

Effect of nursing stoma care training on geriatric patients' self esteem and psychological status

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Abstract: Geriatric Patients with colostomy experience many physical, psychological and social challenges that affect on their level of self esteem and are usually not prepared for these new challenges. Helping geriatric patient to perform stoma care independently reduce anxiety and depression level and also enhance their self esteem level. **Aim:** Determine the effect of nursing stoma care training on geriatric patients' self esteem and psychological status. **Design:** A Quasi-Experimental design was used in this study. **Setting:** The study was carried out at surgical wards and in colorectal and anal unit in Mansoura university hospital. The follow up of the study subjects was carried in general surgical outpatient clinic and colorectal and anal surgical outpatient clinic affiliated to Mansoura university hospital. **Subjects:** This study was carried out on 45 newly colostomy geriatric patients attending the previous setting. **Tools:** Six tools were used in this study; Demographic and clinical data structured interview schedule, Geriatric Patients colostomy knowledge structured interview schedule, Stoma care observational checklist, Rosenberg Self – Esteem Scale (RSES), Hospital Anxiety and Depression Scale (HADS) and Mini Mental State Examination (MMSE) Scale. **Results:** Significant improvement in both patients total knowledge scores, total practice scores and self esteem level was detected after implementation of the training ($p=0.000$). In relation to psychological status, Decreasing in anxiety and depression level were observed after implementation of the training ($P=0.000$). **Conclusion:** The nursing stoma care training proved to be effective in improving self esteem and psychological status of geriatric colostomy patients. **Recommendations:** The developed stoma care booklet to be distributed to colostomy geriatric patients in Mansoura university hospitals through the responsible personal to raise their knowledge and practices.

Keywords: Colostomy, Geriatric Patients, Psychological status, Self esteem, Stoma Care.

Date of Submission: 06-08-2018

Date of acceptance: 20-08-2018

I. Introduction

Worldwide, the percentage of people over age 65 years is increasing. With the continued growth of the geriatric population and advances in surgical and anesthetic techniques, the number of geriatric people who will undergo surgery will continue to increase as surgery has become a safer option than in the past. Colostomy is a surgery that involves connecting a part of the colon onto the anterior abdominal wall. In colostomy surgery, normal bowel function is interrupted and waste is passed through the abdominal wall through an artificial opening called a stoma. It is considered the best and safest form of treatment for a number of conditions including colorectal cancer, diverticulitis, intestinal obstruction and acute diverticulitis^(34, 38).

United Ostomy Association 2015, stated that over 750,000 Americans currently have an ostomy. However, about 36 % of the surgeries performed are colostomies. While, in Hong Kong, There are approximately 15,000 patients with a stoma. Furthermore, in Netherlands 2017, there are about 32,000 persons with permanent stoma. Other report estimates that 650,000 people in Egypt currently have a stoma and about 3000 new surgeries are performed each year with colostomy approximately 832 patients^(33, 37).

After surgery, many patients fear that stoma may be easily damaged, can cause bleeding or stoma prolapse. This is a considerable problem, due to the fact that it adversely affects patients' self stoma care. Also, surgery may change the way people perceive themselves, turning them into someone different. Geriatric patients may feel stigmatized by the presence of the stoma, and choose isolation as a form of hiding their bodies this affecting on their self esteem. In addition, Colostomy patients are more likely to experience psychological disturbance, higher levels of depression, loneliness, suicidal ideation, poor self image⁽²⁵⁾. Presence of stoma is associated with a reduction in health-related quality of life and increased social isolation may be caused by lack of knowledge concerning stoma care, inadequate stoma care knowledge bring negative feeling to patients

because they may be confused by how it will affect their life. Also, patient's psychological disturbance Moreover, when there is lack of knowledge patients' self stoma care ability will be limited and patient may loss of self esteem and unable to go back to normal life and their psychological status will be disturbed⁽³⁶⁾. So that, providing information and education to patients about stoma care is a relevant and integrated part of nursing practice and is very important to helping them how to adjust after their surgery. Such education should aim to change the way that patients think, feel and behave toward their newly formed stoma, increase self esteem and patient's ability to manage independently⁽⁵⁾.

Significance of the study:

Stoma has a negative impact on the psychosocial aspects of colostomy patients as presence of anxiety, depression and lack of self esteem. National Digestive Diseases association⁽²⁴⁾, confirmed that patients with colostomy are at increased risk of depression and social isolation as at least 25% of patients develop clinically significant depression following colostomy. Also,⁽³⁾ showed that about 25% of stoma patients experience anxiety, depression, and negative emotions after stoma surgery. The study also showed that 47% had low self esteem level⁽⁷⁾. So, Nursing Stoma care training will be necessary to prepare patients for new life with stoma, helping them to deal with the loss of personal control soon, enhancing self esteem and psychological status of patients.

