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Women's sexual dysfunction associated with cervical cancer

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Abstract

Background: Among women enduring cervical cancer therapy, sexual dysfunction is a major source of pain. In comparison to other kinds of cancers and chronic diseases, gynecological malignancies have a greater unfavorable impact on female sexuality. The negative physiological effects of gynecological cancers fade over time, but the impacts on sex life last a long period of time. **Aim:** The goal of this research was to look into the sexual dysfunction of women who had had cervical cancer. **Methods;** ***Design:*** The present study followed a descriptive research design. ***Setting***: Beni-Suef University Hospital's oncology unit's outpatient clinic. ***Subjects:*** A group of 70 women was chosen with care. A standardized interviewing inquiry sheet and a female sexual function index were used to collect information. ***Results***: According to the findings of the study, all women (100.0 percent) had the Female Sexual Function Index assesses sexual dysfunction (FSFI). There has been no statistically relevant link between overall female sexual function index values and demographic parameters of women. **Conclusion:** While there was there is no statistically significant difference association between women's demographic factors and overall female sexual function severity index, sexual dysfunction was much increasingly common in older, least educated people urban inhabitants, and people who were less than 20 years old at the time of marriage. **Recommendations:** Organizing health workshops for cervical cancer survivors about sexual dysfunction after treatment.

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1. Introduction

Healthy sex life is an important element of one's overall health. One of the markers of living standards is sexuality. [1] Many couples value a fulfilling sex life because it provides an opportunity for connection, closeness, and quality time. Couples may experience stress as a result of sexual issues after cervical cancer because it may feel as if a key component of their partnership has vanished. [2]

Couples may experience stress as a result of sexual issues following cervical cancer since it may feel as if a vital element of their relationship has vanished. Compared to other types of cancers and chronic diseases, gynecological malignancies have a greater unfavorable impact on female sexuality. The negative physical and psychological effects of gynecological cancers fade over time, but the impacts on sex life last a long time. [3]

Huffman et al., (2017) reported that persistent sexual health concerns following cervical cancer treatment include; 25% reported a deficiency of sexual desire, 19% reported lymphedema, 71% reported genital numbness, and 24% reported insufficient lubrication, inadequate/absence of lubrication, Vaginal penetration can be unpleasant and difficult, if not impossible, due to vaso-congestion as a result of normal physiological arousal or heightened sensitivity of fragile mucosa. In many circumstances, hormonal therapy, particularly systemic estrogen therapy, can be employed.[4]

Approximately 90% of cancer patients suffer sexual dysfunction at some point throughout their treatment, with vaginal dryness, dyspareunia, and lack of desire being the most common issues. Furthermore, a significant percentage of patients will have depression, tension/stress, or an anxiety disorder. [5-7] Sexual dysfunctions are marked by changes in sexual desire as well as physiological alterations in the sexual response. Sexual interest/arousal disorder, genital or pelvic pain, and female orgasmic disorder are the three most frequent sexual dysfunctions in women. [8]

Sexual dysfunction after cervical cancer therapy can be caused by a number of things, however, the most prevalent reason is by the treatment's direct consequences.[9] Mucosal atrophy, shortening/reduction/loss of vaginal feeling, vaginal stenosis, decreased elasticity, and decreased lubrication are among the most common sexual dysfunctions associated with cervical

cancer treatment. In addition, decreased sexual desire/arousal, dyspareunia, decreased sexual activity frequency, anorgasmia, and vaginal bleeding during or after intercourse. [10] Moreover, Vaginal fibrosis can cause the vaginal canal to narrow or shorten as a result of cervical cancer treatment, and in extreme cases, it can lead to total closure, preventing sexual activity. Humiliation from bowel or bladder incontinence, diarrhea, rectal pain, and cystitis can make you feel unattractive and make it difficult to have a sexual relationship. [7]

Dryness, discomfort, and vulvovaginal atrophy are all symptoms of vulvovaginal atrophy and all typical barriers to proper sexual function that might be caused by surgery, radiation, or cytotoxic chemotherapy. Cervical cancer patients' ability to function. Sexual well-being and life satisfaction are both harmed by radical hysterectomy (QoL). Orgasmic difficulties, feminine shortening, chronic pelvic pain, lymphedema, pubic numbness, and sexual dissatisfaction are all symptoms of vaginal shrinking. are all symptoms of vaginal shortening. are some of the short-term sexual health implications. Because the nerves and vascular supplies to the vagina are resected during a radical hysterectomy, sexual function may be harmed.

