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Sexual Function Disorders Affecting Quality of Life of Women with Gynecological Cancer at Al-Fayoum University Hospital

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Abstract Gynecological cancer is still considered as an important cause of maternal morbidities over the world and most of women who are suffering from gynecological cancers experience a variety of sexual dysfunction disorders, and psychological and social problems that affect negatively on their quality of life. **Aim:** The aim of this study was to assess the sexual function disorders affecting quality of life of women with gynecological cancer at Al-Fayoum University Hospital. **Research design:** A descriptive study design was adapted. **Setting:** The present study was conducted at the Oncological Gynecology Outpatient Clinic in Al-Fayoum University Hospital. **Sample:** A sample of 114 women with different types of gynecological cancer was chosen according to inclusive criteria. **Tools**: Four tools were used including: **I:** A structured interviewing questionnaire, **II**: Female Sexual Function Index (FSFI), **III**: The Revised Dyadic Adjustment Scale (RDAS), and **IV**: A questionnaire for assessing the general quality of life of gynecological women. **Results & Conclusion**: The results of current study revealed that the mean age of women with gynecological cancer was 50.8 ± 5.57, less than half had cancer uterus, while one third were cancer cervix, The prevalence of the sexual problems shows the sexual function in each domain, the lowest mean score was noted in the domain of desire. There was a statistically significant difference in couple's satisfaction with a mean of 66.23±10.74 and there was a statistically significant correlation between female sexual function index (FSFI) and QOL of gynecological women, and it was significantly higher with women who performed surgery than those who did not. **Recommendation:** It is recommended to prepare a secure environment in the hospital outpatient clinic to discuss sexual problems with women freely as well as increasing the number of specialized trained counselor nurses for sex therapy and establish strategies to facilitate the husband's understanding and support the potential impact of treatment related to gynecological cancer on women.

Keywords: *female sexual function disorders, gynecological cancer, QOL*

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1. Introduction

Gynecologic cancer is one of the most frequent groups of malignancies. Female gynecologic cancer is any cancer that starts in a woman's reproductive organs and also in different places within a woman's pelvis; it contains a diverse group of tumors with different epidemiological features. For female cancer, gynecologic issues are a major concern and many of these issues impact sexual function. Sexual health conditions that affect women during or after cancer treatment may be considered according to the same categories as female sexual dysfunction in the general population [1].

Gynecologic cancer also directly acts on a woman and her partner's sexual beings. Sexual functioning can be affected by illness, pain, anxiety, anger, stressful circumstances and medication. Vast amounts of evidence exist showing that cancer dramatically impacts woman's sexuality, sexual functioning, intimate relationship and sense of self [2].

Female sexual dysfunction (FSD) is a common disorder `in societies worldwide, but it is also a complex multifactor phenomenon that encompasses emotional intimacy and relationship satisfaction, along with other psychosocial factors across all cultures, all sexual orientations and various socio-economic statuses, with a great potential to affect relationships negatively and impair quality of life. Sexual dysfunction is multi factorial and involves physical, social, and psychological dimensions. The female sexual dysfunction as a disturbance in or pain during the sexual response, which can be further classified as hypoactive sexual disorder, orgasmic disorder, sexual pain disorder, or sexual arousal disorder. It should be noted that women who have been treated for gynecologic cancers may have a premorbid history of sexual dysfunction [3].

Quality of life (QOL) is defined as individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. Quality of life is the sentiment of general life fulfillment as dictated by the mentally alert person, whose life is being assessed. The domains include "physical, functional, demographic, spiritual, social, and psychological/cognitive factors". Quality of life extends to include the performance of everyday activities that reflect well-being, satisfaction, functioning, and control over disease. Four parameters: physical, psychological, social, and spiritual well-being is commonly used to define QOL in cancer survivors. A lack of a cultural dimension has been noted in the assessment of QOL in cancer populations [4].

The QOL of women with gynecological cancers may be affected by cancer type (breast, cervix, ovary, uterus, vagina, or vulva) and stage of disease progression. Side effects of cancer treatment (surgery, chemotherapy, and radiotherapy) may leave patients with physical problems, psychological and sexual dysfunctions, body image disturbances, hormonal changes, and fear over childbearing potential, which could have an important impact on their quality of life. The time following diagnosis and treatment of women with gynecological cancers also has a significant impact on their quality of life [5].

