

Relation between Sexual Function, Body Image and Depression among Women Undergoing Total versus Partial Hysterectomy

Sabah Saleh Hassan ¹, Hanaa abd Elhady ² and Naglaa Fathy³

- (1) Assistant professor of Psychiatric and Mental Health Nursing, Faculty of Nursing, Minia University. Egypt.
- (2) Lecturer of Women Health and Obstetric Nursing, Faculty of Nursing, Minia University. Egypt.
- (3) Lecturer of Women Health and Obstetric Nursing, Faculty of Nursing, Minia University. Egypt.

Abstract

Background: Alteration of the female sexual function after hysterectomy has a great concern to patients and it has negative effects on psychological health. **Aim:** the current study aiming to compare between sexual function, body image and depression among women undergoing total versus partial hysterectomy. **Design:** The comparative correlational descriptive research design was utilized in the current study. **Sample:** A purposive sample of 60 participants (30 with total hysterectomy and 30 with partial hysterectomy) who admitted in outpatient clinics of gynecological department at Minia University Hospital for Maternity and Children. **Tools:** Four tools were utilized in this study included. A structured interview questionnaire, Female Sexual Function Index (FSFI) Scale, Body Image Scale and Beck Depression Inventory (BDI) Scale. **Results:** The study result reveals that the total mean scores of FSFI were 30.69 ± 9.62 for partial versus 18.9 ± 13.9 for total hysterectomy. Also, there were statistically significant differences between total FSFI at $p = .001$ and all domains. Moreover, 70% of women with partial hysterectomy are have low concern about body image; while (86.7%) total hysterectomy women are have high concern of body image. **Conclusion:** The current research finding concluded that women with total hysterectomy have sexual dysfunction while women undergo partial hysterectomy don't have. In addition, there were a statistically significant negative correlation between total FSFI scores with body image, and depression scores. While, there was a statistically significant positive correlation between body image and depression. **Recommendation:** Designing and implementing a psycho-educational program that focused on alleviating negative emotions such as depression, poor body image perception and improving sexual life through psychological rehabilitation in post-hysterectomy women.

Keywords: Hysterectomy, Sexual Function, Body Image, Depression.

Introduction

According to the type of operation done, a hysterectomy is a gynecological surgical procedure that involves removing the uterus along with the ovaries, fallopian tubes, cervix, and other nearby tissues **Ezzat (2019)**. The loss of the uterus is regarded as the loss of womanhood since it represents femininity, sexuality, fertility, and childbirth. After surgery, women may struggle with hopelessness and depression, which may have an impact on their mental state **Darwish et al., (2014)**.

According to **Fathy et al., (2018)** they reported that, around 10-30% of females - of the industrialized countries- had been submitted to

hysterectomy before the age of 60 and about 20% of females in the developing world had been subjected to hysterectomy by the age of 55. They added that, total, subtotal, and radical hysterectomies are the three basic forms of hysterectomy. The uterus and cervix are totally removed during a total hysterectomy. In contrast, a subtotal hysterectomy simply removes the uterus, leaving the cervix in place. A radical hysterectomy, on the other hand, involves the removal of the uterus, uterine cervix, upper part of the vagina, ovaries, fallopian tubes, lymph nodes, and lymph channels. In this respect **Fortin et al., (2019)** mentioned that, the cause for the operation determines the kind of hysterectomy that is done. The distribution of the hysterectomy

technique was: abdominal [65%], vaginal [20%], conventional laparoscopic [13%], robotic [0.9%], and radical [1.2%].

Hysterectomy may be performed for a variety of problems, including benign and cancerous uterine disease. Uterine adenomyosis, uterine fibroids, menstrual disorders, septic abortions, dysfunctional uterine bleeding, endometriosis, uterine leiomyoma, chronic pelvic pain, pelvic inflammatory disease, ectopic pregnancy, and precancerous lesions of the cervix and endometrium are among the benign conditions that call for hysterectomy (**Ali et al., 2019**). On the other side, malignant conditions such as endometrial carcinoma, malignant ovarian tumors, cervical cancer, and malignancies of other nearby organs are reasons to have a hysterectomy (**Michael, et al., 2020**).

Sexual activity, such as desire, arousal, and sexual intercourse, are all included under the general phrase "sexual functioning." Since sex plays a significant role in relationships as well as how a woman views herself as a human being, changes in sexual functioning can have an impact on quality of life. The causes of sexual dysfunction after hysterectomy include damage to the branch of the pelvic plexus in deferent anatomical locations (**Shirinkam, et al., 2018**). In the same context **Peker et al., (2019)** reported that, Complications from hysterectomy are common, both in the short and long term. Long-term sexual dysfunction (permanent or recurrent loss of arousal, orgasm, and desire, along with the presence of pain) is possible and, while not life-threatening, can drastically lower the patient's quality of life (**Dundar, et al., 2019**).

Sexual dysfunction has a very complicated etiology that includes psychological, genetic, and physical components (**Clayton, & Valladares, 2017**). The uterus is part of a women's sexual identity, and any pathology that affects it can entail psychosexual problems (**Schmidt, et al, 2019**) such as changes in genital sensitivity and decreased libido. In addition to decreased secretion and vaginal shortening, hysterectomy can alter vascularization and innervation, which may lead to dyspareunia (**Ramdhan, et al., 2017**). Additionally, it appears that the

unsatisfactory nature of sexual behavior previous to the intervention has an adverse effect on the postoperative outcomes (**Dedden, 2020**).

According to **Selvanathan, et al., (2019)** a woman's body image, includes her views and attitudes about her body, and how she feels. They stated that a woman's body image is a crucial aspect of her quality of life and probably influences both her desire for treatment for pelvic organ prolapse and her contentment with it. **Pinar et al. (2012)** reported that body image satisfaction, self-confidence, and dyadic adjustment were lower in women who had undergone hysterectomy, compared with those of healthy ones. In the same respect **Goudarzi, et al., (2021)** founded that, the majority of women had negative feelings regarding the perceptible changes in their bodies and talked about how having a hysterectomy had damaged their body image, altered their appearance, and caused deformities in their female organs.

World Health Organization (WHO) reported that depression is one of the greatest often diagnosed disorders in the world, with incidence peaking in people between the ages of 25 and 44. Overall, women are more likely than males to experience long-term and chronic depression. Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest. It affects feeling, thinking and behavior and can lead to a variety of psychological and physical problems (**Saeidi, et al., 2020**).