Women who have received this procedure have reported a lack of desire, lack of sensation in the labia, decreased vaginal lubrication, vaginal shortening, and dyspareunia. [3,7] Radiation produces fibrosis in the vaginal fibrous tissue, causing inelasticity and pain during sexual activity. The amount to which radiation affects the epithelium, either through the cessation of estrogen production from the ovaries or through direct tissue injury, is undetermined. Healthy lubrication necessitates the presence of functional arteries and normal mucosal tissues; nevertheless, ionizing radiation may obstruct these requirements. [11]

2. The Study's Purpose

The goal of this study is to evaluate women's sexual dysfunction as a result of cervical cancer.

3. Research Question

Is it possible that cervical cancer will have an impact on a woman's sexual function?

4. Subjects and Methods

4.1. Research Design

The current study followed a descriptive design.

4.2. Setting

Beni-Suef University Hospital's oncology unit.

4.3. Subjects:

There are a total of seventy women were included in the investigation.

4.4. Tools of Data Collection

Two data gathering tools were employed to achieve the study's goal:

4.4.1. **Tool I:** Women's socio-demographic information and medical histories were collected using a structured interviewing questionnaire sheet.

4.4.2. **Tool II: Female Sexual Function Index (FSFI)**. a survey for self-reporting with multiple dimensions. It consists of 19 multiple-choice questions that assess six different domains like Stimulation, lubrication, orgasm, pleasure, and sexual pain. The researchers will employ the Arabic-language version of FSFI, which was translated by (Anis et al 2011). [12] It was approved for use among Egyptians.

4.5.Fieldwork

It comprised a review of relevant literature as well as knowledge of various facets of the research subject. The scientist then put the gadget to the test in front of an experienced judgment. Every committed lady was advised that participation is completely voluntary and that they had the option of approving or declining the research. Pilot research was done on 10% of the population (7 women) to assess the tools' relevance, efficiency, and readability. The data was gathered over six months, from the beginning of August 2019 to the end of January 2020.

4.6.Statistical analysis

Using a statistical tool for social sciences, the acquired data was edited, coded, tabulated, and transferred to a computer (IBM SPSS 25.0). To a graphic presentation, The information was given as a mean and standard deviation (SD), and region, as well as recurrence and percentage charts and colon charts.

5. Results

Figure (1) discloses that 21.4 percent of the study participants were between the ages of 30 & 39, and 51.4% were above the age of 50. Women had secondary education in 48.6% of

cases, and 34.3 percent had a basic education in 34.3 percent of cases. Housewives made up 64.3 percent of women's occupations. Women from urban areas made up 52.8 percent of the population. More than half of them (75.1%) married when they were under the age of 20.

Table (1) According to the findings, 78.6 percent of the women investigated had menarche between the ages of 12 and 15, whereas only 2.8 percent had menarche after the age of 15. In terms of menstrual regularity, 41.4 percent of the women in the study experienced amenorrhea and 25.7 percent had a regular cycle. In terms of parity, 62.8 percent of women had three or more children, while only 1.4 percent were nulliparous.

Table (2) According to the data, slightly less than three-quarters (72.8%) of the women tested had a cervical cancer diagnosis based on signs and symptoms, with more than one-third (35.7%) of the women diagnosed with cervical cancer in the first degree, and (4.3%) in the fourth degree.

More than a third of women (37.1%) had undergone radiation, chemotherapy, or a surgical procedure, and more than two-thirds of women (81.4%) had a total hysterectomy.

As a result of their medication, more than a third (40%) of the trial participants had diarrhea, hair loss, fatigue, and anemia.