II. Aim of the study

The aim of this study was to determine the effect of nursing stoma care training on geriatric patients' self esteem and psychological status.

Research hypothesis:

Nursing Stoma care training will have a positive effect in improving geriatric patients' self esteem and psychological status.

III. Subjects and Method

Research design:

A Quasi- Experimental design (pre/post test design) was used in this study.

Settings:

The study was carried out at surgical wards and in colorectal and anal unit in Mansoura university hospital. The follow up of the study subjects was carried in general surgical outpatient clinic and colorectal and anal surgical outpatient clinic that affiliated to Mansoura university hospital.

Subjects:

A purposive sample of 45 patients with colostomy who selected from the previously mentioned setting and fulfilling the following **inclusion criteria**:-

- Age 60 years and above
- Newly colostomy surgery
- Able to communicate and willing to participate in the study
- Have normal cognitive function (score 24 and more if patient educated and 21 score or more if patient not educated according to the Mini Mental State Examination (MMSE)).

Exclusion Criteria:-Geriatric patient with:-

- Previous surgical history of stoma or stoma closure surgery.
- Have severe organ failure (heart, lung or Liver) or terminal illness (Life expectancy 6 months when known) that severe enough to limit patient autonomy.
- With previous psychiatric history or illness.

The Sample size was calculated based on Assuming take care of stoma in right way is 48% after training and become 75% at follow up⁽¹⁷⁾. For calculating sample size we used website www.Dssresearch.com .Sample size calculator at Alpha error 5% (95% significance level) and 20% B error (power of study 80%), so sample size is 39 and added 10% because of drop out to become 45 patients.

Tools: In order to collect the necessary information for the study six tools were used:-

Tool I: Demographic and clinical data structured interview schedule: This tool was developed by the researcher after literature review and consists of:-

1. Demographic characteristics of the geriatric patients such as age, Sex, marital status, level of education, occupation before retirement, residence, income, living condition and family history.
2. Geriatric patient's Health status such as presence of other diseases , causes of colostomy, types of colostomy and surgical history of patients.

Tool II: Geriatric Patients colostomy knowledge structured interview schedule:

This tool was developed by the researcher after review of literature to assess baseline knowledge of geriatric patients about colostomy and stoma care and applied as pre, post and follow up test for study subjects. The correct answer for each question gets a score of one grade, while wrong answer gets a score of zero. The total knowledge score was computed out of eighty six grades .It was converted into percent.

The total knowledge score ⁽¹¹⁾:-

- More than 75% = Good Knowledge
- From 50% to 75% = Average Knowledge
- Less than 50% = Poor Knowledge

Tool III: Stoma care observational checklist:

It was developed by the researcher after review literature to assess the practice of patient in relation to stoma care and changing stoma appliance before and after the program then in follow up. The total practice score was computed out of fifty grades. It was converted into percent.

The total Practices score ⁽¹¹⁾:-

- 60% or more = Satisfactory Practices
- Less than 60% = Unsatisfactory Practices

Tool IV: Rosenberg Self-Esteem Scale (RSES):-

Rosenberg Self-Esteem Scale was developed by ⁽²⁸⁾ and is designed for the assessment of self – esteem. This scale was translated into Arabic and tested for its validity and reliability by ⁽¹⁵⁾. The Arabic version was used in the present study. The reliability of this tool was tested using test retest reliability Spearman's correlation coefficient $r=0.9$. The RSES was composed of ten items that concerned with the impact of surgery on general feelings of the patients about themselves, self-respect, self-Worth, satisfaction and their qualities. The original scoring system used 4point Likert rating scale, ranging as follows: zero (strongly disagree),1 (Disagree), 2(Agree), 3 (Strongly agree). Items number 3,4,5,6,9 were reversed for scoring and became strongly disagree (3),disagree (2),agree(1),and strongly agree (0).The total score ranging between 0,and 30 degree with 0 indicating the lowest self esteem and 30 the highest. Score between 15 and 25 are within normal range; scores below 15 suggest low self esteem; scores above 25 suggest high self esteem.

Tool V: Hospital Anxiety and Depression Scale (HADS):

It was developed by ⁽⁴¹⁾. HADS is a self-report questionnaire commonly used to assess levels of anxiety and depression. This scale was translated into Arabic and tested for its validity and reliability by⁽¹⁾. This Arabic version was used in the present study. The reliability of this tool was tested using test retest reliability Spearman's correlation coefficient $r=0.861$. The HADS comprises statements which the patient rates based on their experience over the past week. The 14 statements are relevant to generalized anxiety "7 statements" or 'depression' "7 statements", the latter being largely (but not entirely) composed of reflections of the state of anaerobia. Each question has 4 possible responses. Responses are scored on a scale from 3 to 0. The two subscales, anxiety "HADS-A" and depression "HADS-D", have been found to be independent measures. In its current form the HADS is now divided into four ranges: normal (0–7), mild (8–10), moderate (11–15), and severe (16–21).

