

## Body Image, Self-esteem and Quality of Life among Stoma Patients

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### Abstract

**Background:** Stoma surgery is considered a life-saving procedure in many cases especially with cancer. Where, the existence and functioning of the stoma is associated with a number of changes in patients' everyday life. There is a dramatic change in one's body image that can negatively influence the individual self-esteem and quality of life.

**This study aims** to evaluate body image, self-esteem, and quality of life among stoma patients.

**Design:** A descriptive study design was used.

**Setting:** The study was conducted in five hospitals in Ismailia city includes; two university hospitals (Suez Canal University Hospitals and Suez Canal University Specialized Hospital) and three governmental hospitals (Ismailia General Hospital, Ismailia Oncology Hospital, and Health Insurance Hospital).

**Subject:** A sample of (110) patients (69 male and 41 female) undergoing stoma surgery at least two months after stoma creation.

**Tools of data collection:** four tools were used for data collection: tool (I) Demographic characteristics & physiological and psychological background questionnaire. Tool (II): Body image scale. Tool (III): Self-esteem scale. Tool (IV): Fecal incontinence quality of life scale (FIQL).

**Results:** It was found that, nearly three quarter (75.7%) of the studied subjects had a low body image and more than three quarter (77.3%) of the studied subjects had low self-esteem. Also, it was found that stoma patients had a lower functional status of overall quality of life, and in all quality of life domains. Additionally, there was a positive, statistically significant correlation between body image, self-esteem, and quality of life. **Conclusion:** stoma creation has a great negative impact on the patients (physical, social, psychological, spiritual, and sexual) life. Therefore the studied subjects have a lower level of body image, self-esteem, and low functional status of quality of life.

**Recommendation:** counseling sessions as well as pre and post-operative education for stoma patients and care givers, should be conducted that will help them to accept their stoma in better way.

**Key words:** Body image, quality of life, self-esteem, stoma patient.

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### I. Introduction

Stoma is an artificial opening in the bowel that has been made to bring the bowel into the surface of the abdomen in order to divert the flow of faeces or urine. The three types of eliminating stomas are colostomy, ileostomy and urostomy, which can be temporary or permanent based on the underlying medical condition (Hubbard et al., 2017). These medical conditions include; colorectal malignancies, inflammatory bowel disease, polyposis syndromes, diverticular disease, intestinal obstruction, Crohn's disease and ulcerative colitis (Jayarajah & Samarasekera, 2017 & José et al., 2018).

Approximately 1 million people live with a stoma, and 100 000 to 130000 new ostomies are completed each year in the United States. Similarly, at least 100,000 patients in China have stoma surgery each year, and the total number of stoma patients in China is 1 million (Yuan et al., 2018). In Egypt one report estimated that 650,000 people had a stoma and about 3000 new surgeries are performed each year (Jemal, et al, 2010 & Taha & Moustafa, 2013). The incidence of colostomy in National Cancer Institute in Egypt approximately 600/year (NCI, 2012 & Hegazy, 2014).

Even with the current technological advances to minimize the damage coming from the surgery of an ostomy, the patient with this surgery suffer from physical complications related to the loss of the integrity of the body (Andrade et al., 2016). The person undergoing this type of surgery needs to wear a pouch system on the

abdomen to collect stool or urine, thereby becoming dependent on it. This requirement associated with the fear of odor escaping, leaks and noises, in addition to possible restrictions to some life habits, result in concerns and can turn one's life into a painful process (Mota et al., 2016).

**Significance of the study:**

Despite stoma formation seen as a breath of life, a hope signal, or as a new opportunity after a painful diagnosis as cancer it associated with many problems. Especially, the constant fear of not being able to resume those activities of daily living practiced prior to the stoma. This health problem affects the individual body image, self-esteem, and quality of life. The existence of the ostomy configures a whole new way of life for the patients, because of this, the person with the ostomy has to modify his daily activities, has to dress in a different way, adopt a new diet and transform his life-style (de Sousa et al., 2016; Andrade et al., 2016 & Lima et al., 2018).

Such facts make it possible to comprehend the importance of nursing care in the multidisciplinary crew, and its importance as the beacon for implementing continuous improvement in quality for patients with stoma, as well as their families and community, raising awareness of the importance of nursing care and the performance of the professionals involved in this field regarding these services (Kimura et al., 2016). Therefore, The professional who is providing care must go hand in hand with patient, so that in this way the patient feels supported and willing to seek help (Salomé et al., 2014).