Figure (2) According to the Female Sexual Function Index, all women (100.0%) suffered from sexual dysfunction (FSFI).

Table (3) depicts the mean FSFI scores among the cervical cancer patients investigated which are desire, arousal, lubrication, orgasm, satisfaction, pain. The Female Sexual Function Index or FSFI mean scores among the cervical cancer patients are shown in the table. It showed that the mean SD of women's desire (sexual stimulation) was 3.281.14, the mean SD of women's sexual arousal was 6.712.98, the mean SD of women's lubrication (sexual moisture) was 6.953.22, the mean SD of women's sexual orgasm was 5.172.34, the mean SD of women's sexual satisfaction was 5.842.23, and the mean SD of women's sexual pain was 5.813.21.

Table (4) There was no statistically significant association between women's demographic factors and total female sexual function index scores, according to the findings.

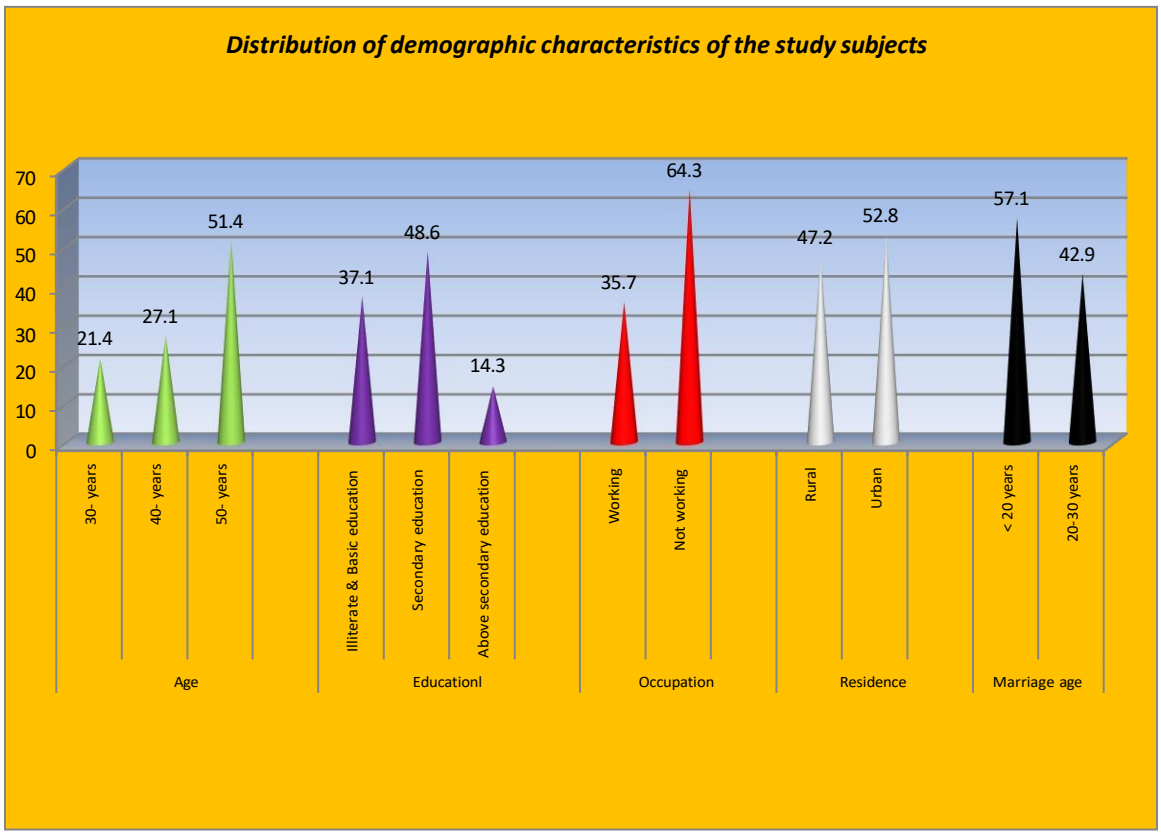

Figure (1): The demographic features of the study participants (n=70).