Schmidt et al., (2019) stated that, the hysterectomy might be challenging for women. The removal of the uterus has medical and psychological repercussions because it is such an essential organ, and it may cause serious psychological reactions in women. Depression, anxiety, and stress are psychological side effects of hysterectomy.

It has long been believed that having a hysterectomy may have detrimental consequences on psychological health and be linked to a higher chance of developing depression. According to one study, post-hysterectomy effects may be a continuation of the patients' preoperative anxiety, aggression, or depression. Higher risk of developing new

depressive symptoms in the postoperative follow-up period, which could not be explained by the patients' lifestyles or socioeconomic factors (Selcuk, et al., 2016)

A woman's sexuality is significantly affected by hysterectomy, which can lead to negative body image and other problems that could exacerbate depression. Negative thoughts and feelings about one's body suggest a disturbance of one's body image and contribute to unhappiness with oneself. Body image is a reflection of how one directly evaluates their physical appearance. A significant investment in one's physical appearance can serve as a source of self-worth. Scarring following hysterectomy can be interpreted as a form of mutilation and may result in impaired body image (Kho, et al 2019). Moreover, Potential risk factors for post-hysterectomy depressive disorder include decreased sexual function following hysterectomy, emotional disturbances linked to lower body image, and increased stress following surgery (Yen, et al 2018).

Finally, hysterectomy had considerable negative impacts on women sexuality, self-image, and psychological health. Nurses must be aware of these potentially troublesome situations in order to handle this issue effectively. They must use nursing interventions to deal with these challenges. The psychosocial needs of patients undergoing hysterectomy must also be thoroughly analyzed by nurses, who must then work to adequately inform patients and provide them with the appropriate emotional and social support. Additionally, nurses can perform assessments to identify and treat the psychological problems particular to high-risk groups, as well as provide the necessary nursing interventions or referrals. They will discuss some of hysterectomy adverse effects while doing this (Alshawish, et al., 2020).

Significant of the study

The uterus has traditionally been thought of as an organ that regulates and controls vital physiological processes such as pregnancy, childbirth, the sex organ, a source of energy, and an organ that preserves the attractiveness and beauty of women. Additionally, it is a

significant component of women's self-image, and losing one results in losing one's feeling of femininity. The impact of hysterectomy on sexual function has always been a great concern to women and is a major source of preoperative anxiety. Hysterectomy operations deeply influence the perception of women's sexuality, body image and femininity. (Briedite, et al., 2020)

According to, Doğanay, et al., (2019). The most frequent procedure in gynecological practice is the hysterectomy. Before the age of 64, 40% of women have hysterectomy surgery. However, benign causes account for 90% of these procedures. Health grades (2019) reported that about 165,107 hysterectomy procedures are performed annually throughout Egypt's governorates, which are divided between upper and lower Egypt. This indicates that a sizable proportion of Egyptian women are affected by the issue that has been raised. Therefore, it is the intent of this study to highlight the relation between sexual function, body image, and depression among women after hysterectomy.

Aim of the study

This study aimed to

- Assess the relationship between sexual function, body image and depression among women undergoing total versus partial hysterectomy.
- Compare between sexual function index, concern of body image and depression severity after total versus partial hysterectomy.

Research questions

- 1- Is there a relation between sexual function, body image, and depression among women after hysterectomy?
- 2- Is there a difference between total versus partial hysterectomy in relation to sexual function, body image, and depression?

Subjects and Method

Research Design:

The study used a comparative correlational descriptive research design

Setting:

This study was conducted in outpatient clinics of gynecological department at Minia University Hospital for Maternity and Children. This hospital consists of three floors plus ground floor, two floors for obstetrics and gynecology and the third floor for neonate & pediatrics. Ground floor contains pediatric emergency room, pediatric, antenatal, gynecological outpatient clinics and private department; the first floor contains room for gynecological disease patient & postpartum women and intermediate care units' rooms. The second floor contains many sections, one of them contained antenatal rooms for high risk women, second section contains delivery room and the third section contains intensive care unit rooms and HDU. Third floor specializes in pediatric and its diseases. The hospital provides free services to women and children who are resident in Minia city and other near villages.

Sample

A purposive sample of (60) women were recruited to this study according following sample size equation; this sample size formula was developed by **Adams and McGuire (2022)**. $n = Z^2p(1-p)/d^2$, where z = level of confidence according to the standard normal distribution (for a level of confidence of 95%, $z = 1.96$). p = estimated proportion of the population that presents the characteristic (when unknown we use $p = 0.5$), d = (d is considered 0.05). They were divided into two groups: 30 women with partial hysterectomy and 30 women with total hysterectomy.

Study Duration:

The total data collection was starting from January 2022 till the end of August 2022.

The subjects recruitment to this study were following the subsequent inclusion and exclusion criteria

Inclusion criteria:

1. Age between (20 – 60 years).
2. Six months after operation. That considered as a recovery period

3. Married women live with their husbands.

4. Sexually active patients who performed hysterectomy for benign reason

Exclusion criteria:-

1. Patients diagnosed with severe postoperative depression

2. Patients on antidepressant treatments

3. Patients with suspected malignancy and the need for concomitant interventions such as prolapse repair.

Tools of data collection**Tool (1): A Structured Interview Questionnaire.**

The researchers developed it after extensive revising to literature. It included two main sections:

Section one: included the studied women socio-demographic characteristics such as age, education, residence and occupation).

Section two: The obstetrical history such as (No. children, No. of abortion, complication during labor, types of previous deliveries, indication of hysterectomy and route of operation).

Tool (2): Female Sexual Function Index (FSFI) Scale.

The female sexual function index was developed by **Rosen et al., (2000)**. This index included 19 questions categorized as six domains:

1. Desire (items 1 and 2)
2. Arousal (items 3 – 6)
3. Lubrication (items 7 – 10)
4. Orgasm (items 11 – 13)
5. Satisfaction (items 14 – 16) and
6. Pain (items 17 – 19).

The 1st and 2nd questions have scales from 1 to 5 while other questions have scales from 0 to 5 for scoring Scales. To homogenize the impact of each dimension, scores obtained in a given domain are put together and multiplied by a corresponding factor (coefficients for questions 1-2: 0.6; 3-10: 0.3;

11-19: 0.4). Higher scores imply a healthy sexual life when the sum of all the scores is taken into consideration. Scores vary from 2 to 36. Sexual dysfunction was characterized as having a total FSFI score of less than 26.55. The sum of the item responses multiplied by a correction factor yields a maximum score for each domain of 6.0. The range of the overall composite sexual function score, which combines the scores from each domain, is 2.0 (not sexually active and without desire) to 36.0.

