving patients' self-efficacy with stoma. **Aim of the study:** was evaluated the effect of a self-care management program on self-efficacy of patients with colostomy. **Hypothesis:** self-management program had a positive effect on self-efficacy among patients with colostomy. **Design:** Quasi-experimental research design was used. **Setting:** The study was conducted at Benha Teaching Hospital, oncology unit in the general surgical department and outpatient Clinic. **Subjects:** A purposive sample of 30 patients from both genders. **Tools:** four tools were designed to collect data; stoma-related knowledge sheet, which was developed to assess Patients` knowledge about colostomy care. Self-care performance checklist, Ostomy Skin Tool to assess the extent and severity of peristomal skin complications and Stoma care self-Efficacy Scale. **Results:** mean score of age was 55.7± 8.56, 63.3% was mal, 80% was married, and 73.3% had bowel cancer. Mean score of total knowledge pre-program was 10.700±1.022, which increased to 24.70± 1.441 post program. 66.7% of patients had severe peristomal skin complications preprogram which decreased to 60% post program, while in follow up 56.7% of patients had mild peristomal skin complications. Related to stoma care self-efficacy there was statistical significant differences between three phases (p=.000). **Conclusion:** there was highly significant statistically improvement in all items of knowledge, practices and self-efficacy pre/post program of self-care management regarding colostomy patients. **Recommendations:** assessment of patients' self-care performance during first six months after operation considered as evidence to his educational needs and concern.

Keywords: *self-care management, self-efficacy, stoma*

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1. Introduction

Stoma is a surgical procedure where the normal bowel bath is interrupted with an artificial opening called stoma. The reason for this procedure such as; acute diverticulitis, rectal cancer, trauma, or inflammatory bowel disease. This therapeutic intervention can be temporary or permanent. Many challenges in terms of self-care, self-efficacy**.** The changes caused by the stoma stand out the physical changes, not only by affecting the intestinal physiological process, but by its impact on self-regulation and self-actualization. Further, stoma can lead to mental and emotional imbalance [1].

The nursing role for caring colostomy patients has evolved from the bedside nurse to an enterstomal therapist or a nurse clinical specialist with stoma care experience. Nurses have the key and most important role in health teaching for supporting and persuading patients in performing self -care. They act as health educators in almost all health care settings to develop patient health literacy and assist them in taking control and becoming familiar with their condition [2].

Self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that influence over events affecting their lives. The beliefs determine how people feel, think, motivate themselves and behave, added to production diverse effects through: cognitive, motivation, affective and selection processes [3].

Stoma self-care states that patients learn how to manage their stomas independently [4]. Self-care management preparation as "the training the people with chronic health conditions need to be able to deal with taking medication and maintaining therapeutic regimes, maintaining everyday life such as employment and family, and dealing with the future, including changing life plans and the frustration, anger, and depression that accompanies a chronic condition". A stoma is not generally labeled as a chronic condition, but living with a stoma requires that the client learn many of the same self-management skills. However, many health-care providers must give the stoma-related knowledge and skills to provide education and clinical support to enable clients to make informed decisions, achieve their goals and overcome barriers to effective self-management [5].

Self-management education includes traditional patient education but also involves helping patients to set

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. Improved behavior is expected to lead to better disease control which should, in turn, lead to better patient outcomes and reduced utilization of health care services, particularly preventable emergency room visits and hospitalizations, and ultimately to reduced costs [6].

1.1. Significance of the Study

Existing evidence reveals that the negative impact of an ostomy on physical and functional status persists for a period of months to years following stoma surgery. [7] reported that the incidence of peristomal skin problems at 12 months was 15%–43%, the incidence of parastomal hernia was 12%–40%, and a 10%–24% incidence of retraction. [8] evaluated self-efficacy in ostomy care in a group of 96 subjects. They reported that subjects with a higher self-efficacy in colostomy care had higher health-related quality of life scores. On the other hand [4] reported that ostomy leads to intensified distress and suffering for patients causes severe stress as a result of skin irritation (76%), pouch leakage (62%), offensive odour (59%), reduction in pleasurable activities (54%), and depression/anxiety (53%). Also the researchers recommended in their study identified a series of self-care problems of post-colostomy patients.

There are a limited number of studies examining the self-efficacy of intestinal stoma patients at Benha University Hospital. Patients with stoma faced with many problems mostly physiological, psychological and social in general. First the most common feeling is worry and fear related to alters patients' body image, impaired sexual functioning, decreased social activities, loss of an important function of body, withdrawal, and economic pressure. Therefore, the exchange of information between hospital and community regarding the patient's health condition, post-operative progress and stoma education is essential to ensure optimal adjustment. Also Stoma self-care states that patients learn how to manage their stomas independently. So the purpose of this study is to develop, apply and evaluate self-care management among patients with colostomy.

1.2. Aim of the Study

This study aimed to evaluate the effect of self-care management program on self – efficacy among patients with colostomy. This aim was achieved through the following:

- Assessing patients' knowledge, practices 'self-efficacy as regards colostomy care.
- Developing and implementing the self-management program for the studied patients.
- Evaluating effect of self-management program on knowledge, practices and self –efficacy of stoma patients.