**Aim of the study**

The aim of the study is to evaluate body image, self-esteem and quality of life among stoma patients.

**Research Questions:**

- 1- Does the stoma affect patient body image?
- 2- Does the stoma affect patient self-esteem?
- 3- Does the stoma affect patient quality of life?
- 4- Are there a relation between body image, self-esteem and the quality of life of stoma patients?

## **II. Subjects and Methods**

**Research design**

A descriptive study design was utilized.

**Study Setting:**

The study was conducted in five hospitals in Ismailia city includes two university hospitals (Suez Canal University Hospitals and Suez Canal University Specialized Hospital), three governmental hospitals (Ismailia General Hospital, Ismailia Oncology Hospital, and Health Insurance Hospital).

**Subjects:**

A sample of 110 stoma patients (69 male and 41 female) undergoing stoma surgery at least two months after stoma creation.

**Sampling**

The sample of the present study was purposive sample and selected according the following criteria:

**Inclusion criteria**

- 1- Stoma patients at least two months after stoma creation.
- 2- Age above 18 years old without physical or mental handicaps.

**Tools of data collection:**

Self-administrative questionnaire was used in this study to collect the needed data. It divided into four tools:

**Tool (I):** questionnaire elicits data about the stoma patients, it divided into two parts

**Part (1):** demographic characteristics as (age, sex, marital status, place of residence, education, etc.)

**Part (2):** physical and psychological background as (type of stoma, duration of stoma, cause of stoma, job changing after stoma creation, family support, etc.)

**Tool (II): Body image scale:**

It developed by (Hong et al., 2014), it was used to assess body image for stoma patient. The tool is translated into arabic by the researcher. It consists of a total of 15 questions, and each item measures two opposed ideas in 7-grades. The lowest score is 15 points and the highest is 105 points. Positive items like questions (1, 2, 5, 6, 7, 11, 13 and 15), are calculated adversely, and question 9 is also calculated adversely in male patients. A higher total score means a more positive attitude to one's own body image.

**Tool (III): Self-esteem scale(Appendix III):**

It developed by (Hong et al., 2014) it was used to assess self-esteem for stoma patient. The tool is translated into arabic by the researcher. It consists of a total of 10 questions, five are related to positive self-esteem with the other five related to negative self-esteem. Each item is measured by a 4-grade method, the lowest score is 10 points and the highest is 40 points. The questions related with negative self-esteem, like question 3, 5, 8, 9, 10, are calculated adversely. The lowest score is 10 points and the highest is 40 points. A higher total score means higher self-esteem.

**Tool (IV): Fecal incontinence Quality of life scale (FIQL) (Appendix IV):**

It developed by (Rockwood et al., 2000), it was used to measure the quality of life for stoma patients. The tool is translated into Arabic by the researcher. The scale consists of a total of 29 questions. There are four dimensions to the scale in which: **Lifestyle** ten items :( Q2.a, Q2.b, Q2.c, Q2.d, Q2.e, Q2.g, Q2.h, Q3.b, Q3.l, and Q3.m), **Coping/Behavior** nine items:(Q2.f, Q2.i, Q2.j, Q2.k, Q2.m, Q3.c, Q3.h, Q3.j and Q3.n), **Depression/Self-perception** seven items: (Q1, Q3d, Q3.f, Q3.g, Q3.i, Q3.k, and Q4), only (Question 1 is reverse coded), **Embarrassment** three items: (Q2.l, Q3.a and Q3.e).

**Scale scoring:**

The scales range from 1 to 4; with 1 indicating a lower functional status of quality of life and 4 indicating a best functional status of QOL. Scale scores are the average (mean) response to all items in the scale (e.g. add the responses to all questions in a scale together and then divide by the number of items in the scale N.B. adjust for missing values). Not apply (value 5) is coded as a missing value in the analysis for all questions.

**Operational Design:**

The operational design includes preparatory phase, pilot study, content validity, tool reliability and field work.

**Preparatory phase**

It includes reviewing of literature, different studies and theoretical knowledge of various aspects of the research topic using books, articles and internet. The adopted tool was translated from English to Arabic and retranslated from Arabic to English to ensure clarity and understanding.

**Content validity:**

The tool was revised by five expertise for clarity, relevancy, applicability and then their modifications were applied.