Tool (3): Body Image Scale.

It developed by **Hopwood et al., (2011)**. It contains affective, behavioral and cognitive domains. The affective domain include assessment of feeling self-conscious, behavioral domains include difficulty looking at the naked body and cognitive include satisfaction with appearance, as an examples of the body image elements. It includes 10 items scored on four point Likert scale ranging from zero (not at all) to 3 (very much). Total score ranging between 0 to 30 degrees. As zero represent: "No symptoms or distress' and higher scores corresponding to increasing distress and concern of body image". Women who score 0 to 10 have minimal body image worries, whereas those who score 11 to 20 have moderate concerns. While women with score 21-30 have high concern of body image.

Tool (4): Beck Depression Inventory (BDI) Scale.

The Beck Depression Inventory (BDI) was developed by **Beck, et al., (1961)**. The scale is composed of 21-item in the form of multiple-choice test questions that assesses the presence and severity of depression in adults and adolescents. It is mostly utilized for clinical research and as a screening tool. Each of the BDI's 21 items aims to evaluate a particular symptom or attitude that seems to be unique to patients who are depressed and that is compatible with descriptions of depression found in the psychiatric literature. The 21 symptoms of depression are assessed by the BDI. The 21 items include sadness, pessimism, past failure, self-dislike, self-criticism, suicidal thoughts or wishes, crying, agitation, loss of interest, uncertainty, and worthlessness as well as changes in sleep patterns, irritability,

appetite, difficulty concentrating, exhaustion, and loss of interest in sex. The scale items are scored on a 4-point continuum (0=least, 3=most), with a total summed score range of 0–63. Higher scores indicate greater depressive severity.

Scoring/Interpretation

The scale total score was classified as: 1-10 indicates normal ups and downs, 11-16 signifies mild mood disturbance, 17-20 meant borderline depression, 21-30 indicated moderate depression, while 31-40 signifies severe depression and over 40 extreme depression.

Validity of tools

The tools translated to Arabic language by the researchers and tested for the content validity by a jury of five experts in psychiatric and mental health nursing as well as in women health and obstetric nursing (Minia University) to determine the extent to which the tools being utilized measure the variables being measured, such as content coverage, clarity, word count, format, and overall appearance. All experts concur agree that the existing study instruments were legitimate and pertinent to the study's objectives.

Reliability of tools

The study tool reliability has been tested using the test re-test reliability to measure the internal consistency. Cronbach's alpha-coefficient test has been used to compare repeated test results. The Cronbach's α for Female Sexual Function Index (FSFI) Scale in testing reliability in the current study was 0.99. Body Image Scale shows excellent internal consistency as its Cronbach's α test equal 0.983, finally. Cronbach's alpha test for Beck Depression Inventory (BDI) Scale showed high internal consistency; it equalized 0.847.

Pilot study

Six patients (10%) were the subject of a pilot testing. The tool examined the feasibility of the study process as well as its clarity, thoroughness, application, and time required to fill out the study tools. The women chosen for

the pilot testing was incorporated into the main study sample because the assessment has not changed.

Ethical Consideration

The dean of the nursing faculty and the head of Minia University Hospital for Maternity and Children both gave their official approval for the study to be carried out. Women who had been told of the study's goal, procedure, benefits, nature, follow-up, and right to withdraw at any time without explanation had given their written consent. Through the coding of all data and the protection of the acquired data, the confidentiality and anonymity of each woman were guaranteed.

Field work

The preparation phase

- The preparation of various data collection instruments based on reviewing different relevant literature and translated by the researchers. In addition, getting formal written consent to conduct the current study. This phase spanned about 2 months during the period from January 2022 till the end of February 2022. The researchers introduced themselves to each participant woman and gave a brief overview of the study's purpose and methodology. Then the researchers obtained oral as well as written consent from women who accepted to contribute in the study.

The implementation phase

- The researchers met each woman individually at the outpatient clinics of Minia University Hospital for Maternity and Children; at the follow up room. The researcher's role in completing the questionnaire was to facilitate the understanding of any confusing or difficult question for the women. The question was standardly rephrased and made simpler to women. The researchers gave the women an opportunity to ask questions and provided them with the necessary health education and counseling around their sexual lives, body image, and depression. The time needed for completing one questionnaire was about 30 to 40 minutes according to level of education. This was conducted within 2 days weekly, on Monday and Wednesday, from 10 A.m. to 1 P.m. The average number was 1 to 2 questionnaires per day that meet the inclusion

criteria. So, this phase spanned about 6 months during the period from May 2022 till the end of August 2022.

Statistical analysis of data

A Statistical Package for the Social Sciences (SPSS), version (26) was used for the statistical analysis of the data. Descriptive statistics, including frequency and percentage distribution, Mean and standard deviations as a measure of dispersion were used to summarize, tabulate, and present the data. Since it includes the test of significance described in traditional statistical texts, The F-test or (ANOVA) has been used for several groups, and the numerical data were expressed as mean and SD. The interrelationships between the quantitative variables were evaluated using Pearson correlation analysis. At a p value of 0.05, statistical significance was taken into account.

Results

Table (1): shows that, (53.3%) of women with partial hysterectomy are in the age group between 31-40 years old; while (66.6%) of women who have total hysterectomy their age between 41-50 years old. Regarding to occupation 53.3% of women with partial hysterectomy are house wife and 60% of women that having total hysterectomy are working. In addition 66.7% & 56.7% of partial hysterectomy versus total hysterectomy residing rural area respectively. Moreover, 40% with partial hysterectomy have university education versus 36.7% with total hysterectomy.

Table (2): illustrates that 80% of partial hysterectomy versus 86.7% of total hysterectomy have 2-4 children. Also, 60% & 63.3% of partial versus total hysterectomy are having 2 numbers of abortion and vaginal bleeding during labor respectively. Regarding types of previous deliveries 60% of women with partial hysterectomy have normal delivery versus 66.7% of women with total hysterectomy. Concerning causes of hysterectomy, chronic pelvic pain with bleeding during intercourse and server vaginal bleeding represent 40% of causes among women with partial hysterectomy while prolapse represent

45% of causes among women with total hysterectomy. Furthermore, 60% of women who experience partial hysterectomy have vaginal operation versus 76.7% of women with total hysterectomy have abdominal operation.