1.3. Study Hypothesis

The study was hypothesized that the self-management program had a positive effect on self-care, self-efficacy among patients with colostomy post program compared to preprogram.

1.4. Research Design

Quasi-experimental research design was used to conduct this study.

1.5. Study Setting

The study was conducted at the oncology unit of the general surgical department and outpatient Clinic in Benha Teaching Hospital.

1.6. Study Subjects

A purposive sample of (30) adult patients from both genders with permanent stoma. They were selected according to inclusion criteria as; adult patients, who aged more than 18-70 years old, were able to communicate, and having had colostomy in place for at least one month earlier and informed consent of the respondent. The exclusion criteria included people with end-stage diseases and those who suffered physical, cognitive, mental and/ or psychological disabilities that would prevent them from participating in self-care.

1.7. Tools of the Study

Four tools were designed to collect data

Tool (I): stoma- related patient's knowledge; which was developed by the researchers to assess patients` knowledge about colostomy care. It included three parts;

A. Sociodemographic characteristics of the patients: as age, gender, marital status, educational level, residence, occupation ….etc.

B. Medical history of the patients: it was developed to assess past and present medical history of the patients such as causes of stoma, time of surgery, oncology treatment, chronic diseases, and family history of the same disease

C. stoma- related knowledge: Patients` knowledge about colostomy care included the following; purpose of stoma, stoma care, measuring stoma, changing stoma pouch, stoma irrigation, stoma products, foods causing discharge odor or gases, diet change, odor control, need for sufficient daily water intake, daily life change, religious practices, peristomal skin care, stoma complications, sexual preparations, physical activities, traveling preparations, follow – up visits and unusual signs of immediate doctor advice. All of them were closed ended questions.

Scoring System

Responses of the studied Patients' were scored as (1) for correct answer and (zero) for incorrect answer. The total score was 27 categorized into either satisfactory level (from 60% and more) or unsatisfactory level (less than 60%).

Tool (II): Self-care performance checklist of stoma patients

It was adapted from [9] and developed to assess the performance of ostomy self-care. It includes preparation

of the pouch, removal of the old pouch, clean stoma and skin around the stoma, apply the pouch, empty the pouch, clean pouch and stoma irrigation. Each step of the performance was rated from 0-3 [not done = 0, weak performance =1, acceptable performance = 2, and Good performance = 3.

The total score of the self -care performance was 84 designed as follow:

- Preparation of the pouch. (6)
- Removal of the old pouch. (12)
- Clean stoma and skin around the stoma. (15)
- Apply the pouch. (12)
- Empty and clean the pouch. (12)
- Stoma irrigation (27)

Tool (III): Ostomy Skin Tool assessment (pre / post /follow – up assessment).

It adopted from [10] for assessing the extent and severity of peristomal skin complications. The total score is 0 to 15. Three levels of severity 'mild' (DET<4), 'moderate' (DET≥4<7), and 'severe' (DET≥7).

Tool (IV) Stoma self - Efficacy Scale (pre / post /follow – up assessment):

It was adopted from [11] Stoma Care Self-Efficacy which refers to the conviction by patients that they can successfully manage their stoma to minimize adverse outcomes. This scale has two components, the first component, Stoma Care Self- Efficacy (Cronbach's alpha = 0.94, 13 items), assesses expected self-efficacy regarding capability to care for one's stoma. The second Social Self-Efficacy (Cronbach's alpha = 0.95 nine items), assesses self-efficacy regarding social functioning with the stoma. The two scales are highly correlated (r = 0.73). Because our focus was on patients' ability to care for their stoma, we used the Stoma Care Self-Efficacy subscale.

1.8. 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. High scores refer to positive self-efficacy, i.e., subjective presence of ability. So the total score = 100, whereas less than 50 = low (-ve) self -efficacy and 50and more = high (+ve) self -efficacy.

1.9. Tools Validity and Reliability

The experts check the relevancy, clarity, comprehensiveness, and applicability of the tools. According to their opinions, appropriate modifications were done, by five professions and experts of medical- surgical nursing in the faculty of nursing and medicine, at Benha University. Reliability was done by cronbach, alpha test (.882).

1.10. Ethical Considerations

Ethical approval was obtained from the Scientific Ethical Committee of Benha University. The purpose of the study was explained to the patients and Informed consent was obtained from them to participate in this study. They were given an opportunity to withdraw from the study without given a reason, they were assured that anonymity, and confidentiality of information was protected. Ethics, values, culture, and beliefs were respected. The protocol of this study has been approved by the Hospital.

1.11. Pilot Study

A pilot trial was carried out on 3 of the total study sample to test the clarity and practicability of the tools. Pilot subjects were later included in the study as there were no radical modifications in the study tools.

1.12. Field Work

- Sampling and data collection were started and completed within one year, the whole fieldwork lasted for about one year from December 2015 to December 2016.
- Purpose of the study was simply explained to the patients who agreed to participate in the study prior to any data collection.
- The study was carried out through four phases: assessment, planning, implementation, and evaluation.