Tool VI: The Mini Mental State Examination (MMSE) Scale (1975):

This scale was developed by ⁽¹²⁾; it is originally designed to assess the cognitive function of geriatric patients. It was translated into Arabic language and validated by ⁽¹⁰⁾. The scale includes five categories of cognitive function namely orientation, registration, attention, calculation, recall and language. The cognitive function are measured and scored according to the individual's actual answer. They are categorized into three levels of cognitive impairment: normal cognitive function, mild and severe cognitive impairment. The scale total score is 30 grades classified as: score from 24 to 30 is assigned for those who have normal cognitive

function, score from 18 to 23 is assigned for those who have mild cognitive impairment and score from zero to 17 is assigned for those who have severe cognitive impairment^(13, 14).

IV. Method

- An official letter was issued from the Faculty of Nursing, Mansoura University to the director of Mansoura university hospital to obtain their approval to carry out the study.
- After a thorough review of literature, Tool I (Demographic and clinical data structured interview schedule), Tool II (Geriatric Patients colostomy knowledge structured interview schedule), Tool III (observation checklist for stoma care) were developed by the researcher and reviewed by the supervisors. The reliability of tool II and tool III were applied to 5 geriatric patients with colostomy selected from previous mentioned settings and reapplied two weeks later. The reliability was assured by Spearman's correlation Coefficient $r=0.88$ for tool II and $r=0.87$ for tool III.
- The study tools were tested for its validity by 7 experts in the fields of Gerontological Nursing, Medical Surgical Nursing, Community health Medicine, as a jury to test its content applicability and feasibility and the necessary modifications were done accordingly.
- A pilot study was carried out on (10% of sample size) 5 geriatric patients with colostomy in surgical wards at Mansoura University Hospital before starting the data collection to test the feasibility of the tools and to make the necessary modifications. Geriatric patients participated in the pilot study were excluded from the study sample.
- Verbal consent from the study subjects was obtained after explanation of the purpose of the study and assured that data collection was used only for the purpose of the study. Then, the necessary data were collected using the study tools.
- Each geriatric patient who agreed to participate in the study and fulfilling the inclusion criteria was interviewed individually in order to collect the necessary data using all the study tools (in pre, immediately post and one month after).
- Assessment of each geriatric patient was done using Tool I, Tool II, Tool III, Tool V, Tool IV (**pretest**) before applying the planned training to collect the baseline patient's data. Time taken to fill the study tools ranged from 40 to 50 minutes approximately.
- The researcher used to read each question to study subject and marked exactly the answer they gave.
- Based on the assessment findings of the study subjects and after reviewing the literature, the proposed nursing stoma care training was developed and implemented on the study subjects.
- The researchers started to collect data from the studied patients using the pre constructed tools at inpatient surgical wards and in colorectal and anal unit in Mansoura university hospital during pre and post study period and at general surgery outpatient clinic and colorectal and anal surgical outpatient clinic at Mansoura university hospital during follow up period.
- The nursing stoma care training included knowledge and practices required for maintain good stoma care written in simple Arabic language with colored pictures and large sized font to accommodate age-related visual changes to enhance the learning process.
- The content of training will be covered in four sessions. Two educational sessions for providing knowledge (each session will took upon 30- 45 minutes approximately) and two training sessions for stoma care (approximately 45 minutes for each session). Two sessions weekly for two weeks.
- During each session the researcher used PowerPoint presentation using lap top in the implementation period and used simple, brief, clear words. At the end of each session, a brief summary was given by the researcher, emphasizing on the most important points.
- Also, before starting the next sessions, the researcher used to ask questions related to topic discussed in the previous session; any missed or unclear points were reemphasizing by the researcher.
- The researcher demonstrated the component of practical sessions and then allow to each geriatric patient to redemonstrate the stoma care on him or herself until ensuring that each study subjects mastered the stoma care.
- Moreover, the educational booklet was given to geriatric patients to attract their attention, motivate them and allow for reviewing at home and support practice at home.
- Patients were informed to be in contact with the researchers by telephone at any time for any guidance.
- Also, the researcher used to did a telephone call weekly for geriatric patients to evaluate feedback regarding home performance, self-reported adherence, answer any questions and clarify any vague points so as to maintain each study subjects motivation and provide positive feedback and reinforcement.
- Reassessment of each study subject was done two times to evaluate the effect of the stoma care training. **The first reassessment** was done immediately after the implementation of the training, it was carried out in inpatient surgical wards .the data was collected three days per week from inpatient surgical wards and in

colorectal and anal unit in Mansoura university hospital during morning or afternoon shift to determine effect of the sessions.