Table (3): explores that the total mean scores of FSFI are 30.69 ± 9.62 for partial versus 18.9 ± 13.9 for total hysterectomy. Also, there are statistically significant differences between total FSFI at $p = .001$ and all domains for each group.

Figure (1): shows that 70% of women with partial hysterectomy are having low concern about body image; while (86.7%) total hysterectomy women are having high concern of body image. Also, there are statistically

significant differences between the two groups at $p = .001$

Figure (2): reveals that, 80% of women with partial hysterectomy are having moderate depression level; while 83.30% of total hysterectomy women are having severe level of depression. In addition, there are statistically significant differences between the two groups at $p = .001$

Table (4): illustrates a statistically significant negative correlation between total FSFI score with body image, and depression at $r = (.331-)$ $P\text{-value} = (0.01)$, $r = (.485-)$ $P\text{-value} = (.001)$ respectively. Moreover, there is a statistically significant positive correlation between body image and depression at $r = (.861)$ $P\text{-value} = (.001)$.

Table (1): Frequency and percentage distribution of the studied women's socio-demographic characteristics (N =60).

Characteristics	Partial hysterectomy		Total hysterectomy	
	(N=30)	%	(N=30)	%
Age				
• 20-30yrs.	8	26.7	2	6.7
• 31-40yrs.	16	53.3	6	20
• 41-50yrs.	6	20	20	66.6
• >50	0	0	2	6.7
Mean +SD =	30.42+9.123		43.51+ 4.12	
Occupation				
• Works	14	46.7	18	60
• House wife	16	53.3	12	40
Residence				
• Urban	10	33.3	13	43.3
• Rural	20	66.7	17	56.7
Education				
• Illiterate	4	13.3	7	23.3
• Basic education	4	13.3	5	16.7
• Secondary	10	33.3	7	23.3
• university	12	40	11	36.7

Table (2): Frequency and percentage distribution of the studied patients according to their obstetrical history (N =60)

Characteristics	Partial hysterectomy		Total hysterectomy	
	(N=30)	%	(N=30)	%
No. of children				
• One child	6	20	2	6.7
• 2-4 children	24	80	26	86.7
• >4 children	0	0	1	3.3
• Nullipara	0	0	1	3.3
No. of abortion				
• None	2	6.7	4	13.3
• One time	6	20	7	23.3
• 2 abortion	18	60	19	63.3
• >2	4	13.3	0	0
Complication during labor				
• Prolonged labor	10	33.3	4	13.3
• Vaginal bleeding	18	60	19	63.3
• Retained of placenta	2	6.7	6	20
• No complication	0	0	0	0
Types of previous deliveries				
• Normal delivery	18	60	20	66.7
• CS	12	40	10	33.3
Indication of hysterectomy				
• Chronic pelvic pain with bleeding during intercourse	12	40	8	26.7
• Prolapse	4	13.3	14	45.7
• Pelvic inflammatory	2	6.7	2	6.7
• Server vaginal bleeding	12	40	5	16.7
• Others	0	0	1	3.3
Route of operation				
• Vaginal hysterectomy	18	60	7	23.3
• Abdominal hysterectomy	12	40	23	76.7

Table (3): Comparison of the significance differences between women with partial and total hysterectomy regarding female sexual function (N=60)

FSFI	Partial hysterectomy	Total hysterectomy	T	p-value
	Mean ± SD	Mean ± SD		
Desire	5.86±1.10	3.00±1.55	5.36	.001**
Arousal	5.05±3.31	3.52±3.81	3.94	.007**
Lubrication	4.93±2.53	2.56±3.82	4.02	.004**
Orgasm	5.26±2.88	4.00±3.03	3.79	.006**
Satisfaction	5.51±1.44	3.62±3.24	2.98	.01*
Pain	4.08±1.73	2.20±2.39	5.92	.001**
Total score	30.69±9.62	18.9±13.9	5.47	.001**

Figure (1): Comparison of the level of concern about body image among the studied patients (N=60).

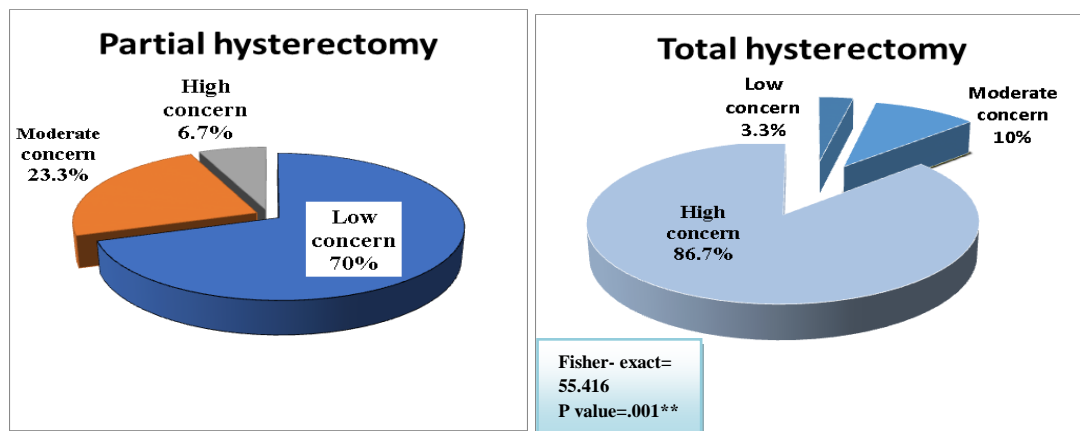


Figure (2): Comparison of depression levels among the participant groups (N=60).