Assessment Phase:
- This was the first phase in the program, where demographic data were collected from patients and from their current medical records as baseline data.
- The data were collected by the researchers 2 days/week. The data were collected at morning shifts. The data were taken by interviewing patients individually. Each interview lasted about 30 - 40 minutes

Planning Phase (program development):
- The educational self -stoma management program was designed based on analysis of the actual patients' needs in pre assessment by using the pre constructed tools. The educational program was written in simple Arabic language that was consistent with the related literature to meet patients' needs and their level of understanding
- Self-care management program was presented to patients in the form of handouts and printed material. It included diagrams, pictures with colors which were primarily intended for attracting and guiding patients to actively participate in their self-care management independently. Self-care management program contained purpose, objectives and health care and it was being written by way to be understood easily by the reader in self -learning. Therefore, a patient with stoma may have an intense need for these materials and particularly that manage their disease problems.
- This program included two parts; theoretical part and practical part. The theoretical part covers the following items; Purpose and care of colostomy, daily life change, elimination, sexual preparations, traveling preparations, diet regimen, religious practices, physical activities, follow – up visits, complications and unusual signs of immediate doctor advice. The practical part was conducted to cover the following items; measuring stoma size, emptying and changing stoma pouch, stoma irrigation, peristomal skin care, hygienic and exercises measures.

Implementation Phase:

- The educational self- care management program contains four sessions. The duration of each session ranged from 30-45 min, according to the knowledge of each session. The researchers meet each patient individually and used some medias as video and simulation in practice sessions to increase attention. Also sometimes the researchers provided counseling to patients via telephone.
- Each session started by a summary about what has been discussed in the previous session.
- Each patient restated all instructions given two times and the researchers ensure that each patient was able to use the booklet as a reference if needed at home

Evaluation Phase:

- At the end of the sessions the evaluation of the educational self-stoma management were done immediately post implementation regarding their knowledge, self-performance checklist using the same questionnaire that was used in the pretest and evaluate the status of the stoma.
- Follow up; after one month the researchers evaluated the patients by the same tools.

1.13. Statistical Design

The collected data were organized, categorized, tabulated and analyzed using the Statistical Package for Social Sciences (SPSS). Data were presented in tables and charts using numbers, percentages, means, standard deviations and t – test. Level of significance was threshold at 0.05.

1.14. Limitations of the Study

The sample was a purposive sample consisting of patients who received colostomy surgery in the same hospital one month before the survey, which might have led to bias and heterogeneity.

2. Results

Table 1 shows the distribution of studied subjects regarding their Demographic characteristics; this table show that mean score of age was 55.7± 8.56, 63.3% was mal, 80% was married, 36.6% read and write and 36.7% not work .

Table 2 displays the distribution of Studied Subjects regarding their present and past history, this table revealed that 73.3% had bowel cancer, 6.3% of patients had hypertension. While 96.7% no history for stoma.

Table 3 illustrates the mean score of studied patients related to knowledge about colostomy self-care management before, after and follow up the program, this table showed that the lowest scores were (.2000± .4068, .2667± .449) of sexual function concern and clothing modification preprogram, while there was statistical significant differences in all items during three phases (p=.000**).

Table 4 reveals the distribution of studied patients related to practice about colostomy self –car performance

before, after and follow up the program, this table illustrated that there was statistical significant differences between three phases (p=.000**).

Table 1. Distribution of Studied Subjects regarding their Demographic characteristics (N= 30)

Demographic Characteristic	N.	%
Age:		
≤40	5	16.6
41-60	14	46.7
>60	11	36.7
Mean ± SD	55.7± 8.54	
Gender		
Male	19	63.3
Female	11	36.7
Marital status		
Married	24	80
Divorced	1	3.3
Widow	5	16.7
Education level:		
Illiterate.	3	10
Read and write.	4	13.4
Primary and secondary.	14	46.6
University.	9	30
Job Nature:		
Mind effort.	10	33.3
Physical effort.	9	30
Not work.	11	36.7
Life style regarding their job post-surgery		
No change in job	5	16.7
Work part time.	6	20
Leave work.	8	26.7
Have new job.	0	0
Not work	11	36.6

Table 2. Distribution of Studied Subjects regarding their present and past history (N= 30)

Present Health History	N.	%.
Common causes of stoma :		
Bowel cancer	22	73.3
Diverticular disease	4	13.3
Ulcerative colitis/ c	2	6.7
Crohn's disease	2	6.7
Oncology treatment		
Yes	20	66.7
No	10	33.3
Chronic Disease:		
Diabetes Mellitus.	6	20
Hypertension.	19	63.3
Kidney disease.	3	10
Bronchial asthma.	2	6.7
Family history for stoma		
Yes.	1	3.3
No.	29	96.7

Table 3. Mean score of studied patients related to knowledge about colostomy self –car management before, after and follow up the program (n=30)