**Tool Reliability**

Questionnaire	Cronbach's alpha
Body image scale	.787
Self-esteem scale	.763
Fecal incontinence quality of life scale(FIQL)	.871

**Pilot Study**

A pilot study was carried out on (10%) from the study sample to ascertain the clarity, applicability of the study tools, to identify the obstacles and problems that may be encountered and to estimate the time needed to fill in the questionnaire. Those stoma patients that included in the pilot study were excluded from the study sample.

**Field Work**

The data were collected by the researcher within 8 months from July 2017 to February 2018. Data was collected three days / week, from one to stoma patients were interviewed every day. Each interview the researcher introduces self and gives a brief explanation about the purpose of the study. Oral and written consent were obtained from each stoma patient to participate in the study before data collection. Each interview takes from 30 to 40 minutes.

**Administrative Design:-**

An official permission was obtained using proper channels of communication. Official letters were sent from the Faculty of Nursing Suez Canal University to the selected hospital manager with an explanation for the aim of the study and the expected outcome to take their permission to carry out the study.

**Ethical Consideration**

This study takes the ethical committee agreement in 31/5/2017 with code number (6/5-2017). Each patient was asked to give written consent to participate in the study after full explanation of the nature and the main aim of the study and its expected outcomes. The patient had the right to withdraw from the study at any time without any rationale, also they were informed that data will not be included in any further researches without another new consent from them. The gathered data were assured through coding of all data for confidentiality.

**Statistical Design:**

Upon completion of data collection variable included in each data collection sheet were organized and tabulated then coded prior to computerized data entry. The data were then imported into Statistical Package for the Social Sciences (SPSS version 20.0) software for statistical analysis. Mean, stander deviation, independent sample T test, one way ANOVA test and person correlation coefficient are used for data statistical analysis.

**Study limitations:**

There is no limitation faced the researcher during data collection and program implementations.

**III. Results**

**Table (1): Distribution of studied subjects according to their demographic characteristics (n=110):**

Demographic characteristics	No	%
<b>Age (in years)</b>		
≥ 18	10	9.1
≥ 30	20	18.2
≥ 40	36	32.7
≥ 50	44	40.0
<b>Mean ± SD</b>	47.53 ± 11.414	
<b>Gender</b>		
Males	69	62.7
Females	41	37.3
<b>Marital status</b>		
Married	83	75.5
Unmarried	12	10.9
Widowed	15	13.6
<b>Educational Level</b>		
Basic education	65	59.1
Secondary	24	21.8
High	21	19.1
<b>Residence</b>		
Rural	65	59.1
Urban	45	40.9
<b>Work</b>		
Working	52	48.2
Not work	6	5.5
Retired	15	13.6
House wife	36	32.7
Student	1	1.9
<b>Type of job (N=52)</b>		
Professional	9	17.3
Non professional	43	82.7

**Table (2): Distribution of studied subjects according to their physiological and psychological background (N=110):**

physiological and psychological background items:	No	%
<b>Type of stoma</b>		
Temporary	33	30
Permanent	77	70
<b>Cause of stoma</b>		
Cancer	93	84.5
Intestinal obstruction	11	10
Accident	6	5.5
<b>Stoma duration</b>		
< 1 year	69	62.7
1-5 year	34	30.9
> 5 year	7	6.4
<b>Mean± SD</b>	1.46 ± 1.908	
<b>Stoma care by yourself</b>		
Yes	87	79.1
No	23	20.9
<b>Job interaction with public (N=52)</b>		
Yes	45	86.5
No	7	13.5
<b>Job changing (N=52)</b>		
Yes	27	51.9
No	25	48.1
<b>Family support</b>		
Yes	95	86.4
Some times	15	13.6

**Table (3): Distribution of the studied subjects mean according to body image scale (N=110):**

Body Image scale items	Mean	SD	R Test
- Beautiful / ugly	4.25	1.598	.528**
- Clean / dirty	4.91	1.870	.643**
- Inconvenient / convenient	3.81	1.541	.617**
- Unusual / usual	4.38	1.585	.775**
- Important / unimportant	4.55	1.733	.732**
- Noble / humble	4.37	1.669	.707**
- Healthy / prostration	3.53	1.706	.758**
- Incapable / capable	3.77	1.518	.653**
- Masculine / feminine	4.85	1.363	.314**
- Weak / strong	3.45	1.494	.685**
- Complete / Incomplete	4.00	1.756	.583**
- Dangerous / safe	4.45	1.297	.542**
- Active / inactive	4.15	1.660	.716**
- Heavy / light	4.13	1.408	.703**
- Fast / slow	4.02	1.496	.710**
<b>- Total Score</b>	<b>62.63</b>	<b>15.38</b>	