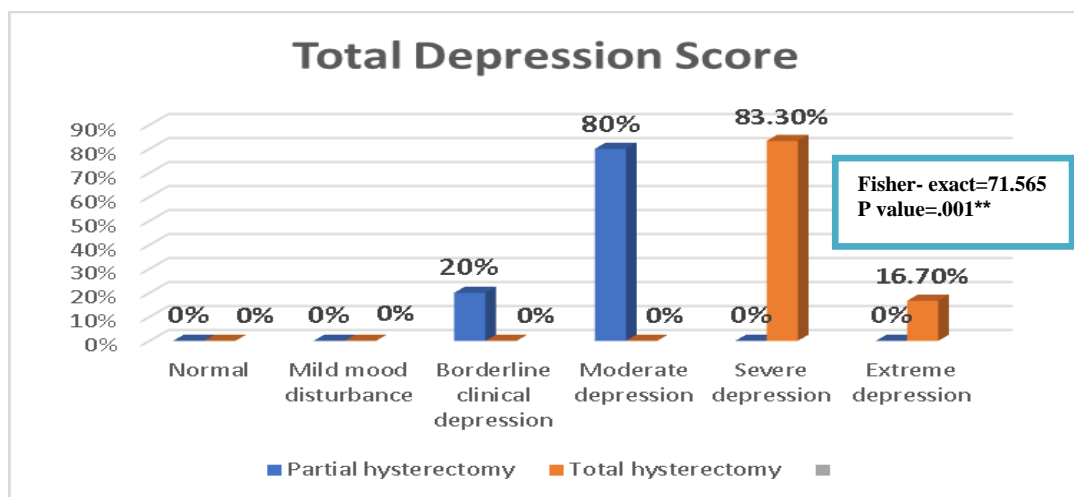


Table (4): Correlation between female sexual function index (FSFI), body image and depression among studied women (N= 60).

Variables		Female sexual function index	Body image	Depression
Female sexual function index	R	-	.331-*	.485-**
	P- value		.010	.001
Body image	R	.331-*	-	.861**
	P- value	.010		.001
Depression	R	.485-**	.861**	-
	P- value	.001	.001	

Discussion

The process of having their uterus removed can be challenging for women because, in addition to serving a biological

purpose, the uterus also represents values associated with femininity. As a result, after surgery, women often experience certain feelings and physical changes that are related to how they perceive their bodies, including feeling self-conscious, having a different body

image, experiencing sexual dysfunction, and feeling different from other women. The current study emerged aiming to assess the relation between sexual function, body image and depression among women after hysterectomy. The current result shows that more than half of partial hysterectomy women were in the age between 31-40 years while more than two third of total hysterectomy patients, their age between 41-50 years.

There was agreement between these findings with the study done by **Zuitasari et al., (2022)** who reported that the individuals' age at complete hysterectomy surgery was roughly 45 years. Additional result was congruent with the current study by **Wulandari (2020)** revealed that a complete hysterectomy was performed on an average age of about 45 years. The women occupation revealed that more than half of women with partial hysterectomy were housewife; these findings are consistent with another study that found housewives made up the majority of hysterectomy patients (**Liu et al., 2017**).

Regarding to residence about two third of women with partial hysterectomy and more than half of total hysterectomy residing rural area. This result was supported by a research report of **Kumari & Kundu (2022)** in which the most prevalent of hysterectomy procedure was among rural area. While this result inconsistent with the findings of a study done in Egypt by **Shoaieb et al., (2019)** founded that about half of women live in urban area. This contradiction in the previous study with the current might be due to different samples characteristics

In relation to obstetrical history the present study findings revealed that most of the studied women had 2-4 children. This was consistent with a research study done by **Shekhar et al., (2019)** founded that, the majority of women who performed hysterectomy had 3 - 4 children and only 5.8% do not have children (nullipara). This is consistent with the findings of **Okunade et al. (2017)** who found that the majority of participants with gynecological diagnoses and oncology are multipara with 3-4 children in both groups.. Concerning indication of

hysterectomy in the current study more than one third of partial hysterectomy the cause was pelvic pain and bleeding while nearly half of total hysterectomy the cause was prolapse. This result was parallel to the result of an Egyptian study conducted by **Farrag et al., (2018)** mentioned that, Hysterectomy is most frequently caused by abnormal uterine bleeding in more than half of the studied women, followed by fibroid among near to one fifth, uterine prolapse among fifteen percent of the sample, and other causes constitute more than one tenth. Regarding to route of operation most of women with total hysterectomy have abdominal operation. This is consistent with **Manandhar et al., (2020)** reported that abdominal hysterectomy was the commonest route and represent (75.59%).

Concerning the difference in female sexual function the present study results revealed that women with total hysterectomy have sexual dysfunction compared with women with partial hysterectomy that don't have sexual dysfunction with a significance differences between them based on the results of FSFI questionnaire calculations. This explained by that total hysterectomy has a negative impact on females' sexual function than partial one because the cervix that plays an important role in sexual relation is not removed in partial hysterectomy. In addition the anatomical connections, innervation, and blood flow of the pelvic floor are altered after total hysterectomy, which could theoretically affect sexual function. Moreover, the woman may experience a reduced libido if her ovaries are removed, as this will cause a lack of estrogen. As well as some women experience vaginal dryness after having a total hysterectomy that causes pain during sexual relation. Furthermore, the modified self-image perception after total hysterectomy.

This results was consistent with a study conducted by **Yiqun & Xiaoyan (2020)** founded that higher incidence of sexual dysfunction after total hysterectomy and substantial numbers of patients reported lower levels of sexual satisfaction, less frequent sex, lower libido, orgasm dysfunction, and higher levels of dyspareunia. In the same line **Goktas et al. (2015)** used The Female Sexual Function

Index to assess sexual function and observed a decline in sexual function following complete hysterectomy in females with benign disorders. Furthermore in a study by **Zuitasari et al., (2022)** showed decreased of desire, stimuli, orgasm, and increased dyspareunia in samples after a total hysterectomy.

In addition, **Lonnée-Hoffmann & Pinas, (2014)** study effects of hysterectomy on sexual function and found that hysterectomy can result in impaired sexual function and raised long-term health risks. The deficiency androgen and estrogen caused more aggravated climacteric symptoms and sexual dysfunctions such as decrease in sexual pleasure, frequency and comfort. Also, the present result were in accordance with an Egyptian study conducted in Assiut (upper Egypt) by **Ismail et al. (2021)** reveal that 67.8% of participating women were suffering from sexual dysfunction, which was a high prevalence. The author added that this was consistent with a previously study reported done in Egypt by **Hassanin et al. (2010)** who reported that 76.9% of the participant female have sexual dysfunction.

Conversely, the current study findings were contradicted with some studies which indicated that after hysterectomy there was no difference in the intercourse frequency, sexual drive, and orgasm in women (**Dragisic & Milad, 2014**). Another study discovered no connection between the frequencies of sex before and after hysterectomy and FSFI scores ($p > 0.05$). It is dependent on a variety of anatomical and psychological elements, including the emotional relationships between partners, their level of intimacy, and their physical well-being. (**Kayataş, et al., 2017**). This contradiction in the previous studies with the current might be due to different samples and locations.