Sexuality is an important aspect of QOL. The effect of cervical cancer surgery on sexual function is controversial and different types of surgery such as simple hysterectomy, radical hysterectomy, and nerve-sparing radical hysterectomy are likely to have different effect. Sexual health problems and gynecologic cancers are higher in oncology patients [6].

The National Health and Social Life Survey suggested that 43% of all women are affected by some form of female sexual dysfunction **(FSD)**. This number is substantially higher in women dealing with gynecologic cancers. In the United Kingdom, 5.8% of women have reported recent sexual dysfunction, and 15.5% have reported lifelong sexual dysfunction, whereas in Latin America, the rate of FSD for middle aged women is approximately 58% [7].

Sexual functioning is the most enduringly compromised QOL issue after treatment for gynecologic cancer, affecting up to 50% of patients. Problems include loss of sexual desire, dyspareunia, sensation loss in the genital area, and decreased ability to achieve orgasm. Unfortunately, there is limited knowledge of specific sexual functioning problems of ovarian cancer patients because they are usually grouped with other gynecologic cancer patients. Unlike cervical and endometrial cancers, which tend to be diagnosed at earlier stages, ovarian cancer is frequently diagnosed after it has spread into the abdomen [8].

Evaluation of sexual functions has to be initiated simultaneously with the diagnosis of cancer. Diagnosis process frequently coincides with the moment when the patient and nurse first meet [9]. A nurse provides information and assists patients in making and executing a decision; the nurse also guides the survivor to regain self-confidence and adapt to physical and psychological changes to optimize survivor autonomy. Nurse led psychosexual counseling can significantly improve sexual function in patients with gynecology cancer. Education and counseling for women after cancer treatment may also reduce sexual problems and improve marital relationship. An important nursing role is to evaluate woman's fears [10].

1.1. Significance of the Study

In Egypt, gynaenocological malignancies together constitute 44.9% of female cancers [11]. In Al-Fayoum, Egypt, population in 2014 Census was about 6% of all cases of cancers, approximately 510 cases with gynecological cancers annually are seeking for treatment at the Oncology Gynecological Clinic at Al-Fayoum University Hospital. [12] Most commonly, survivors of gynecologic malignancies report loss of desire and pain with sexual activity [13].

Although the impact of gynecologic cancer and treatment can be profound, care providers often do not address their patients' sexual concerns. Yet, most women have indicated that they would like these issues to be addressed. There is a need, however, for a thorough and systematic study, based on a consistent and consolidated instrument for evaluating the sexual dysfunction among genital cancerous women in order to respond ever more effectively and efficiently to their needs, considering, the integral aspect of the individual, aiming for a holistic therapeutic proposal. Sexual morbidity is a distressing and undertreated problem among gynecologic cancer patients.

1.2. Aim of the Study

The study aimed to assess the sexual function disorders affecting quality of life of women with gynecological cancer at Al-Fayoum University Hospital through:

1. Assessing the sexual dysfunction according to type of tumors, and its stage of treatment.
2. Assessing the factors affecting the QOL of women with gynecological cancer.
3. Assessing the women's sexual dysfunction according to sex domains of sexuality index.
4. Assessing the couples' satisfaction related to the effect of gynecological cancer on sexual relation.

1.3. Research Questions

1. What are the factors affecting the QOL of women with gynecological cancer?
2. Is there sexual satisfaction among couples during the sexual relationship?
3. Is there a relationship between FSFI and women's quality of life?

1.3.1. Research design

A descriptive research design was adopted for the study.

1.3.2. Study Setting

This study was conducted at the Gynecological Oncology Outpatient Clinic in Al-Fayoum University Hospital. This setting was chosen for its high density of attendance with a total number of 510 women annually.

1.4. Sample

A sample of convenience of 114 women with different types of gynecological cancer was referred to the previous setting within six months, while the women were coming to carry investigations, more than one time, and were given treatment. The sample was recruited according to the following inclusion criteria: All married women, diagnosed with different types of malignant tumors in genital organ (vulvar, cervix, uterus, vagina & ovary), undergoing different types of treatment, their age was less than 40, and have a sexual partner during the period of the study.