P value = 0.00\*\* Significant p –value ≤ 0.05 Insignificant p –value > 0.05

**Table (4): Distribution of the studied subjects mean according to self-esteem scale (N=110):**

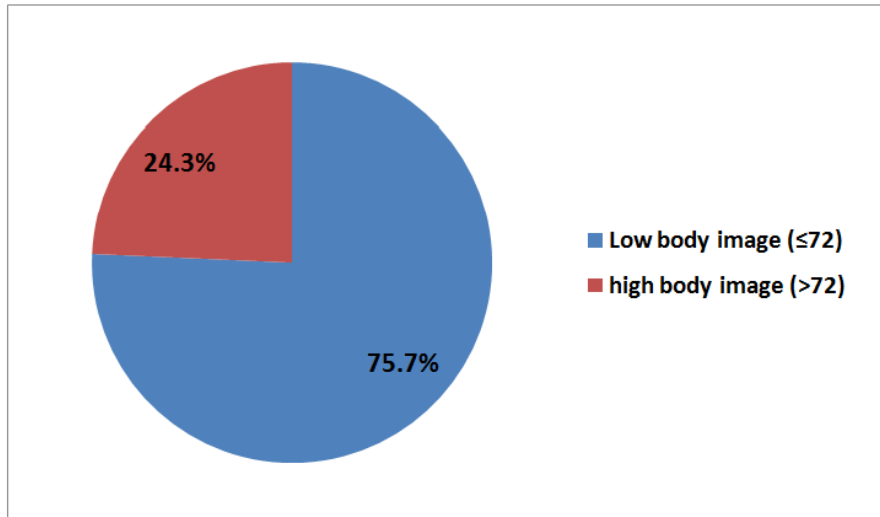
Self-esteem scale items	Mean	SD	R Test
<sup>a</sup> I think that I am worthy like everybody else.	2.29	1.087	.792**
<sup>a</sup> I think that I am good-natured.	1.73	.866	.500**
<sup>b</sup> I think that I am a failure.	3.06	1.086	.620**
<sup>a</sup> I think that I can do good work like everybody else.	1.86	.840	.514**
<sup>b</sup> I think that I have nothing to boast out.	2.92	1.015	.503**
<sup>a</sup> I have positive attitude for myself.	2.86	1.027	.723**
<sup>a</sup> I am satisfied with myself.	3.30	.934	.413**
<sup>b</sup> I want to respect myself more.	2.48	.993	.389**
<sup>b</sup> Sometimes I feel myself worthless.	2.71	1.207	.680**
<sup>b</sup> Sometimes I think that I am not a nice person.	3.32	.834	.646**
<b>Total score</b>	<b>26.54</b>	<b>5.907</b>	

P value = 0.00 \*\* Significant p –value ≤ 0.05 Insignificant p –value > 0.05

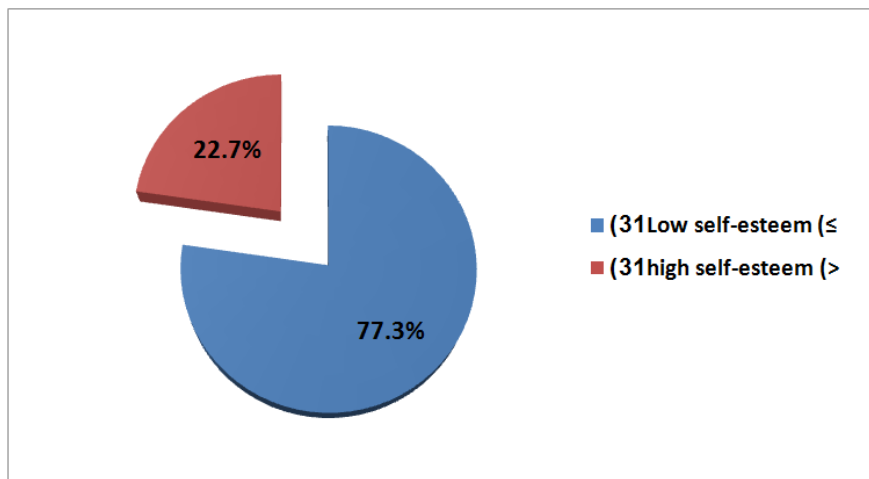
(a) Positive self-esteem items.