Regarding to concern of body image the present study results showed that the highest percentages of total hysterectomy women were distressed and have high concern of body image compared to moderate concern in women with partial hysterectomy with statistically significant differences. A possible explanation was that because total hysterectomy resulted in bodily changes so, most women felt inferior

after the operation that can negatively effects on the body image. In addition most of participated women reported that they have fears that they will lose their sexual attractiveness, because they saw their bodies as different and changed. Furthermore, many women have complicated feelings after hysterectomy, about being dissatisfied with the body.

This study results was congruent with **Goudarzi et al. (2021)** who reported that women who had their uterus removed felt that their bodies were altered and had a different perspective on themselves. In the same line **Silva et al. (2016)** reported that women felt flawed and did not see themselves as ideal women when their female sexual organs, particularly the uterus, which is involved in the reproduction process, childbirth, and menses, were lost. They further explained that for the participants, removing a female sex organ considered losing a crucial organ that was crucial to how women defined themselves. They lost something physical, and as a result, they had a different perception of their bodies and thought of themselves as different people. In the same way, **Solbreackke et al. (2015)** reported that the loss of such a vital organ changed the historical concept of femininity and the idea of the feminine. Women felt that their uterus was a vital organ that they needed to have in order to be worthwhile, and that losing it may cause a chasm between their lives and their perceptions.

Regarding to level of depression, the findings of the current study shows that, most of women with total hysterectomy have severe level of depression compared to moderate level in partial hysterectomy with statistically significant differences. It may be due to that hysterectomies women experience a lack of body satisfaction and have sexual dysfunction; they often lose their sense of femininity. In addition, young age of the study sample, a continuous desire to bear children especially in ruler area which represent more than half of the study patients as well as low level of education and a sense of impaired feminine identity.

This finding was consistent with a study by **Helmy et al. (2008)** which was conducted in Egypt stated that, The 28-item General Health Questionnaire (GHQ-28) was used to categories

women who were candidates for hysterectomies into two groups: those with and those without psychiatric illnesses. The results showed that within two years of having hysterectomies, more than three quarters of the women in “without psychiatric illnesses” group had psychological symptoms. According to the study, the prevalence of psychiatric problems was influenced by cultural factors and a lack of education. The author also thought that because traditional Egyptian society that places a high value on women's fertility so, women who have hysterectomies exhibit more intense emotional reactions, such as depression.

Moreover, this result was similar to the result of a study done by **Alshawish et al., (2020)** documented that, the most typical problem experienced by women after hysterectomy is depression, which is frequently accompanied by anxiety, de-socialization, and violence. The depression was figure as the most common psychological complication of hysterectomy. In the same context, **Shirinkam et al., (2018)** stated that women who had hysterectomy feel alone and isolated. The issues that have an impact on women's social and familial relation include feelings of guilt, regret, anxiety, despair, and social isolation.

However these findings were inconsistent with a study of **Bahri et al., (2016)** revealed that three months following a hysterectomy, depression levels are unaffected. Since patient satisfaction with the procedure was the only factor that affected postoperative depression in their study, the risk of depression following hysterectomy could be decreased by carefully choosing patients who truly needed the procedure, improving the standard of postoperative care, and making other efforts to increase patient satisfaction. This contradiction in the previous result with the present findings may be related to cultural difference.

The results of the current study revealed a statistically significant negative correlation between total FSFI score with body image, and depression. It may be attributed to that women with a positive body image and low depression level and higher sexual function satisfaction, compared to women with a negative body image and depressed. In line with the current

study, an investigation of the connection between middle-aged women's sexual function and body image in Iran by **Afshari et al., (2016)** reported a negative linear association between women's perceptions of their bodies and all six categories of sexual function. In other words, sexual desire, arousal, and orgasm improved as body image valuation increased. In contrast, sexual function valuation decreased in women who were dissatisfied with their body image.

Moreover, there was a statistically significant positive correlation between body image and depression. It may be explained by the interrelationship between body image and depression because women with a negative body image often suffer from depression. This result of the present study was supported by the previous study by **Sharpe et al., (2018)** examined the interrelatedness of body image satisfaction with that of depression their finding indicated that there was a significantly positive correlation ($r = .30, p = .001$) between the two.

In a study conducted by **Danesh et al., (2015)** reported that, women who undergone hysterectomy experience depression and diminished self-image perception. The loss of the uterus and the capacity to bear children, whether actual or symbolic, following hysterectomy has historically been linked to decreased sexual function.

Similarly, in a study done by **Farrag et al., (2018)** reported that sexual issues, particularly the loss of desire, are the most common post-hysterectomy complaints among women, and they are associated with low self-esteem and an unsatisfactory perception of one's body image. The author continues by saying that more than two thirds of the individuals have psychiatric conditions such as despair, anxiety, and depression. Additionally, the majority of the women claimed that hysterectomy affected the nature of their sexual relationships. The uterus may be seen by women as the wellspring of their femininity and the continuation of their reproductive lives. Thus the loss of uterus equals the loss of female identity and desire to have sex.

Conclusion

The current research finding concluded that women with total hysterectomy have sexual dysfunction while women undergo partial hysterectomy don't have sexual dysfunction. Regarding concern of body image, women with total hysterectomy were have high concern regarding body image than women with partial hysterectomy as well as they are more depressed. In addition, there were a statistically significant negative correlation between total FSFI scores with body image, and depression scores. While, there was a statistically significant positive correlation between body image and depression.

Recommendation

- Designing & implementing a psycho-educational program that focused on alleviating negative emotions such as depression, poor body image perception and improving sexual life through psychological rehabilitation in post-hysterectomy women.
- Empowering the role of the nurse to provide information and psychological support to the women before and after hysterectomy and provide supportive care that must be taken into account in holistic planning.

Recommendation for further research

Replicate the current study using a larger probability sample of women collected from various locations around Egypt.