- The **second reassessment**, one month from the implementation of the proposed training ⁽⁸⁾ as follow up was carried out in general surgical outpatients clinic in Mansoura university hospital two days per week (at Saturday and Tuesday) if patient did surgery in inpatient surgical wards (and in colorectal and anal surgical outpatient clinic that also affiliated to Mansoura university hospital one day per week (at Thursday) if patient did surgery in colorectal and anal surgical unit from 8 am to 1 pm according to the schedule of hospital.
- Data collection was carried out over a period of 10 months that started from the beginning of January 2017 to the end of October 2017.

V. Results

Table1 shows the distribution of the studied geriatric patients according to their demographic characteristics. About 84.4% of studied subjects ranged from 60 to less than 75 years, with a mean age of 64.62 ± 3.78 years. Male were constituted 55.6% of them and 60% were married and the rest 40% of the studied subjects were widow. In addition, illiteracy was prevailing 44.4 % of the studied subjects. It was observed that 80 % of the them were living with their families and 71.1% of them were residing in rural areas. Also, 82.2% of subjects reported that their income was not enough.

Table1: Distribution of the studied geriatric patients according to their demographic characteristics

| Items | N=45 | % |
|---|------|------|
| Age (in years) | | |
| 60 to less than 75 years | 38 | 84.4 |
| 75 to less than 85 years | 7 | 15.6 |
| Mean \pm SD = 64.62 \pm 3.78 | | |
| Sex | | |
| Male | 25 | 55.6 |
| Female | 20 | 44.4 |
| Marital status | | |
| Married | 27 | 60.0 |
| Widow | 18 | 40.0 |
| Level of education | | |
| Illiterate | 20 | 44.4 |
| Read & write | 7 | 15.6 |
| Diplom | 16 | 35.6 |
| High education | 2 | 4.4 |
| Residence | | |
| Rural | 32 | 71.1 |
| Urban | 13 | 28.9 |
| Living condition | | |
| Alone | 9 | 20.0 |
| With family | 36 | 80.0 |
| Income | | |
| Not enough | 37 | 82.2 |
| Enough | 8 | 17.8 |

Table 2 shows the distribution of the studied geriatric patients according to their Health profile. Concerning, causes of colostomy, It was observed that colorectal cancer was the main cause of colostomy among (55.6 %) the studied subjects. On the other hands, permanent colostomy was the most common types of colostomy (53.3 %) among them.

Table 2: Distribution of the studied geriatric patients according to their Health profile

| Items | N=45 | % |
|----------------------------|------|------|
| Causes of Colostomy | | |
| Colorectal Cancer | 25 | 55.6 |
| Intestinal Obstruction | 20 | 44.4 |
| Types of Colostomy | | |
| Temporary | 21 | 46.7 |
| Permanent | 24 | 53.3 |

means more than one response

Table 3 shows the effect of nursing stoma care training on level of knowledge and practices of the studied subjects. It was noticed that nursing stoma care training had statistical significant effect on improving knowledge and practices of studied subjects immediately after and one month after implementation of the training program (P=0.000).

Table 3: Effect of nursing stoma care training on knowledge and practices of studied geriatric patients

| Item | Before program | | Immediately after | | After one month | | t-test | |
|------------------|----------------|------|-------------------|------|-----------------|------|---------------------|---------------------|
| | N (45) | % | N (45) | % | N (45) | % | P1 | P2 |
| Knowledge | | | | | | | | |
| Poor | 43 | 95.6 | 0 | 0 | 1 | 2.2 | -33.084 (0.000)* | -27.799 (0.000)* |
| Average | 2 | 4.4 | 4 | 8.9 | 6 | 13.3 | | |
| Good | 0 | 0 | 41 | 91.1 | 38 | 84.4 | | |
| Mean ± SD | 34.42±7.81 | | 73.96±9.29 | | 71.31±11.08 | | | |
| Practices | | | | | | | | |
| Satisfactory | 1 | 2.2 | 43 | 95.6 | 42 | 93.3 | -34.467 (0.000)* | -27.947 (0.000)* |
| Unsatisfactory | 44 | 97.8 | 2 | 4.4 | 3 | 6.7 | | |
| Mean ± SD | 22.09±4.06 | | 40.84±4.84 | | 39.80±4.83 | | | |

(*) Statistically Significant at p ≤ 0.05

Paired t-test (P1)= Comparing before and immediately after training program in study group

Paired t-test (P2)= Comparing before and one month after training program in study group

Table 4 illustrates the effect of nursing stoma care training on level of self esteem among studied subjects. It could be mentioned that nursing stoma care training had statistical significant effect on increasing self esteem level immediately after and one month after implementation of the nursing stoma care training (p=0.000).