Items	Maximal score	pre program Mean ± SD	Post-program Mean ± SD	Follow up Mean ± SD	F test	P value
-Indications of stoma	1	.800 ± .41	.379	.1.67 ± .479	49.28	000
-Types of colostomy	2	.767 ± .57	1.77 ± .568	1.633 ± .490	30.22	000
- Normal appearance of stoma	3	.467 ± .73	2.27 ± .691	2.67 ± .901	60.23	000
-Recognizing abnormalities	3	.300 ± .47	2.567 ± .6789	1.833 ± .874	83.93	000
-Prevention of complications	2	.333 ± .48	1.73 ± .449	1.233 ± .568	53.18	000
- Self-care for stoma	3	.233 ± .43	2.633 ± .6149	2.37 ± .928	124.53	000
-Nutrition/dietary instructions	4	.433 ± .73	2.73 ± 1.014	2.467 ± 1.106	81.69	000
-Bathing	1	.667 ± .2537	.933 ± .2537	.767 ± .4302	50.33	000
- Daily life change	3	1.00 ± .8304	2.7333 ± .4497	2.400 ± .77	61.56	000
-Clothing modifications	2	.267 ± .4497	1.367 ± .61495	1.2667 ± .64	29.53	000
-Sexual function concerns	3	.200 ± .407	1.767 ± .7738	1.633 ± .765	177.4	000
Total knowledge	27	10.70 ± 1.022	24.70 ± 1.441	22.067 ± 1.55	807.3	000

Significant (p≤0.05*)   Highly Significant (p≤0.001**).

Table 4. Distribution of studied patients related to practice about colostomy self –car performance before, after and follow up the program. (n=30)

items	Pre program N	%	Post program N	%	Follow up N	%	X^2	P value
Preparation of pouch								
Weak performance	28	93.3	8	26.7	2	6.7		
acceptable	2	6.7	16	53.3	21	70.0	50.802	.000**
Good	0	00	6	20.0	7	23.7		
Removal of old pouch								
Weak performance	27	90.0	7	23.3	4	13.3		
acceptable	3	10.0	21	70.0	10	33.3	64.547	.000**
Good	0	00	2	6.7	16	53.3		
Clean stoma and skin around stoma								
Weak performance	27	90	2	6.7	4	13.3		
acceptable	3	10.0	22	73.3	11	36.7	66.543	.000**
Good	0	00	6	20	15	50.0		
Apply the pouch								
Weak performance	23	76.7	3	10.0	2	6.7		
acceptable	7	223.3	9	30.0	15	50.0	50.136	.000**
Good	0	00	18	60.0	13	43.3		
Empty and clean the pouch								
Weak performance	21	70	2	6.7	3	10		
acceptable	9	30	11	36.7	12	40	43.01	.00**
Good	0	0	17	56.6	15	50		
Stoma irrigation								
Weak performance	24	80.0	11	36.7	15	50.0		
acceptable	4	13.3	13	43.3	12	41.4	12.718	.013*
Good	2	6.7	6	20.0	3	10.0		
Total practice								
Weak performance	24	80	4	13.3	0	00		
acceptable	6	20	19	63.3	17	56.7	55.129	.000**
Good	0	00	7	23.4	13	43.3		

Significant (p≤0.05*)   Highly Significant (p≤0.001**).
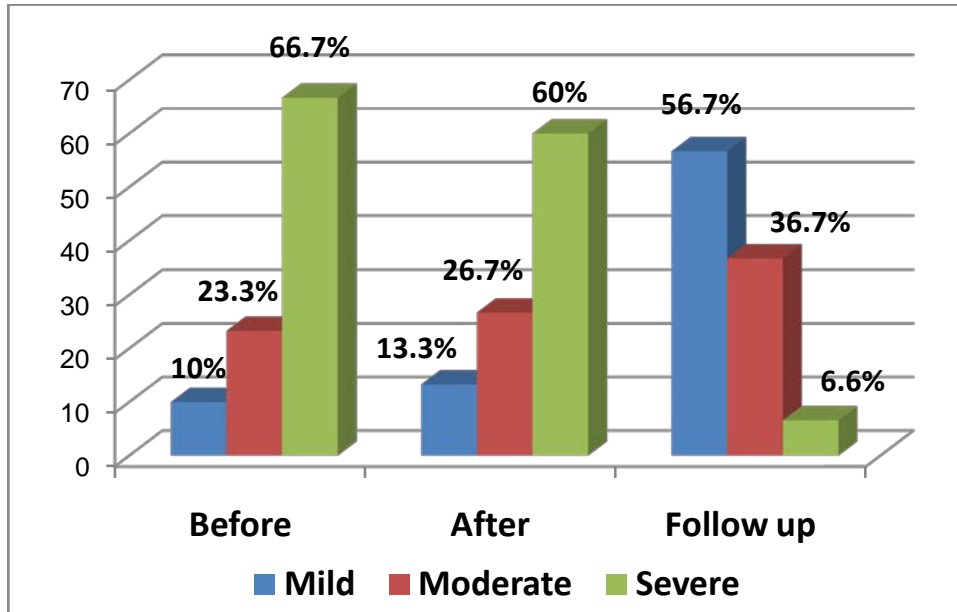
Figure 1. Distribution of studied subject according to severity of peristomal skin complications (n=30) (X^2=30.850 & p value=0.000)