(b) Negative self-esteem items.

**Figure (1): Distribution of the studied subject's number according to body image scale (N=110):**



**Figure (2): Distribution of the studied subject's number according to self-esteem scales (N=110):**



**Table (5): Distribution of the studied subjects according to quality of life scale (N=110):**

Quality of life scale	Mean ± SD		R Test
Q1. In general, would you say your health is.	2.11	.942	.657**
Q2.a. I am afraid to go out.	1.82	.940	.724**
b. I avoid visiting friends.	1.84	1.018	.762**
c. I avoid staying overnight away from home.	1.61	.959	.565**
d. It is difficult for me to get out and do things like going to a movie or to church.	2.09	1.054	.591**
e. I cut down on how much I eat before I go out.	2.20	1.115	.577**
f. Whenever I am away from home, I try to stay near a restroom as much as possible.	1.73	.777	.508**
g. It is important to plan my schedule (daily activities) around my bowel pattern.	2.13	.959	.578**
h. I avoid traveling.	1.64	.854	.672**
i. I worry about not being able to get to the toilet in time.	1.71	.892	.782**
j. I feel I have no control over my bowels.	1.00	.000	.187*
k. I can't hold my bowel movement long enough to get to the bathroom.	1.00	.000	.187*
l. I leak stool without even knowing it.	1.99	.904	.472**
m. I try to prevent bowel accidents by staying very near a bathroom.	1.77	.831	.627**

Continue of table (5): Distribution of the studied subjects according to quality of life scale (N=110):

Quality of life scale	Mean ± SD		R Test
Q3.a. I feel ashamed.	1.50	.875	.725**
b. I cannot do many of things I want to do	1.51	.660	.714**
c. I worry about bowel accidents	1.39	.679	.592**
d. I feel depressed	2.15	.940	.803**
e. I worry about others smelling stool on me	1.27	.676	.504**
f. I feel like I am not a healthy person.	1.77	.797	.672**
g. I enjoy life less.	1.66	.805	.688**
h. I have sex less often than I would like to.	1.59	.716	.383**
i. I feel different from other people	1.93	.936	.567**
j. The possibility of bowel accidents is always on my mind.	2.05	1.148	.426**
k. I am afraid to have sex.	1.71	.725	.421**
L. I avoid traveling by plane or train.	1.75	.837	.478**
m. I avoid going out to eat.	1.83	.966	.814**
n. Whenever I go someplace new, I specifically locate dfgwhere the bathrooms are.	1.55	.629	.430**
Q4. Have you felt so sad, discouraged, and hopeless.	1.76	1.608	.578**
<b>Total mean</b>	<b>50.17</b>	<b>14.834</b>	
<b>Mean average</b>	<b>1.57</b>	<b>.642</b>	

P value = 0.00 \*\* Significant p -value ≤ 0.05 Insignificant p -value > 0.05

Table (6) Correlation between demographic characteristics with body image, self-esteem and quality of life of the studied subjects (N= 110):

Demographic characteristics	Body Image	P-Value	Self-esteem	P-Value	Quality of life	P-Value
	Mean ± SD		Mean ± SD		Mean ± SD	
<b>Age (in years)</b>	47.53 ± 11.414	.122	47.53 ± 11.414	.106	47.53 ± 11.414	.000**
<b>Gender</b>		.008**		.006**		.001**
Males	65.59 ± 14.090		27.72 ± 5.412		53.71 ± 14.787	
Females	57.63 ± 16.318		24.54 ± 6.225		44.22 ± 13.039	
<b>Marital status</b>		.489		.197		.852
Married	63.17 ± 12.590		26.01 ± 5.954		50.63 ± 15.792	
Unmarried	61.77 ± 15.286		27.17 ± 4.303		49.08 ± 11.469	
Widowed	66.93 ± 17.998		28.93 ± 6.431		48.53 ± 12.005	
<b>Educational Level</b>		.707		.988		.609
Basic education	61.94 ± 14.051		26.51 ± 4.590		51.35 ± 14.667	
Secondary	62.29 ± 15.161		26.46 ± 6.795		48.46 ± 16.474	
High	65.14 ± 19.612		26.71 ± 8.344		48.48 ± 13.703	
<b>Residence</b>		.435		.490		.041*
Rural	63.58 ± 13.923		26.86 ± 4.962		52.57 ± 15.194	
Urban	61.24 ± 17.340		26.07 ± 7.088		46.71 ± 13.734	
<b>Work</b>		.208		.231		.064
Working	66.02 ± 14.801		27.79 ± 5.754		51.75 ± 14.710	
Not work	60.50 ± 16.837		27.17 ± 1.329		56.50 ± 19.316	
Retired	62.07 ± 11.183		26.20 ± 5.634		55.53 ± 12.637	
House wife	58.72 ± 16.943		24.81 ± 6.471		44.94 ± 14.057	
Student	48.00 ± -		25.00 ± -		38.00 ± -	