1.5. Tools of Data Collection

1.5.1. Data of This Study Were Collected by Using the Following Tools

Tool I: A structured interviewing questionnaire developed by the researchers which included the following data:

A. Basic data of studied women including age, duration of marriage, level of education, occupation, residence and monthly income.

B. Menstrual and medical data of studied women with gynecologic cancer regarding menstrual history, regularity, duration in days, type of tumors, (site), type of treatment (From medical record).

Tool II: Female Sexual function index (FSFI) questionnaire: Adapted from Wiegel et al. [14] and translated into Arabic language, it was designed to evaluate female sexual function. It includes six domains: desire, arousal, lubrication, orgasm, satisfaction and pain. The FSFI scale is a validated 19-item questionnaire designed to evaluate female sexual function. It includes the following:

- Desire: Items 1 and 2; implying the wish/wanting to engage in a sexual experience, receptivity towards sexual initiation or reacting to that as well as fantasizing.
- Arousal: Items 3, 4, 5 and 6; signs of attention, activity and excitement. Specifically the questionnaire looks at levels and types of arousal.
- Lubrication: Items 7, 8, 9 and 10; refers to vaginal lubrication that occurs during sexual excitement, presence, quantity or absence of it.
- Orgasm: Items 11, 12 and 13; ability to attain orgasm, factors impairing it.
- Satisfaction: Items 14, 15 and 16; level of happiness, content with actual sexual life and habits.
- Pain: Items 17, 18 and 19; discomfort sensation during intercourse. Each domain is scored on a scale of 0 or 1 to 5 (range for items 1, 2, 15 and 16=1-5), and was calculated as previously described by Wiegel et al. [14]. The maximum score for each domain is 6; the maximum total score is 36 and the minimum 2. While higher scores indicate better sexual function, a domain score of zero indicates no sexual activity during the past month. A score less than 26.55 denotes sexual dysfunction. Orgasm; and orgasmic pleasure, usually for domains in which the score is zero, this is indicative of the subject having reported there was no sexual activity during the past 4 weeks.

Tool III: The Revised Dyadic Adjustment Scale (RDAS), developed by Crane et al. [15], it is a self reported questionnaire about the woman and her husband's adjustment and satisfaction (taken from woman's opinion). It consists of 14 items that provide a total score (RDAS-T) and 4 sub-scores of dyadic consensus (RDAS-DC, measuring the degree to which couples agree on matters of importance to their relationship), affective expression (RDAS-AE, measuring the degree of the demonstration of affection and sexual relationships), dyadic satisfaction (RDAS-DS, measuring the degree to which couples are satisfied with their relationship), and dyadic cohesion (RDAS-DCh, measuring the degree of closeness and shared activities experienced by couples). The **RDAS scores range** from 0-69, with "distressed relation" having the lowest score. The instrument has high internal consistency (alpha coefficient = 0.90) and construct validity. The RDAS has been previously widely used in Iranian subjects (21-23). In this study, Cronbach alpha was between 0.7 and 0.8 in different sub-scores of RDAS.

Tool IV: Questionnaire for assessing the general QOL of gynecological women. It is developed by the Fayers et al. [16]. The questionnaire incorporates 4 functioning domains (physical functioning and role functioning domains regarding strength/fatigue, sleep and rest, overall physical health, menstrual changes, pain/neuropathy, appetite, and nausea/constipation. Emotional domain includes control, anxiety, depression, happiness, fear of recurrence or metastases, cognition/attention, distress of diagnosis or treatment, coping, appearance/self-concept, and usefulness. Social functioning domain includes family distress, roles and relationships, sexuality/fertility, isolation, finances, work, social support, and fear of relatives' future diagnoses. The version of EORTC QLQ-C30 has been validated; the reliability coefficient was 0.59 for cognitive functioning and ranged from 0.74 to 0.86 for the other multiple-item scales.