Table 5. Mean score of studied patients related to stoma care self – efficacy before, after and follow up the program. (n=30)

Items	pre program Mean ± SD	Post-program Mean ± SD	Follow up Mean ± SD	F test	P value
1. Apply the stoma collection materials before leakages appear	1.266 ±.45	4.167±.69	4.267 ±4.27	224.86	.000**
2. Prevent having leakages (let alone manufacturing defects)	1.367±.49	4.366±.62	4.466 ±.51	315.16	.000**
3. Take care of the stoma in the right way at home	2.233±1.17	4.467±.63	4.333 ±.76	74.79	.000**
4. Prevent having skin problems	1.367±.49	4.167± .699	4.533 ±.73	230.55	.000**
5. Prevent having stoma bleeding and damage	1.033±.18	3.733 ±.74	4.167 ±.83	217.65	.000**
6. Apply the stoma collection materials in the way you are learned to do	1.800±.99	4.066 ±.83	4.333 ±.71	121.58	.000**
7. Prevent having obstruction	1.533±.78	1.867 ±.82	2.033 ±.96	9.85	.03*
8. Follow the WOC nurse's instructions for handling the stoma	1.800±.99	3.90 ±.85	4.533 ±.57	153.68	.000**
9. Follow the doctor's advice for taking care of your stoma and nutrition pattern	2.367±.85	3.967 ±.76	4.700 ±.47	155.69	.000**
10. Take care of the stoma in the right way outdoors	1.433±.77	2.333 ±.92	4.133 ±1.47	69.58	.000**
11. Take care of the stoma when you are ill	1.267±.52	2.533 ±1.17	3.33 ±1.60	42.14	.000**
12. Wear most of the clothes you like	1.267±.52	2.10 ±.71	2.733 ±1.11	55.82	000**
13. Carry out light duties in and around the house.	1.267±.52	2.50 ±.63	4.30 ±.95	146.11	.00**
Total	15.60±2.46	25.83 ±4.17	41.6 ±11.1	108.8	000**

Significant (p≤0.05*)   Highly Significant (p≤0.001**).

Table 6. Relation between total self- efficacy, total knowledge and total practices before, after and follow up the program (N= 30)

Items	Total self- efficacy					
	Pre-program		Post program		Follow up	
	r	p	r	p	r	p
Total Knowledge	.375	.041*	.431	.017*	.483	.007*
Total Practice	.364	.048*	.389	.034*	.461	.010*
	Total Practice					
Total Knowledge	.432	.017*	.555	.001*	.358	.052*

Significant (p≤0.05*)   Highly Significant (p≤0.001**).

Figure 1 illustrates the distribution of studied subject according to severity of peristomal skin complications, this figure showed that 66.7% of patients had sever peristomal skin complications preprogram, this percentage was decreased to 60% post program .While in follow up 56.7% of patients had mild peristomal skin complications.

Table 5 shows the mean score of studied patients related to stoma care self – efficacy before, after and follow up the program, this table illustrated that there was statistical significant differences between three phases (p=.000**).

Table 6 shows the correlation between total self- efficacy, total knowledge and total practices before, after and follow up the program. This table illustrated that there was positive correlation and statistical significant differences between total self-efficacy and total knowledge and total practice (p≤ .05).

3. Discussion

The aim of the present study was to evaluate the outcomes of self-management program on self–efficacy among patients with colostomy. This aim was achieved through the following; assessing patients' knowledge and practices as regards colostomy care, detecting patients 'self-efficacy for colostomy care, developing and implementing the self-management program for the studied patients and evaluating its effect on their knowledge and practices, added to self – efficacy on stoma status .

The discussion of the findings will covered five main parts: the first section concerned with patients' socio demographic characteristics, and health history. The second section dealt with the findings that related to the patient's knowledge and practice before, after and follow -up implementation of self-care management. The third section evaluated the effect of self-care management on self -efficacy. Section four evaluated severity of peristomal skin complications before, after and follow up. While the fifth section described relations; between improvement of knowledge , practices and improvement of self-efficacy .

Regarding age, the present study revealed that about less than half of the studied subjects were in the age category 46- 60 years old with mean 55.7. This result agrees with [12] who revealed that two thirds of sample was in the age group 50 years and more. Also this finding agrees with the results of the study by [13] who reported that, the majority of colostomies are raised in people over the age of 50 years. This may be due to that age greater than 40 years are risk factors for colon cancer. The present study agree with the results of the study about: Assessment of self-care practice among patients with colostomy, in Faculty of Nursing, Zagazig University by [14] who reported that, 44.4% of colostomy was in the age category 46- 60 years old.

Concerning the gender, marital status and educational level; the current study revealed that about two third of subjects were male and married. Also less than half of subject had primary and secondary education. These findings agree with [12] who reported that more than three fifth of the studied subjects were male, two fifth of the studied subjects had secondary education. Also these findings agree with [15] was found, the highest percentage of colostomies were in men than women. This may be due to that the Egyptian men had heavy smoking, and fast food, there are contributable factors of CRC.