\*\* Significant p -value ≤ 0.05 insignificant p -value > 0.05

Table (7): Correlation between physiological and psychological background with body image, self-esteem and quality of life of the studied subjects (N=110):

physiological and psychological background items	Body Image	P-Value	Self-esteem	P-Value	Quality of life	P-Value
	Mean ± SD		Mean ± SD		Mean ± SD	
<b>Type of stoma</b>		.918		.314		.062
Temporary	62.39 ± 15.102		25.67 ± 4.715		46.15 ± 15.112	
Permanent	62.73 ± 15.594		26.91 ± 6.342		51.90 ± 14.471	
<b>Cause of stoma</b>		.021*		.024*		.012*
Cancer	63.20 ± 15.223		26.29 ± 5.890		48.55 ± 13.641	
Intestinal obstruction	66.64 ± 15.737		30.55 ± 5.751		51.46 ± 14.792	
Accident	46.33 ± 6.088		23.00 ± 2.191		33.17 ± 3.869	
<b>Stoma duration</b>	1.46 ± 1.908	.000**	1.46 ± 1.908	.024	1.46 ± 1.908	.000**
<b>Stoma care</b>		.033*		.823		.008**
By self	64.23 ± 15.545		26.47 ± 6.015		52.08 ± 15.360	
By others	56.57 ± 15.545		26.78 ± 5.6		42.96 ± 9.957	

	13.368					
<b>Job interaction with public (N=52)</b>		.340		.600		.908
Yes	66.80 ± 15.378		27.96 ± 5.850		51.84 ± 14.688	
No	61.00 ± 9.695		26.71 ± 5.376		51.14 ± 16.025	
<b>Job changing (N=52)</b>		-.000**		-.000**		-.006**
Yes	58.96 ± 11.172		24.96 ± 4.424		46.44 ± 13.557	
No	73.64 ± 14.623		30.84 ± 5.520		57.48 ± 13.959	
<b>Family support</b>		.384		.033*		.661
Yes	63.14 ± 15.989		27.01 ± 6.157		50.42 ± 15.742	
Some times	59.40 ± 10.588		23.53 ± 2.446		48.60 ± 6.812	

\*\* Significant p -value ≤ 0.05                      insignificant p -value > 0.05

#### IV. Discussion

Body-altering surgeries affect the perceptions of one's self. The creation of an abdominal stoma for the discharge of bodily waste; bowel or bladder, is considering a life-altering surgery (*Nichols & Inglese, 2018*). The individual, after being submitted to a stoma, not only lose a segment of body, but also undergoes a change in physical appearance and goes on living with the loss of control of elimination of feces and gases, which now occur through the abdomen, and this type of control is a paramount condition for life in society (*Moreira et al., 2016*).

This health problem can lead the individual to changes in their body image, self-esteem, and quality of life, with interference in interpersonal relations and with negative repercussions on physical health. Consequently, in many cases, the patient ends up feeling frustrated, afraid and feeling useless (*Lima et al., 2018*). Therefore, the current study aimed to evaluate body image, self-esteem and quality of life among stoma patients.

The present study revealed that stoma patients had a low level of body image. This low body image because of their feelings of (ugly, dirty, unusual, unimportant, inconvenient, humble, prostration, incapable, masculine or feminine, weak and incomplete) about themselves.

Regarding their feeling of ugly and dirty, this may be due to the loss of control over bodily behaviors, such as bodily noises, embarrasses the individual through loss of privacy. Bodily waste is viewed as dirty, harmful to others, and an issue that should be dealt in private, all of which result in a negative self-image that making those individual seeing themselves in ugly picture. One of the participants in this study was saying that "Can you imagine how a person who was always clean, with a fragrant body and having a healthy lifestyle, has been changed to a person with bad body odor who cannot even tolerate himself".