References

- Adams K., and McG E., (2022).** Research methods, statistics, and application. Sage Publications.
- Afshari P., Houshyar Z., Javadifar N., Pourmohammadi F., and Jorfi M. (2016).** The Relationship between Body Image and Sexual Function in Middle-Aged Women. *Electronic Physician*. Volume: 8, Issue: 11, Pages: 3302-3308, DOI: <http://dx.doi.org/10.19082/3302>
- Ali S., Farahat M., ElShafei M. (2019).** Surgical approach to hysterectomy for benign gynecological diseases. *The Egyptian Journal of Hospital Medicine*. 77 (3): 5279-86.
- Alshawish E. (2020).** Perspective of Women about Her Body after Hysterectomy DOI:

<http://dx.doi.org/10.5772/intechopen.94260>

- Alshawish E., Qadous S., and Yamani A. (2020).** Experience of Palestinian Women after Hysterectomy Using a Descriptive Phenomenological Study. *The open nursing Journal*. Volume: 14 (3). Page: 74-79 Publisher ID: TONURSJ-14-74
DOI: 10.2174/1874434602014010074
- Bahri, N. Tohidinik H., Najafi T., Larki M., Amini T. and Sartavosi Z. (2016).** Depression Following Hysterectomy and the Influencing Factors. *Iran Red Crescent Med J*. 18(1):e30493
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961):** An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571.
- Briedite I., Ancane G., Rogovska I., & Lietuviene N. (2020).** Quality of Female Sexual Function after Conventional Abdominal Hysterectomy-Three Month' Observation. *Acta Chirurgica Latviensis*, 14: 26-31.
- Clayton, A.H., Valladares Juarez, E.M. (2017).** Female Sexual Dysfunction. *Psychiatr. Clin. N. Am.*,40, 267-284
- Danesh, M., Hamzehgardeshi, Z., Moosazadeh, M. & Shabani-Asrami, F. (2015).** The Effect of Hysterectomy on Women's Sexual Function: A Narrative Review. *Medical Archives*, 69(6), pp. 387-392.
- Darwish M, Atlantis E, Mohamed-Taysir T. (2014).** Psychological outcomes after hysterectomy for benign conditions: a systematic review and meta-analysis. *Eur J Obstet Gynecol Reprod Biol*; 174:5-19.
- Dedden, S.J., van Ditshuizen, M.A., Theunissen, M., and Maas, J.W. (2020).** Hysterectomy and Sexual (Dys) Function: An Analysis of Sexual Dysfunction after Hysterectomy and a Search for Predictive Factors. *Eur. J. Obstet. Gynecol. Reprod. Biol.*,247, 80-84.
- Doğanay M, Kokanali D, Kokanali MK, Cavkaytar S, Aksakal OS. (2019).** Comparison of female sexual function in women who underwent abdominal or vaginal hysterectomy with or without bilateral salpingo-oophorectomy. *J Gynecol Obstetr Human Reprod*.2019; 48 (1): 29-32. [DOI: 10.1016/j.jogoh.2018.11.004].
- Dragisic K. & Milad M. (2014).** Sexual functioning and patient expectations of sexual functioning after hysterectomy. *American journal of obstetrics and gynecology*, 190: 1416-8.
- Dundar, B.; Dincgez Cakmak, B.; Aykanat, Y., and Macunluoglu, A. (2019).** Laparoscopic versus Vaginal Cuff Closure in Laparoscopic Hysterectomy: Does It Affect Female Sexuality? *Ginekol. Pol.* 2019,90, 365-370
- Ezzat L. (2019).** An audit of hysterectomies at Aswan University Hospital in Upper Egypt. The

- Egyptian Journal of Fertility of Sterility. 23 (1): 1-6.
- Farrag R., Reda M. Nabil Aboushady R., and Mohamed H.(2018).** Effect of an educational-supportive program on the self-esteem and the marital relation among women undergone hysterectomy. *THE MALAYSIAN JOURNAL OF NURSING .VOL.* 10 (2).
- Fathy M., Al-Azony H., Hasanen E., Abd-Elhamid N. (2018).** Total laparoscopic hysterectomy versus total abdominal hysterectomy in uterine tumors. *The Egyptian Journal of Hospital Medicine.* 72 (10): 5427-32.
- Fortin C., Hur C. and Falcone T. (2019).** Impact of laparoscopic hysterectomy on quality of life. *J Minim Invasive Gynecol .*26:219- 32.
- Goktas S., Gun I., Yildiz T., Sakar M., and Caglayan S. (2015).** The effect of total hysterectomy on sexual function and depression. *Pak J Med Sci;* 31: 700–705, doi: 10.12669/pjms.313.7368
- Goudarzi F., Khadivzadeh T, Abbas E, & Babazadeh R., (2021):** Iranian Women's Self-concept after Hysterectomy: A Qualitative Study. *Iranian Journal of Nursing and Midwifery Research.* Volume 26. Issue 3
- Goudarzi F., Talat K., Abbas E., and Babazadeh R. (2022).** Iranian Women's Self-concept after Hysterectomy: A Qualitative Study. *Iranian Journal of Nursing and Midwifery Research.* Volume 26 Issue 3
- Hassanin IM, Helmy YA, Fathalla MM, Shahin AY. (2010).** Prevalence and characteristics of female sexual dysfunction in a sample of women from Upper Egypt. *Int J Gynaecol Obstet.* 108:219-23.
- Health grades (2019):** Statistics by Country for Hysterectomy. [Online] Available:<http://www.rightdiagnosis.com/h/hysterectomy/statscountry.htm> [Accessed 20-9-2018 9:00 p.m]
- Helmy YA, Hassanin IM, Elraheem TA, Bedaiwy AA, Peterson RS, Bedaiwy MA. (2008).** Psychiatric morbidity following hysterectomy in Egypt. *Int J Gynaecol Obstet.* 102(1):60–4. doi: 10.1016/j.ijgo.2008.02.007. [PubMed: 18384791]
- Hopwood P., Fletcher I., Lee A., and Al Ghazal S. (2011).** A body image scale for use with cancer patients. *European Journal of Cancer;* 37:189–197.
- Ismail SA, Abdel-Azim NE, Saleh MA, Mohamed AA, Yosef AH, and Abbas AM. (2021).** A new grading system for female sexual dysfunction based on the female sexual function index in Egyptian women: a cross-sectional study. *Afri Health Sci.;* 21(2). 835-841. <https://dx.doi.org/10.4314/ahs.v21i2.44>
- Kayataş S., Ozkaya, E., Api M., Çikman S., Gurbuz A., and Eser A. (2017).** Comparison of libido, female sexual function index, and Arizona scores in women who underwent laparoscopic or conventional abdominal hysterectomy. *Turk J Obstet Gynecol ;*14(2): 128–132.
- Kho KA., Walsh TM., Schaffer JL., (2019).** Quality of Life Following Hysterectomy: A Randomized Clinical Trial of Laparoscopic vs Abdominal Hysterectomy. *J Minim Invasive Gynecol* 2019;26:S109.
- Kumari P. and Kundu J. (2022).** Prevalence, socio-demographic determinants, and self-reported reasons for hysterectomy and choice of hospitalization in India. *International Institute for Population Sciences* DOI: <https://doi.org/10.21203/rs.3.rs-1676547/v1>
- Liu F, Pan Y, Liang Y, Zhang C, Deng Q, Li X. (2017).** The epidemiological profile of hysterectomy in rural Chinese women: A population-based study. *BMJ Open.* 7(6): 1.
- Lonnée-Hoffmann R. & Pinas I. (2014).** Effects of hysterectomy on sexual function. *Current sexual health reports,* 6: 244-51.
- Manandhar T., Sitaula S., Dixit Thapa B., Agrawal A. and Thakur A. (2020).** Prevalence of Hysterectomy among Gynecological Surgeries in a Tertiary Care Hospital. *J Nepal Med Assoc;*58(232):965-70
- Michael D., Mremi A., Swai P., Shayo B., Mchom B. (2020).** Gynecological hysterectomy in Northern Tanzania: A cross- sectional study on the outcomes and correlation between clinical and histological diagnoses. *BMC Women's Health .* 10 (3):1 20-22.
- Modarres M., Rahimikian F., and Mehran A.(2013).** Impact of pre-hysterectomy counseling on depression among patients referred to TUMS hospitals. *19(2):*40–50.
- Okunade KS, Sekumade A, Daramola E, and Oluwole AA. (2017).** A 4-Year clinical review of elective hysterectomies at a University Teaching Hospital in Lagos, Nigeria. *J Gynecol Sur;* 33(5): 193-7.
- Peker, N., Aydın, E., Yavuz, M., Bademkiran, M.H.,Ege, S., Karaçor, T. and açayak, E. (2019).** Factors Associated with Complications of Vaginal Hysterectomy in Patients with Pelvic Organ Prolapse—A Single Centre’s Experience. *Ginekol. Pol.,*90, 692–698.
- Pinar G, Okdem S, Dogan N, Buyukgonenc L, Ayhan A. (2012).** The effects of hysterectomy on body image, self-esteem, and marital adjustment in Turkish women with gynecologic cancer. *Clin J Oncol Nurs.;* 16(3):E99-104. doi: 10.1188/12.CJON.E99-E104.
- Ramdhan, R.C.; Loukas, M.; Tubbs, R.S. (2017).** Anatomical Complications of Hysterectomy: A Review. *Clin. Anat.* 2017, 30, 946–952.