In relation to the job nature after surgery, the finding of the present study showed that 36.6% and 26.7% of studied subjects was between not working and leave the work while 20% of subjects work part time. This could be due to the fatigability which consider the main feature of physical limitation postoperatively, also could be due to the older age of patients, chemotherapy after surgery or odor of products which come out of stoma. These result disagree with [16] who concluded that 60.9% of their subjects were working in the same occupation as before their ostomy surgery, 29.3% of their studied subjects worked full-time, 18.6% worked part-time, and 37.1% were retired, and 12.9% were not working.

Also [17] reported that more than a half of the respondents (56.5%), a creation of the stoma have a substantial adverse effect on normal functioning at the personal, family and social life level. Only 10.0% of the respondents reported no problems in the functioning. 12.5% of the subjects pointed to the fact of the stoma creation as a reason for resignation of work.

Concerning the causes of colostomy surgery, the present study results revealed that more than two third of subject had cancer colon. In the same line [18] reported that the etiology for colostomy are diseases condition requiring removal of the distal bowel (for example, colorectal cancer). The current study showed that two third of the study subject were had hypertension, this finding agrees with [19] who showed that the majority of the studied subjects weren't suffering from hypertension.

The second section of the discussion was dealt with the findings that related to the patient's knowledge and practice before, after and follow up implementation of self-care management.

The present study denoted that there were highly statistical significant improvement in total knowledge scores pre/post intervention regarding colostomy and its care. Also the present study showed that the lowest score of knowledge were in self- care for stoma and sexual function concerns (.2333±.4301, .200±.40684) respectively before the program while there were increase score of knowledge after the program (2.633± .6149, 1.7667± .7738) respectively and so increase in follow up (2.366±.9278, 1.633±.7648) respectively. In the author's experience, many patients come from rural areas; they had very little contact with hospital after discharge, also their cultures prevent them to talk with these things. Thus, patients should be educated about knowledge of stoma caring as early as possible.

In the same line [20] who mad an interventional study was done among permanent colostomy in china to assess knowledge about colostomy care, colostomy products, prevention and treatment of complications, types and storage of colostomy bags, and colostomy irrigation .The result showed mean [SD] of knowledge was 51.89 [11.45] pre-course , after the intervention overall knowledge of respondents is 61.7%. Mean [SD]: 3.77 [2.01]. Also [21] who reported that there seems to be scant knowledge on how best to address the sexual needs of stoma patients. It had been argued that sexual health is an important component of QoL for many older people. Addressing sexual needs of Chinese stoma patients is even more challenging as the topic of sexuality is fraught with embarrassment and taboo in Chinese culture. This is in contrast with the study done by [3] this study showed patients have some but not a great deal of knowledge regarding their stoma; the lowest scores were in colostomy

irrigation, stoma-related complications, and how to measure a stoma.

Also [22] reported that Stoma knowledge scores of patients were given in the first meeting, between the study and the control group patients were not significantly different between each other (p>0.05). In the last meeting, it has been determined that the stoma knowledge scores of the study group individuals (14.00±0.43) were significantly higher than the scores of the control group individuals (7.50±0.70) (p<0.001).

In relation to recognizing abnormalities as peristomal skin problems; the present study finding that there was improvement of knowledge which may decrease the complications related to skin. This finding agreed with [1] who reported that only 10% of patient had dermatitis. This may suggest that self-care was adequate.

Concerning to traveling the present study donated to most of patient didn't know how the traveling in the presence of stoma pre-program with mean score 1.000±.8304. In respect [1] reported that the lowest mean obtained in the study was for "interference with the ability to travel" (5.27) and the highest mean was for "privacy at home"(in relation to the care of the stoma) (8.93).

Regarding to stoma self-care performance; pre-program, the majority of subject had a weak performance in total skills such as preparation, removal of old pouch, clean stoma and skin around stoma. Meanwhile post program there was significant improvement of performance, this result showed by way more than half of patients had acceptable performance in most steps of stoma care. In the same line [23] who reported that significant improvement was indicated in post education guidlins compared to pre assessment. Also [24] found that, one third of the study subject had correct dealing with colostomy bag and less than one fifth of them had suitable clothes pattern. Also [25] reported there was significant differences care (F(3,64) = 1.308, p = 0.280), ostomy care skills (F(3,64) = 0.163, p = 0.921), or confidence in performing ostomy self-care (F(3,64) = 0.629, p = 0.599). An integrated video method is effective than traditional method when educating ostomy patients in postoperative self-care.

Moreover, the researcher experience was the self- care management skills were important such as the ability to perform normal stoma care, identify problems, care for peristomal skin and understand how to prevent and treat potential complications.