Table4: Effect of stoma care training program on level of self esteem among studied geriatric patients

| Self esteem | Before program | | Immediately after | | After one month | | t-test | |
|-------------|----------------|------|-------------------|------|-----------------|------|---------------------|---------------------|
| | N (45) | % | N (45) | % | N (45) | % | P1 | P2 |
| Normal | 2 | 4.4 | 40 | 88.9 | 38 | 84.4 | -20.019 (0.000)* | -21.883 (0.000)* |
| Low | 43 | 95.6 | 5 | 11.1 | 7 | 15.6 | | |
| Mean ± SD | 6.11±3.26 | | 17.71±5.24 | | 17.22±4.47 | | | |

(*) Statistically Significant at p ≤ 0.05

Paired t-test (P1)= Comparing before and immediately after training program in study group

Paired t-test (P2)= Comparing before and one month after training program in study group

Table 5 shows effect of nursing stoma care training sessions on psychological status (anxiety and depression) among studied geriatric patients. It was observed that nursing stoma care training had statistical significant effect on decreasing anxiety and depression level among subjects immediately after and one month after implementation of the stoma care training (P=0.000).

Table 5: Effect of stoma care training sessions on psychological status (anxiety and depression) among studied geriatric patients

| HADS# | Before program | | Immediately after | | After one month | | t-test | |
|-------------------|----------------|------|-------------------|------|-----------------|------|--------------------|--------------------|
| | N (45) | % | N (45) | % | N (45) | % | P1 | P2 |
| Anxiety | | | | | | | | |
| Normal | 0 | 0 | 39 | 86.7 | 40 | 88.9 | 15.746 (0.000)* | 15.575 (0.000)* |
| Mild | 4 | 8.9 | 3 | 6.7 | 2 | 4.4 | | |
| Moderate | 22 | 48.9 | 3 | 6.7 | 3 | 6.7 | | |
| Severe | 19 | 42.2 | 0 | 0 | 0 | 0 | | |
| Mean ± SD | 14.11±3.92 | | 6.64±2.53 | | 6.58±2.07 | | | |
| Depression | | | | | | | | |
| Normal | 0 | 0 | 35 | 77.8 | 30 | 66.7 | 25.195 (0.000)* | 23.158 (0.000)* |
| Mild | 7 | 15.6 | 7 | 15.6 | 12 | 26.7 | | |
| Moderate | 28 | 62.2 | 3 | 6.7 | 3 | 6.7 | | |
| Severe | 10 | 22.2 | 0 | 0 | 0 | 0 | | |
| Mean ± SD | 14.58±3.73 | | 5.69±3.31 | | 6.60±2.63 | | | |

(*) Statistically Significant at p ≤ 0.05

Paired t-test (P1)= Comparing before and immediately after training program in study group

Paired t-test (P2)= Comparing before and one month after training program in study group

HADS # =Hospital Anxiety and Depression Scale (decreased scores donates improvement)

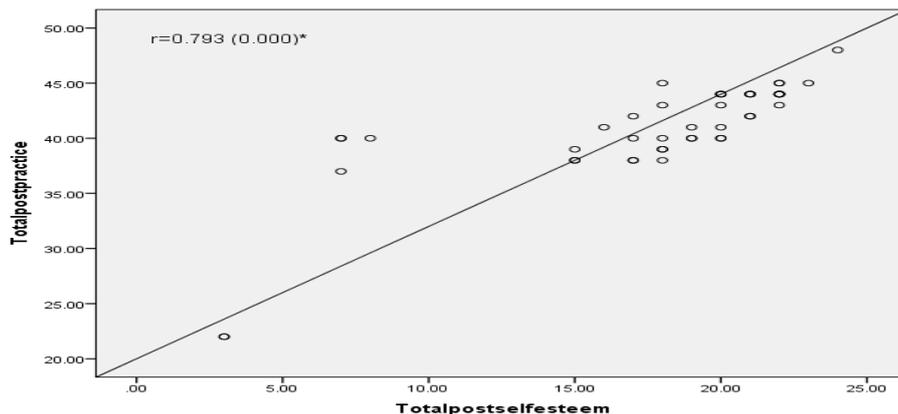


Figure (1):Correlation between total self esteem scores and total practice score immediately after training implementation