Quality of life scores were transformed in a 0–100 scale, and because of its asymmetrical distribution, were expressed in median. Each question on the QOL was answered with a five-point Likert type score and domain scores were derived by adding the question scores in the domain. Negative item scores were reversed. Because the domain scales were composed of relatively few items, missing items could have had a rather significant effect on the domain score. Modifications were done by the investigators to score items were; agree (3), neutral (2) and disagree (1). The total scores for women's quality of life were 69 points (equal 100%) and categorized into good quality of life or poor quality of life. More than 50% score was considered good quality of life and less than 50% score was considered as poor quality of life.

Validity of the tools: The validity of the tools was ascertained by a group of 5 subject area experts, 2 gynecology and 3 community nursing staff, who reviewed the instruments for content accuracy. Also, they were asked to judge the items for completeness and clarity. Suggestions and modifications were considered.

Reliability of the tools: Test–retest reliability was applied by the researchers for testing the internal

consistency of the tools. It refers to the administration of the same tools to the same subjects under similar conditions on two or more occasions. Scores from repeated testing were compared.

1.5.2. Pilot Study

A pilot study was carried out before starting data collection; and conducted on 10% of women with gynecological cancer.

It was done to check the clarity, applicability, relevance of the questions and also to estimate the time required for filling in the sheets. Based on the results of the pilot study, the necessary modifications were carried out. Studied women of the pilot study were excluded from the main study sample.

1.6. Ethical and Consideration

- Necessary approval from Gynecological Oncology Outpatient Clinic, Al-Fayoum University Hospital authority was taken after issuing an official letter from the Dean of the Faculty of Nursing, Al-Fayoum University. An informed consent to participate in the current study was taken after the purpose of the study was clearly explained to each woman.
- Risk – benefit assessment. There is no risk at all during application of the research.
- Confidentiality was mentioned during all stages of the study, as well as obtained personal data and respect of participants' privacy were totally ensured.

1.7. Field Work

- The questionnaire was developed based on the review of related researches and review of literature, then, tested for validity. A pilot study was conducted on 10 % of total sample to test the tools for their clarity, applicability, feasibility. Then necessary modifications were carried out and the results were excluded from the main study sample.
- Informed consent was obtained from participants after briefly explaining the nature and aim of the study before each interview. Frequent visits were conducted through pre-determined appointment with the subjects.
- After the women had been fully informed and consented for participation in the research, the researchers started to collect data through the structured interview questionnaire, which took 45 minutes to answer all questions. An Arabic educational booklet was offered as a guideline to participants.
- Data collection lasted almost six months in the period between April 2017 to September 2017. This was done within two days per week Saturdays and Thursdays, between 4 to 7 women/day, from 10.00 a.m. to 1.00 p.m.
- Patient's privacy and confidentiality of responses were considered during collection of data.

2. Statistical Analysis

Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used for that purpose, followed by data analysis and tabulation. Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages). Test of significance (chi-square and independent r test) were used to test the homogeneity of the outcome variables. Pearson correlation coefficients were used. A statistically significant difference was considered at p-value $p \leq 0.05$, and a highly statistically significant difference was considered at p-value $p \leq 0.001$.

3. Results

Table 1 Revealed that, the mean age of women with gynecological cancer was 50.8 ± 5.57 and 76.5 % of them were married for 15 years or more. Regarding education, 34.2% can read and write, and 28.1% were secondary level of education. Regarding monthly income, for 93.0 % them, it was insufficient.

Table 2 Regarding medical data, it showed that for 61.4% of the studied sample, the first menarche started at age 14 years with a mean of 19.59±4.28 of marital period. Regarding duration in days, the same table reported that for 54.4% of women it was 7 days, while 78.9% had regular period. The same table also shows that 42.1% of studied sample were second stage of cancer, while 24.6% were third stage and 70.2% had surgery and received chemotherapy, and 45.6% had cancer uterus, while 33.3% were suffering from cancer cervix.