On the other hand in the present study revealed the subject fear to make irrigation of stoma and this showed from the result which portrays the majority (80%) of the subject had weak performance related to stoma irrigation preprogram and there were slightly significant differences (p=0.013) after and follow up of self- management program. The researcher experienced that no interest in learning about irrigation, and choose not perform this task. These results agree with [3] who reported in their study the knowledge about colostomy irrigation received the lowest knowledge score. As observed in the authors' clinic, most patients prefer to not irrigate. Also A mixed method quantitative and qualitative study about nurses' perceptions of ostomy patients by [26] found that almost all patients who use colostomy irrigation associated it with the positive aspects of feeling secure and having an empty pouch. The stoma nurse should introduce more information about colostomy irrigation for patients to potentially help address concern about this management option

According to severity of peristomal skin complications, the present study showed that nearly two third of subject had sever peristomal skin complications before the program while this percentage was slightly decreased after the program but in follow up there was more than half of subject had mild peristomal skin complications. In researchers experiences these findings due to increase self -care ability to recognize the abnormalities and mange it. In the same line [27] who found that 73% of subject with stoma had peristomal skin complications and after week four from issues relating to complications were mostly resolved. Also [7] reported that the incidence of peristomal skin problems at 12 months was 15%–43%, the incidence of parastomal hernia at 12 months was 12%–40%, and a 10%–24% incidence of retraction at 12 months.

Concerning of stoma care self-efficacy pre-program, the present study revealed that the lowest mean score was (1.033±0.182) for prevent having stoma bleeding and damage compared to post program there was increasing in mean score (3.733± .739) .also more improvement during follow up with mean score (4.166± .833) and there was statistical significant differences. This results disagree with [20] who reported in their descriptive cross sectional study that the lowest mean score was in take care of stoma when you are ill (38.94 ± 1.55).

Regarding to the relation between the total self-efficacy, total knowledge and total practice, the present study revealed that there was positive statistical significant difference after the improvement of self-care management. This mean patient with higher levels of knowledge about stoma care and those who can manage all aspects of care independently were more psychosocially adjusted to their stomas than persons with less knowledge and more dependence on others for care. This result in the same line with [3] who reported that the correlation between self-care ability and psychosocial adjustment. The results found that self-care ability was an important factor in psychosocial adjustment. Patients who can totally care for themselves had higher levels of psychosocial adjustment. Also [28] observed that ability to self-care was correlated positively with level of psychosocial adjustment. The results of these all studies suggest that facilitating patient ability to manage all aspects of stoma care by themselves should be a priority, preferably before hospital discharge.

Finally the self-management program had a positive effect on self -efficacy among patients with colostomy. The results of this study suggest providing knowledge and emphasizing teaching self-care before hospital discharge may optimize quality of life and self-efficacy for persons with a colostomy.

4. Conclusion

In the face of our results, the present study illustrated that there were highly significant statistically improvement in all items of knowledge and practices pre/post and follow up program regarding colostomy and self-care management. Self-care management program is essential to ensure clients' knowledge; practical and emotional

needs are met. Patient education can improve health behavior which in turn might prevent health problems and reduce stress.

5. Recommendations

Results of this study calls for the following recommendations:

- Assessment of patients' self -care performance during first six months after operation considered as evidence to their educational, emotional and psychological needs and concerns.

- Training program for nurses to be well prepared to provide support, instructions and training for colostomy patients.

- Further studies should be carried out on a large number of colostomy patients for evidence of the results and generalization

References

[1]   *De Sousa*, M. J., *Andrade, S. S.,* de *Brito*, K., Matos, S. D., Coelh, S. H. and Oliveira, S. F. (2016). Sociodemographic and clinical features and quality of life in stomized patients, j coloproctol (rio j); 3 6(1): 27-33.

[2]   Walker C. (2011). Effects of the Use of a Heart Failure Diary on Self- Care and Quality of Life. Master's Thesis. UNF Digital Commons. University of North Florida.; 65: 1-55.

[3]   Cheng, F., Meng, A., Yan, L. and Zhang, Y. (2013). The Correlation between Ostomy Knowledge and Self-Care Ability with Psychosocial Adjustment in Chinese Patients with a Permanent Colostomy: A Descriptive Study, Ostomy Wound Management; 59(7):35-38.

[4]   Ran, L., Jiang, X., Qian, E., Kong, H., Wang, X. and Liu, Q. (2016). Quality of life, self-care knowledge access, and self -care needs in patients with colon stomas one month post-surgery in a Chinese Tumor Hospital, international journal of nursing sciences 322 e258, available in (http://creativecommons.org/licenses/by-nc-nd/4.0/). Access at 23/7/2017.

[5]   Redman, B. K. (2004). Patient self-management of chronic disease: The health care provider's challenge. Sudbury, MA: Jones & Bartlett.

[6]   Santa Monica, CA., Marjorie L. Pearson, PhD., Soeren Mattke, MD., Rebecca Shaw, MA. M. Susan Ridgely, JD. and Shelley H. Wiseman, BA (2007). Patient Self-Management Support Programs: An Evaluation, Agency for Healthcare Research and Quality, 8-(11).

[7]   Salvadalena, G. (2008). Incidence of complications of the stoma and peristomal skin among individuals with colostomy, ileostomy and urostomy. Journal of Wound, Ostomy and Continence Nursing, 35(6), 596-607.