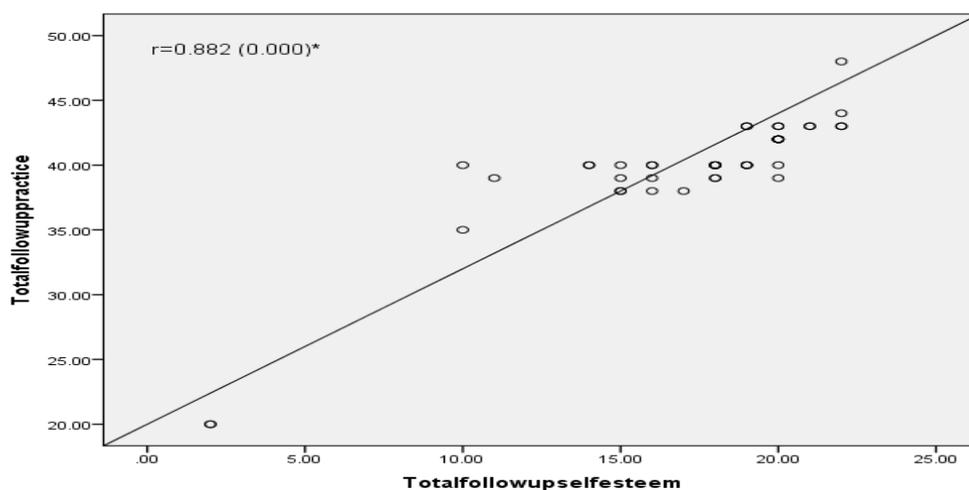


Figure (2):Correlation between total self esteem scores and total practice score after one month from training implementation

Figures 1&2 show correlation between total practices scores and total self esteem scores of the studied geriatric patient after training implementation. They clarified that, there was statistical significant strong positive correlation between total practices scores and total self esteem scores immediately and one month after nursing stoma care training implementation.

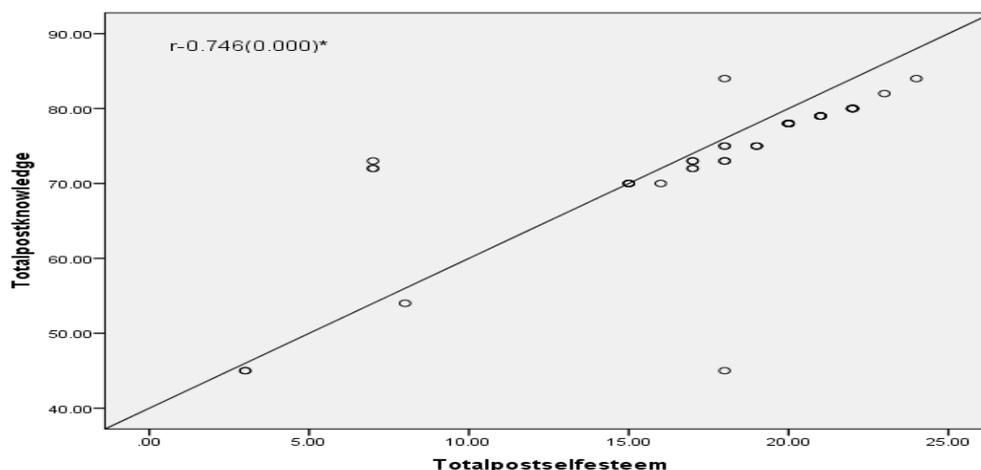


Figure (3): Correlation between total self esteem scores and total knowledge score immediately after training implementation

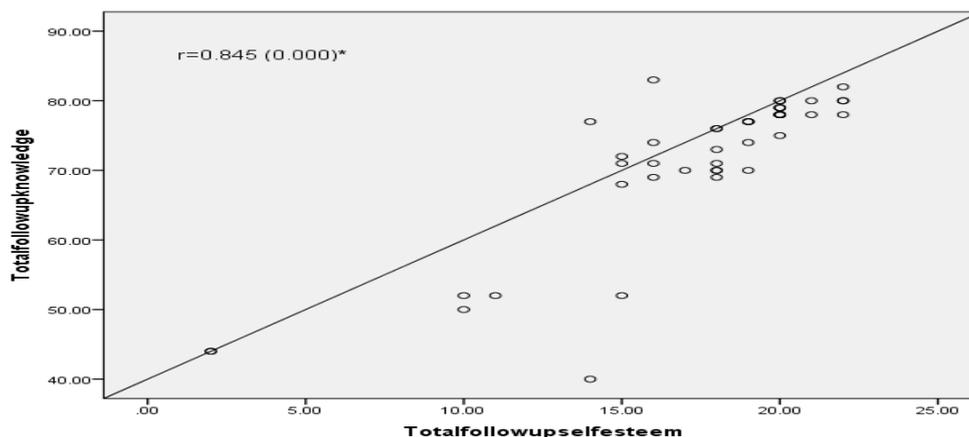


Figure (4): Correlation between total self esteem scores and total knowledge score after one month from training implementation

Figures 3&4 represent correlation between total knowledge scores and total self esteem scores of the studied geriatric patients after training implementation. This figures showed that, there was statistical significant strong positive correlation between total knowledge scores and total self esteem scores immediately and one month after nursing stoma care training implementation.