Table 1. Distribution of studied Gynecological Cancer Women According to their Personal Characteristics (n=114)

Characteristics	No	%
Age (in years):		
20-	13	31.5
30-	31	35.5
<40 +	60	33
Mean±SD 50.8 ± 5.57		
Marriage duration (in years):		
< 10	12	6.0
< 15	32	17.5
15+	50	76.5
Monthly income		
Sufficient	8	7.0
Insufficient	106	93.0
Educational level:		
Illiterate	16	14.0
Read & write	39	34.2
Primary	23	20.2
Secondary	32	28.1
University	4	3.5

Table 3 The assessment of the sexual dysfunction showed the sexual function in each domain, where the lowest mean score was noted in the domain of desire (1.45 ± 1.55), followed by satisfaction (1.96 ± 2.05), then by pain and arousal equally (3.10 ± 1.55), orgasm (3.11 ± 1.73), and the highest lubrication (3.31 ± 1.78). The domain scores were suggestive of difficulties related to desire, arousal, lubrication, orgasm, satisfaction, and pain were prevalent in 86.3%, 98.1%, 88.6%, 76.2%, 72.2% and 89.1% of subjects, respectively.

Table 4 This table indicated that the highest scores of quality of life are for role functioning, followed by fatigue aspect with means of 63.4 ± 13.0 and 56.2 ± 19.2 respectively. On the other hand, the lowest scores of quality of life were for social functioning with a mean of 29.8 ± 18.5, while the total scores of quality of life represents a mean of 45.5 ± 9.6.

Table 2. Menstrual and Medical Data of Studied Women with Gynecological Cancer (n = 114)

Menstrual history		No	%
Menarche at:	13 y	14	12.3
	14 y	70	61.4
	15 y	30	26.3
Marital period	Mean ±SD	19.59±4.28	
Duration in days	3	2	1.8
	5	38	33.3
	7	62	54.4
	7	12	10.5
Regularity	Regular	90	78.9
	Irregular	24	21.1
Type of tumor	Cervix	38	33.3
	Uterus	52	45.6
	Vagina	24	21.1
Stages of cancer	Stage I	12	1.8
	Stage II	68	42.1
	Stage III	24	24.6
Treatment regimen	Surgery & chemotherapy	80	70.2
	Chemotherapy	34	29.8

Table 3. Assessment of Women Sexual Dysfunction According to Female Sexual Function Index Scores (FSFI) among studied Gynecological Cancer Women (n= 114)

FSFI items	Sexual dysfunction	No sexual dysfunction	Mean± SD
Desire	86.3	13.7	1.45 ±1.55
Arousal	98.1	1.9	3.10 ± 1.55
Lubrication	88.6	11.4	3.31 ± 1.78
Orgasm	76.2	23.8	3.11 ± 1.73
Satisfaction	72.2	27.8	1.96 ±2.05
Pain	89.1	10.9	3.10 ± 1.55
Total Score	80.7	19.3	19.31 ± 8.50

Table 4. Quality of Life Scores in Women with Gynecological Cancer (n = 114)

WHO QOL domain	Range	Mean±SD
Physical functioning	0.0-89.3	32.2±15.9
Role functioning	10.7-85.7	63.4±13.0
Emotional functioning	12.5-100.0	47.1±17.4
Social functioning	4.2-100.0	29.8±18.5
Pain	23.8-71.3	44.0±10.2
Fatigue (Appetite loss, nausea/vomiting, constipation, diarrhea)	14.3-92.9	56.2±19.2
Total	23.1-83.9	45.5±9.6

Table 5. The Revised Dyadic Adjustment Scale (Couple Satisfaction Level) Among Studied Women with Gynecological Cancer (n = 114)

Couple satisfaction level	No	%
Poor satisfaction (0-<48) (Less adjusted)	98	86.0
Satisfied (≥48) (More adjusted)	16	14.0
Couple satisfaction scores		
Mean	66.23	
±SD	±10.74	
Median (Range)	70 (32-85)	

Table 6. Correlation between FSFI Score for Sexual Function Assessment and SF-12 Score for Quality of Life Assessment