- Rosen C., Brown J., Heiman S., Leiblum C., Meston R., Shabsigh D., Ferguson R., and D'Agostino R. (2000).** The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. *J Sex Marital The.* 26(2): 191-208. [DOI: 10.1080/009262300278597].
- Saeidi M., shamsalizadeh N., and Yousefi F.(2020).** The effectiveness of cognitive behavior therapy on sexual dysfunction after hysterectomy in women referred to Besat Hospital in Sanandaj. *Shenakht Journal of Psychology and Psychiatry.* 3(4): 39-47.
- Schmidt A., Sehnem GD., Cardoso LS. Quadros JS., Ribeiro AC., and Neves ET.(2019).** Sexuality experiences of hysterectomized women. *Escola Anna Nery.* 2019. <https://doi.org/10.1590/2177-9465-EAN-2019-0065>.
- Selcuk S, Cam C, Asoglu MR, et al. (2016).** Effect of simple and radical hysterectomy on quality of life—analysis of all aspects of pelvic floor dysfunction. *Eur J Obstet Gynecol Reprod Biol.*198:84-8
- Selvanathan S., Acharya N., and Singhal S. (2019).** Quality of life after hysterectomy and uterus-sparing hysteroscopic management of abnormal uterine bleeding or heavy menstrual bleeding. *Journal of Midlife Health.* 10 (2): 63–9.
- Sharpe H., Griffiths S., Choo TH., Eisenberg ME., Mitchison D., and Wall M. (2018).** The relative importance of dissatisfaction, overvaluation and preoccupation with weight and shape for predicting onset of disordered eating behaviors and depressive symptoms over 15 years. *Int J Eat Disord*;51:1168-75.
- Shekhar C., Paswan B., and Singh A. (2019).** Prevalence sociodemographic determinants and self-reported reasons for hysterectomy in India. *Reprod Health* ;16(1): 1–16.
- Shirinkam F., Jannat-Alipoor Z., Shirinkam Chavari R., and Ghaffari F. (2018).** Sexuality after hysterectomy: a qualitative study on women's sexual experience after hysterectomy. *Int J Women's Health Reprod Sci*; 6(1):27–35. <https://doi.org/10.15296/ijwhr.2018.06>.
- SHOAIEB A., FAWAZ M, and ABDEL FATTAH M. (2019).** Socio-Demographic and Reproductive Health Profile among Egyptian Women with Uterine Fibroid. *Med. J. Cairo Univ.,* Vol. 87, No. 4, June: 2369-2377, www.medicaljournalofcairouniversity.net
- Silva CDe M, Vargens OM. (2016).** Woman experiencing gynecologic surgery: Coping with the changes imposed by surgery. *Rev Lat Am Enfermagem* ;24:e2780. doi: 10.1590/1518-8345.1081.2780.
- Solbrække KN, Bondevik H. (2015).** Absent organs—present selves: Exploring embodiment and gender identity in young Norwegian women's accounts of hysterectomy. *Int J Qual Stud Health Well-being*; 10:26720.
- Wulandari B. (2020).** The effect of total abdominal hysterectomy (TAH) on dyspareunia and sexuality in married couples. *J Bid IL Ks.* 10(1), 66–75.
- Yen J., Chen Y., Long C., Chang Y., Yen C., Chen C., & Ko C. (2018).** Risk factors for major depressive disorder and the psychological impact of hysterectomy: a prospective investigation. *Psychosomatics*, 49: 137-42.
- Yiqun W., and Xiaoyan Y., (2020):** Sexual function after total laparoscopic hysterectomy or transabdominal hysterectomy for benign uterine disorders: a retrospective cohort. *Brazilian Journal of Medical and Biological Research* 53(3): e9058, <http://dx.doi.org/10.1590/1414-431X20199058>
- Zuitasari A., Yusrizal F., Basir F., and Theodorus A. (2022).** Influence Total Hysterectomy against Function Sexual. *Indones J Obstet Gynecol* Vol 10. No 1