The preceding result goes along with, *Shaffy et al., (2012)* study titled "Physical, nutritional and sexual problems experienced by the patients with colostomy/ileostomy" who stated that often the fear of leaking is worse than the actual experience of having an accident, especially the fear of not waking up before a leak happens. Many see the stoma as a sanitary nuisance for themselves and others, feeling dirty and unclean.

Additionally, *Leal et al., (2017)* study on "Autonomy Versus Shame: Body Perceptions Of Colostomized Patients In Southeastern Brazil" added that feelings of embarrassment, inadequacy and psychic malaise appeared in adults who lost control of the elimination of stool and intestinal gases as well as changes in life habits (food and clothing) among others. The stool generates shame for fear of causing disgust and repugnance, and a non-standard body produces shame due to the possibility of causing feelings of inferiority and inadequacy.

Concerning, their feeling; inconvenient, unusual, and incomplete, this may be due to, they loss a segment of their body and their effect still present with an external opening in their abdomen, unlike other surgeries that end with a maximum scar at the incision site. This new life requires a different ways to do daily life activities, especially the way of dressing that's now different, to hide their stoma and the collecting bag.

In contrast with this result, *Liao & Qin, (2014)* study titled "Factors associated with stoma quality of life among stoma patients" mentioned that patients with a stoma reported difficulties in body image and with stoma function. Furthermore, *Fortes et al., (2012)* study on "Quality of life from oncological patients with definitive and temporary colostomy" stated that stoma causes visible and significant body alteration, and it may deprive the body of its integrity, dynamism and autonomy, causing inner conflict and unbalance, which many times affect the relations with the outer world.

The present study revealed that stoma patients had a low level of self-esteem. This low self-esteem, especially because of their feelings that; they aren't worthy like everybody else, they aren't on their natured, they can't do good work like everybody else, and that they don't have a positive attitude toward themselves. This result may be due to self-esteem is affected by the individual's perception of their body, changes in body image after stoma together with the feelings of anxiety, anger, and sorrow cause decrease on their self-esteem. Also, changes in physical appearance and physiological problems as a result of stoma could cause individuals to perceive themselves in a negative way, to see themselves differently from others, to be ashamed of themselves,



to feel rejected by their families and friends, and to limit their social activities, all of these changes having a negative effect on the patient self-esteem (*Gozuyesil et al., 2017*).

These findings are consistent with, *Salomé et al., (2014)* study titled "Quality of life and self-esteem of patients with intestinal stoma" who reported that individual with stoma had low self-esteem, as after receiving the stoma, they start to experience feeling of helplessness due to the discomfort, embarrassment and shame of their body, especially the feeling of being dirty and repugnant.

The present study revealed that stoma patients had a low functional status of overall quality of life, and in all quality of life domains; lifestyle domain, coping/behavior domain, depression/self-perception domain and embarrassment domain, respectively.

This result may be due to patients with stoma face the challenge of reorganizing their new intestinal function, as they lose bowel movement control. Additionally, some of their childhood beliefs are to be faced with the use of ostomy. Feelings of infantilization, frailty, loss of autonomy and body inadequacy can arise with the use of an ostomy. Therefore, one participant said " It is very strange to walk around knowing that I am carrying stool".

The prior result is congruent with, *Salomé et al., (2014)* who mentioned that stoma patients demonstrated a decrease in their quality of life, after surgery those patients experience many negative feelings resulting from physiological, psycho-emotional and socio-cultural changes that permeate their life. Also, *Costa et al., (2014)* reported that individuals with stoma had negative feelings related to their body and suffered a decrease in quality of life. In addition, they verified that such feelings result in difficulties for ostomized patients in their rehabilitation and in the accomplishment of self-care.

In this respect, *Fortes et al., (2012)* study on quality of life among oncological patients with definitive and temporary colostomy, *Costa et al., (2014)* study on body image and subjective wellbeing of ostomists living in Brazil, *Salomé et al., (2015)* study on subjective well-being and quality of life in patients with intestinal stoma and *Vonk-Klaassen et al., (2016)* study on ostomy-related problems and their impact on quality of life, are in agreement with the previous result.

Focusing on the statistical relation between the current study variables, the present study revealed that there was statistically significant correlation between body image, self-esteem, quality of life of the studied subjects and gender, in which; the male stoma patients had a higher body image, self-esteem, and better quality of life than female patients.