[8]   Wu, H. M., Chau, J. P. C. and Twinn, S. (2007). Self-efficacy and Quality of Life Among Stoma Patients in Hong Kong, Cancer Nursing j.. 30(3):186-193.

[9]   Gaber, H. and El-Gamil, A. (2008). A study to identify the level of knowledge and self- care performance of the colostomy patients and its effects on their quality of life, the New Egyptian journal of medicine, 38(5).

[10] Martins, L., Ayello, E. A., Claessens, I., Hansen, A. S., Poulsen, L. H., R Gary Sibbald, R. S. and Jemec, G. B. (2010). The Ostomy Skin Tool: tracking peristomal skin changes, British journal of nursing; 19(15): 959-964.

[11] Bekkers, M., Van, K., Van, D., and Van, B. GP. (1996). Prospective evaluation of psychosocial adaptation to stoma surgery: the role of self-efficacy. Psychosom Med. 58(2):183-191.

[12] Mohey El Din, M. A., Hasan, S.A., Abdel Hameed, H.S. & Abdel Aziz, M. S. (2014). Impact of Health Education Intervention for Colostomy Patients on their Quality of Life at Benha, thesis of doctora degree in nursing, faculty of nursing, Benha Universty, pp 98.

[13] National Digestive Diseases Information Clearinghouse. (2011). Ileostomy, colostomy and ileoanal reservoir surgery. Available at: www.uoaa.orghttp://www.cancer_research.com. Access at 30 /4/ 2013.

[14] Magazi, N. (2010). Assessment of self care practices among patients with colostomy. Unpublished Master thesis, Faculty of Nursing, Zagazig University pp.73-90.

[15] National Cancer Institute, (2012) : Incidence Reported. Cairo, Egypt. Available at:http:// www. Your Cancer today. Com/ cancers/ Rectal/127. Retrieved on: 23/8/2013

[16] Gemmill, R., Sun, V., Ferrell, B., Krouse, R., S., and Marcia Grant, M., (2010). Going with the Flow: Quality of Life Outcomes of Cancer Survivors with Urinary Diversion. J Wound Ostomy Continence Nurs; 37(1): 65-72.

[17] Bazaliński, D., Sałacińska, I., Więch, P. and Kózka, M. (2014). Life satisfaction and self-efficacy in patients with stoma, Prog Health Sci, 4(2): 22-30.

[18] Erwin, P. (2013). Ostomy care and rehabilitation in colorectal cancer. Oncology nursing journal, 22(3): 174-77.

[19] Hussein, M. and Aboelfadel, S. (2008): Quality of life in Egyptian stoma patients. University of Alexandria, Egypt. Eg *Journal of Surgery*, Vol.(20), No.(3).

[20] Pandey, R.A., & Dhungana, S. G. (2013). Knowledge and practice of stoma care among ostomates at b.p.koirala memorial cancer hospital, Journal of Nobel Medical College, 4(1), Issue 7, pp 36: 45.

[21] Miller, C.A. (2004). Nursing for Wellness in Older Adults: Theory and Practice. 4th ed., Lippincott co., Philadelphia.

[22] Culha, I, Kosgeroglu, N. & Bolluk, O. (2016). Effectiveness of Self-care Education on Patients with Stomas, IOSR Journal of Nursing and Health Science, 5(2): 70-76.

[23] Hegazy, S. M., Ali, Z. H., Mahmoud, A. S. & Abou-Zeid, A. A. (2014). Outcomes of Educational Guidelines on Awareness and Self – Efficacy among Patients with Permanent Colostomy, New York Science Journal; 7(3): 25-32.

[24] Mohamed, E., Abou-Zeid, A., Hegazy,S. and Hamdi, A. (2012). Assessment of Quality of Life for Patients with Colostomy Post Colorectal Surgery, unpublished Master thesis, Ain Shams University, p106.

[25] Debra, A., Crawford, C., leslie G., cwocn, k., Tracy T., cwocn[2] and Randy v. (2011). Spectrum Health, Specialty Nurse Educator, Grand Rapids, MI, (2)Spectrum Health Special Care Hospital, Wound Care Program Manager, Grand Rapids, MI . Two Methods of Teaching Ostomy Care, Available from http://wocn.confex.com/wocn/2011am/webprogram/Paper6015.html.

[26] Carlsson E., Gylin M., Nilsson, L., Svensson, K., Alverslid, I.and Persson E. (2010). Positive and negative aspects of colostomy irrigation: a patient and WOC nurse perspective. http://www.merriam-webster.com/dictionary/health. accessed at 21/4 2011.

[27] Kittscha, J. M. (2011). Identifying needs of patients being discharged home from hospital with a newly formed ileostomy, thesis of master nursing – research, Wollongong University, pp 70-96

[28] Hu A, Zhang MF, Chen MX, et al. (2010). Correlation between adjustment with self-care ability in patients with colostomy. Paper presented at the Wound Ostomy Continence Nurses Society meeting. J Wound Ostomy Continence Nurs; 37(5): 511-516.