r	0.768
p- value	<0.001

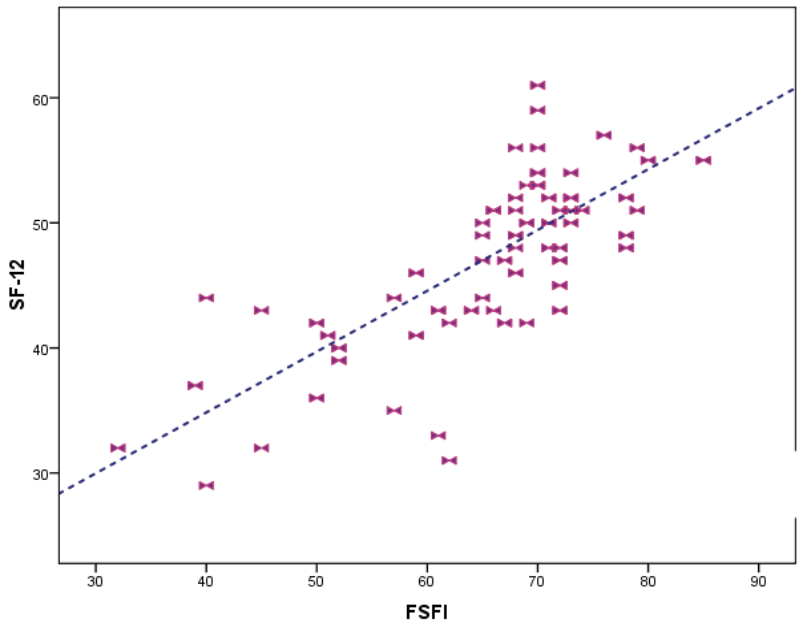

Figure 1. Relations between Scores of General Quality of Life and Sexual Dysfunction

Table 7. Comparison of FSFI Score and QOL According to Treatment Regimen & Type of Tumor

Comparison of FSFI score and QOL according to treatment regimen						
Items		**Mean**	**±SD**	**Minimum**	**Maximum**	**P value**
FSFI	Surgery	71.75	4.538	64	85	<0.001
	No surgery	53.24	9.894	32	69	
SF-12	Surgery	50.84	4.247	42	61	<0.001
	No surgery	39.97	5.447	29	53	
Comparison of FSFI score and QOL according to type of tumor						
FSFI	Cervix	67.89	12.433	39	80	0.212
	Uterus	66.50	9.432	50	85	
	vagina	63.00	10.258	32	71	
SF-12	Cervix	47.05	5.728	29	55	0.504
	Uterus	48.40	7.215	31	59	
	vagina	46.71	7.486	32	61	

Table 5 Displayed couple satisfaction among studied women. It shows that there was a statistically significant differences in couple satisfaction with a mean of 66.23± 10.74.

Table 6 Indicated that there was a statistically significant positive correlation between FSFI score and QOL of women with gynecological cancer cleared up in negative impact of sexual dysfunction on quality of life of studied women.

Figure 1 As regard to the Relations between Scores of General Quality of Life and Sexual Dysfunction. There was a highly statistically significant positive correlation between FSFI score and QOL at p<0.001.

Table 7 Reported that the mean scores were significantly higher with women performing surgery than those who did not, while there were no statistically significant differences according to type of tumor.

4. Discussion

Sexual health concerns are distressing complications for women with gynecological cancer and their husbands during the diagnostic diagnosis, treatment, and recovery phases of their cancer [17]. Healthy sexual functioning is a vital step toward reestablishing sense of normalcy and well-being. Sexual dysfunction is a common and under recognized disorder in women with gynecological cancer. It may be related to multiple factors, physical decline due to treatment, psychological distress due to diagnosis, change in hormonal milieu and/or poor body image [18].

The current study result showed that age of women with gynecological cancer for less than third was 40 years or more, with a men age of 50.8 ± 5.57 years, and more than two third of them were married for 15 years or more. This finding was congruent with that of Gauri et al. [18], who studied the impact of breast cancer diagnosis and treatment on sexual dysfunction and reported that the age of women in their study ranged between 33-53 years. Meanwhile, Rapiti et al. [19] found no effect of age on diagnosis and/or survival of women with gynecological cancer.

Regarding education the current study findings indicated that, more than one-third were just read and write and more than one quarter were secondary level of education. This result was inconsistent with Abd Elaziz et al. [11], who reported that, more than half of studied women had secondary level of education. On the same line, Biglia et al. [20] found that population in their study had an average level of education. This may be attributed to low cognitive abilities and increased health illiteracy related to leading causes for gynecological cancer.