This result may be due to women tending to pay more attention to their appearance than men, and are more proactive in stoma care. Moreover, women are more sensitive to changes in their body, with negative feelings regarding having a part of the body externalized and by experiencing the stigma of being an individual with an ostomy. Especially, body image can be related to youth, beauty, strength, integrity and health and those that do not correspond to the concept of body beauty can experience significant sense of rejection that decreases their self-esteem and interfere with their quality of life.

In similarity with the previous result, *Roshini et al., (2017)* study titled "Quality of life assessment in stoma patients in a tertiary care hospital in South India" mentioned that women are more conscious and were worried about their body appearance than men. Also, women had more difficulties in clothing and to hide the pouch than men. Additionally, *Benedict et al., (2016)*, added that body image problems may be greater in female patients, particularly if there is body shame or self-consciousness in sexual situations. The present study revealed that there was a statistically significant correlation between body image, self-esteem, quality of life and the cause of stoma (Intestinal obstruction, cancer and accident), respectively, in which stoma patients due to intestinal obstruction had a higher body image, self-esteem and better quality of life.

This may be due to stoma creation because of intestinal obstruction is usually reversible stoma and the associated medical problems and complications are less. Where, in case of cancer, stoma usually permanent and associated with other complications related to the disease itself. Also, in case of accident, there are other medical problems usually present, not only the presence of stoma.

The preceding result goes along, *Kimura et al., (2016)*, study titled "Quality of life in stomized oncological patients" who reported that quality of life of individuals with cancer submitted to ostomies influence the changes that compromise their well-being, such as physical changes, and suffering regarding the new lifestyle, which modify the physical and psychological domains, as well as social relationships and relationship with the environment, resulting in compromising the quality of life of these individuals.

The present study revealed that there was statistically significant correlation between body image, self-esteem, quality of life, and stoma duration, in which the more the duration after stoma creation the higher body image, self-esteem and the better quality of life. This result may be due to after stoma creation those patients experience moments of emotional or psychological change that affecting their body image, self-esteem, and quality of life. Over the days, they start to realize that having an ostomy means gaining the opportunity for a new life especially after painful diagnosis like cancer.

The prior result is consistent with, *Sharpe et al., (2011)*, who reported that the perception of body image is most prominent in the year immediately following surgery. Also, *Luo et al., (2014)*, mentioned that approximately 1 year is required for patients to adjust to their stoma. As, after the first year, most patients have learnt to live with and manage their stoma, thus, the feeling of hopelessness decreased and their level of hope increased.

Finally, the present study revealed that there was a positive, statistically significant correlation between body image, self-esteem, and quality of life of the studied subjects. This may be due to body image is one of the fundamental components of identification and any alteration arising from a bodily mutilation due to stoma formation confronts the person with the representation an ideal body, based on the concepts of harmony, beauty and health and may lead people to feel aversion to their own bodies causing deterioration on their self-esteem.

This result is congruent with, *Kimura et al., (2014)*, who stated that the aspects of body image and appearance as well as self-esteem can have a negative effect on the perceptions of quality of life. The presence of a stoma resulting in body alteration which is no longer in compliance with the social standards. This alteration in the self-image of the body may conduct to psychological alterations as lower levels of self-esteem, negative feelings, anxieties, and fears.

Additionally, *Kimura et al., (2016)* study on Life quality for ostomized patients: a perspective in the health and nursing care process, *Ferreira et al., (2017)* study on self-esteem and health-related quality of life in ostomized patients and *Gozyuesil et al., (2017)* study on self-esteem and sexual satisfaction of patients with bowel stoma, are in agreement with the previous result.

## V. Conclusion

**Based on the findings of the present study, it can be concluded that:**

Stoma creation had a great negative effect on the patient's (physical, social, psychological, spiritual and sexual) life. Therefore, the present study revealed that, stoma patients had a lower level of body image and lower level of self-esteem. Regarding quality of life, stoma patients had a low functional status of overall quality of life, and in all quality of life domains; lifestyle domain, coping/behavior domain, depression/self-perception domain and embarrassment domain, respectively.

## VI. Recommendations

In the light of the current study, the following recommendations are suggested:

1. Psychiatric liaison nursing services should be generalized to all hospitals, especially in critical care units.
2. Counseling sessions as well as pre and post-operative education for both ostomy patients and their care-givers, should be conducted that will help them to adjust and adapt with their stoma in a better way.
3. Patients are in need to a simplified arabic booklet about stoma care and the associated physiological and psychological problems.
4. Further studies are recommended on the psychological impact of stoma surgery in Egypt to confirm and generalize the results of present study.

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