Table 6 shows the correlation between total knowledge scores and total practices scores and either total anxiety scores & total depression scores of the studied subjects after training implementation. It appears from table that, there was statistical significant strong negative correlation between both total knowledge scores & Total practices scores and either total anxiety scores & total depression scores of the studied subjects immediately after and one month after implementation of training.

Table 6: Correlation between Total Knowledge scores & Total practices scores and either Total anxiety scores & Total depression scores of the studied geriatric patients after training implementation

| Items | HADS# | | | | | | | |
|-------------------------------|--------------------------|---------|-----------------|---------|-----------------------------|---------|-----------------|---------|
| | Total anxiety mean score | | | | Total depression mean score | | | |
| | Immediately post | | After one month | | Immediately post | | After one month | |
| | r | p | r | p | r | p | r | p |
| Total Knowledge scores | -0.640 | 0.000** | -0.754 | 0.000** | -0.685 | 0.000** | -0.725 | 0.000** |
| Total practices scores | -0.741 | 0.000** | -0.781 | 0.000** | -0.757 | 0.000** | -0.729 | 0.000** |

** Correlation is significant at the 0.01 level (2-tailed).

VI. Discussion

Geriatric Patients with colostomy face many challenges as physical challenges such as loss of skin integrity around the stoma, changes in their pattern, frequent occurrence of leakage of secretion around the bag, presence of odor and elimination of gases. In elimination addition to causing psychological challenge as severe anxiety, depression and disturbance in body image which may lead to low self-esteem, feeling of inadequacy and fears of not being able to lead a normal life. It is important to teach the patients how to care for their stoma and how to integrate self ostomy care into daily activities to be able to cope with these physical and psychological challenges⁽³⁰⁾.

Regarding demographic characteristics of the studies geriatric patients, the current study revealed that most of the studied geriatric patients were young old (from 60 to less than 75 years) with a mean age of 64.62 ± 3.78 years. The young age incidence in this study probably due to the young age structure of the Egyptian population patients is much younger than reported in the west⁽²⁾. Another study conducted in United Kingdom by⁽³⁹⁾ who reported that the mean age was 62 years. At the same line the study carried out in Brazil by⁽³⁵⁾ who stated that the mean age of colostomy patients was 60.67 ± 11.76 years. This may be due to aging increase risk of developing colorectal cancer and in the same line colostomy surgery.

Concerning gender, this study revealed that more than half of colostomy geriatric patients were male this may be due to smoking and colon cancer is more prevalent in male than in female. This result in the same line with study conducted in Georgia by⁽²⁶⁾ who revealed that half of patients were males. In addition, a study in South India by⁽²⁹⁾ who stated that large numbers of sample were males and another study done in Egypt by

⁽²²⁾who reported that more than half of colostomy patients were male .This finding may be due to that male was at risk for developing colorectal cancer than female due to heavy smoking and fast food. However this finding was in contrast with study conducted in United Kingdom by ⁽³⁹⁾ reported that about half of patients were females. Also, the study carried out in Brazil by ⁽³²⁾ who stated that more than half of colostomy operation done to female. From my point of view this difference may be due to variation in sample size and average age of participants.

Ostomy is a surgery performed for management of bowel dysfunction due to various causes ⁽²⁰⁾.Colorectal cancer (CRC) is the most common reason for making of stoma ⁽²⁹⁾ . This finding is similar to that of another studies conducted in Brazil by ⁽³⁰⁾ and in Egypt by ⁽²²⁾ indicated that colorectal cancer was responsible for large number of colostomy surgery. This finding may be due to colorectal cancer is common in elderly patients and surgical approach considered the most successful treatment modality for patients especially in early stages. The present study showed that Permanent colostomy was the most common types of colostomy among studied geriatric patients. This result is consistent with study conducted in Brazil by ⁽²³⁾ who reported that most of colostomy patients had permanent stoma. These results can be explained by an originally temporary stoma may become permanent, depending on the causes of surgery, taking into account that in many cases the diseases of the gastrointestinal tract especially colorectal cancer lead to a radical surgery resulting in permanent colostomy Which the diseased part of the bowel is removed or permanently rested. In this case, the colostomy is not expected to be closed in the future.