Cancer therapies have the potential to affect sexuality directly by hormonal effects and indirectly by causing fatigue, apathy, nausea, vomiting, and malaise. Sleep and appetite disturbances can interfere with libido [21]. Globally, chemotherapy is a major determinant of sexual dysfunction, affecting all the phases of the sexual response cycle. This repercussion is particularly stern and catastrophic for young women.

The present study indicated that the chemotherapy affects on women sexuality, as more than two third received surgery and chemotherapy as type of treatment. This result was in the same line with Arora et al. [22], who studied the impact of chemotherapy on QOL for women with gynecological cancer and stated that the chemotherapy had a negative impact on women sexual function and their physical well-being. Likewise, Hashemi et al. [23] showed that all types of treatment for gynecological cancer had a significant impact on body image and menopausal status and finally results in sexual problems. On the other hand, Shiahna [24] stated that the treatment such as chemotherapy and surgical treatment did not disrupt sexual functioning. Regarding site of cancer, the current study reported that less than half of women had cancer uterus, while for one third it was cancer cervix.

In consideration to sexual changes, the present study result showed sexual dysfunction in each domain according to the FSFI among gynecological women and reported that the lowest mean score was noted in the domain of desire (1.45±1.55), followed by satisfaction (1.96±2.05), then by an equal mean score for pain and arousal (3.10±1.55), then orgasm (3.11±1.73) and lubrication (3.31±1.78). Domain scores were suggestive of difficulties related to desire, arousal, lubrication, orgasm, poor satisfaction, and pain that were prevalent in 86.3%, 98.1%, 88.6%, 76.2%, 72.2%, and 89% of subjects respectively.

The women had decrease in sexual desire, difficulty to arrive to pleasure level and had vaginal dryness during

intercourse, had dysparunia and avoid intimacy during intercourse. These results goes in line with Abd El-Aziz et al. [11], Ramezani et al. [10] and Nazarpour et al. [25], who found that less than two thirds of Egyptian women complained of loss of libido and more than half complained of vaginal dryness. These results supported by those of Shiahna [24] and Nicolosi et al. (2014), who reported that the majority of Egyptian women had dysparunia during intercourse and more than half had no sexual desire. This could be due to the vaginal dryness that leads to loss of libido.

As well, these results were in accordance with those of Knapstein et al. [26], who found that, mastectomy resulted in lower sexual desire. The most numerous dysfunctions are those which originate easily from compromises in psychological nature, while the lowest dysfunctions were of physical nature (lubrication & pain). Thus, it can be concluded that women's sexual function is deeply influenced by their attitude. Social attitudes and cultural roles and religious beliefs can affect women's experience of sexual desire.

Regarding women's undergoing treatment and their couples' satisfaction according to the Revised Dyadic Adjustment Scale (RDAS), the current study findings showed that, the majority of studied women with cancer had poor couples' satisfaction and statistically significantly higher with women who performed surgery than those who did not. However, there was no statistically significant difference according to type of tumor. This result was congruent with Speer et al. [27], who studied sexual functioning determinants in gynecological cancer survivors and stated that, the dynamics of relationships can be strained and changed with a cancer diagnosis and therapy. The survivors' level of relationship distress, depression and age may be seen as the most significant variables affecting arousal, orgasm, lubrication, satisfaction and sexual pain rather than hormonal levels.

The present study indicated that, altered cancer had an effect on sexuality and couple satisfaction. This study findings was matching with those conducted by Michael [28] and Ganz [29], who reported that a cancer treatment may have direct effects on sexuality, sexual response, sexual roles, and relationships.

5. Conclusion

According to the findings and research questions of the current study, It is concluded that there was statistically significant differences in couples' satisfaction with a mean of 66.23±10.74 and there was a statistically significant correlation between female sexual dysfunction index (FSFI) and QOL of women with gynecological cancer. As well, it was significantly higher with women who performed surgery than those who did not.

6. Recommendations

- Counseling for women with gynecological cancer may reduce the sexual function disorders affecting their quality of life.
- Prepare a secure environment in the hospital outpatient clinic to discuss sexual problems with women freely as well as increasing the number of specialized trained counselor nurses for sex therapy.
- It is important to establish strategies to facilitate the husbands' understanding and support the potential impact of treatment related gynecological cancer on women.

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