In fact, educating and training patients with colostomy is a vital nursing role and is essential in promoting patient acceptance of the stoma and encourage them to become involved in their stoma care ⁽⁴⁾. As regards to the studied subjects' knowledge score throughout the study phases, the results of the present study revealed that the majority of geriatric patients had poor knowledge before training implementation. This may be as result of poor knowledge and practices before training may be due to insufficient information that was given to patients about colostomy and how to care with stoma also illiteracy of most of study subjects may have a critical role. While, the majority of them in immediately after and more than three quarter of them one month after training implementation had good knowledge regarding colostomy.

Concerning , the total scores of studied subject's practice throughout the study phases, the results of present study revealed that , there was a highly statistically significant difference between pre/ immediately after and after one month from implementation of the training. In the same line, study conducted in Egypt by ⁽²²⁾ confirmed that there were highly statistical significant improvement in total knowledge scores pre/post intervention regarding colostomy and its care as poor knowledge regarding stoma self- care before the program while there were increase score of knowledge after the program in follow up and the majority of subject had a weak performance in total skills such as preparation, removal of old pouch, clean stoma and skin around stoma in pre-program. On the other hand, post program there was significant improvement of practice, as more than half of patients had satisfactory performance. Similar results was reported by ⁽²⁷⁾ in Minneapolis who mentioned that the study group had higher score immediately post and after 3 months from educational program than the control group.

Regarding to psychological status of geriatric colostomy patients; the current study revealed that, before training implementation about half of patients had severe anxiety and about one third of them had severe depression. This matters made patients very anxious and in a bad psychological status. Similar findings were reported by ⁽¹⁶⁾ in London revealed that more than half of stoma patients had psychological problems. These results may be due to shock from the changes in body shape, being dependent on others, they don't know how to deal with stoma, concerns about stoma and stoma care, feeling of insecurity plus fear of rejection and social stigma as well as restrictions within their current lifestyle and activity.

Another studies conducted in Spain by ⁽⁹⁾ represented that there was strong positive correlation between patients' self care practices and psychological status of them. Moreover, ⁽⁶⁾ in china found that the psychological status of patients who receiving self-management educational program were significantly improved Compared with others in my opinion these findings may be explained as when colostomy patient had sufficient knowledge about stoma and how to deal with it and be able to perform stoma care well this increase independency and improve adjustment and coping with stoma which may decrease feeling of anxiety, fear and depression. Concerning to self esteem of the studied patients, the present findings represented that the majority of patients suffering from low level of self-esteem before implementation of the training. Similar results were of patients suffering from low level of self-esteem before nursing stoma care training. In the same line, studies done in China by ⁽²¹⁾ and in Brazil by ⁽³¹⁾ found that patient with stoma had low self esteem level compared to others. Similarly, this result is in agreement with the studies conducted in Korea by ⁽¹⁹⁾ who reported that, colostomy patients had disturbance in self confidence and self esteem. These findings may be due to after stoma surgery patients had feelings of helplessness, embarrassment and shame of his/her body, especially the feeling of being dirty, feeling the loss of control in life, inability to performed stoma care independently and loss of ability for passing stool normally all of this causes leading to low selfesteem and selfvalue.

On the other hand, the current study found that more than three quarter of patients had normal self esteem level immediately and one month after training implementation. So that, nursing stoma care training had statistical significant effect on increasing self esteem level among studied geriatric patients. In the same direction, studies conducted in China by ⁽⁴⁰⁾ and in Egypt by ⁽¹⁸⁾ observed that improving self-care skills and knowledge increasing patient self esteem to cope with the colostomy. These results were supported by ⁽²²⁾ in Egypt who confirmed that patient with higher levels of knowledge about stoma care and those who can manage all aspects of care independently were more psychosocially adjusted and had higher self esteem level to their stomas than persons with less knowledge and more dependence on others for care. This may be related to when patients be independent in performing stoma care well and able to deal with their conditions they feel best control over themselves and their view and value about themselves changed positively this increase patients' level of self esteem.

Finally, these previous findings highlight the importance of nursing stoma care training on self esteem and psychological status of geriatric colostomy patients as nursing stoma care training have a positive effect in improving self esteem and psychological status of colostomy geriatric patients.

VII. Conclusion

Based on findings of the present study, it can be concluded that lack of knowledge and practices about colostomy and its care has negative consequences on self esteem and psychological status of geriatric patients. Therefore, implementation of stoma care training program has significant positive effect in increase geriatric patients' knowledge and practices about colostomy.

Acknowledgements

Thank you for all geriatric colostomy patients who agreed to participate in the study as well as health personnel in the study setting for their cooperation in the fulfillment of this work.

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Sally Mohammed El Sayed "Effect of nursing stoma care training on geriatric patients' self esteem and psychological status". *IOSR Journal of Nursing and Health Science (IOSR-JNHS)* , vol. 7, no.4 , 2018, pp. 52-62.