Table (1): The study participants were divided into groups based on their previous obstetric and gynecological history.

Obstetric and gynecological history	No	%
1. Menarche age		
❖ < 12 years	13	18.6
❖ 12-15 years	55	78.6
❖ > 15 years	2	2.8
Mean ± SD	12.4 ± 2.45	
2. Menstrual period		
❖ Regular	18	25.7
❖ Irregular	23	32.9
❖ Amenorrhea	29	41.4
3. Parity number		

Obstetric and gynecological history	No	%
❖ No parity	1	1.4
❖ Two	6	8.6
❖ Three	19	27.2
❖ More than three	44	62.8

Table (2): The study individuals were divided into groups based on their medical and surgical histories (n=70).

Medical-surgical history	No	%
1. Degree of disease when detected		
❖ Zero degree	16	22.9
❖ 1st degree	25	35.7
❖ 2nd degree	22	31.4
❖ 3rd degree	4	5.7
❖ 4th degree	3	4.3
2. Type of disease intervention		
❖ Radiotherapy	4	5.7
❖ Surgical	9	12.9
❖ Chemotherapy and surgical	14	20
❖ Radiotherapy and surgical	17	24.3
❖ Radiotherapy, Chemotherapy and surgical	26	37.1
3. Surgery type		
❖ Local tumor surgery	6	8.6
❖ Partial hysterectomy	7	10
❖ Total hysterectomy	57	81.4

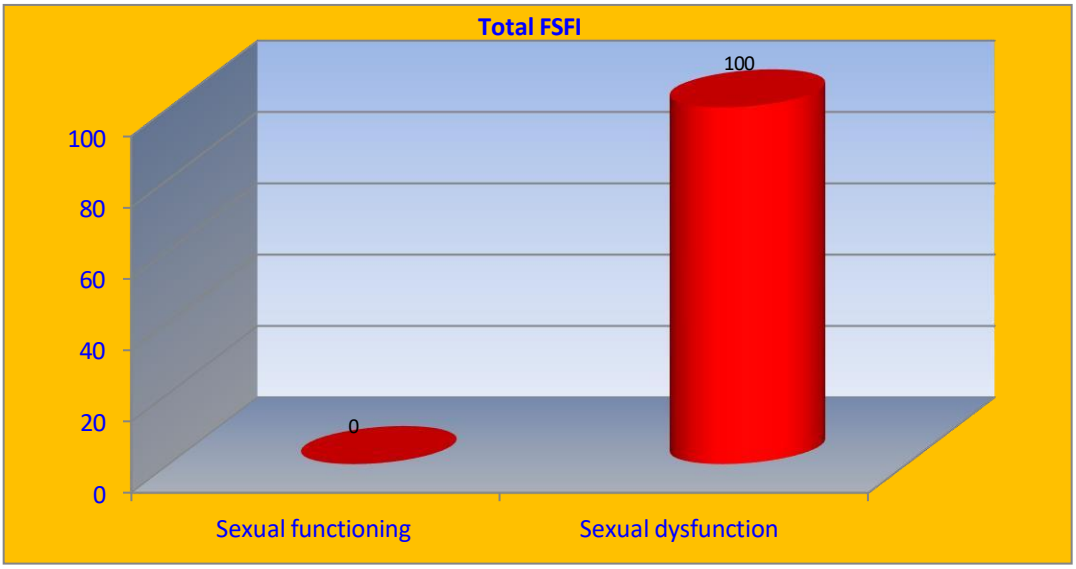

Figure (2): The total sexual function index indicators for women are distributed as a percentage of their entire sexual function.

Table (3): Female Sexual Function Index (FSFI) mean scores among the cervical cancer patients.

FSFI sub-items	Mean ±SD
Desire	3.28±1.14
Arousal	6.71±2.98
Lubrication	6.95±3.22
Orgasm	5.17±2.34
Satisfaction	5.84±2.23
Pain	5.81±3.21

Table (4): The relationship between the study subjects' demographic factors and their female sexual function index

Demographic Characteristics	N	Sexual Functioning		Sexual Dysfunction		X2	P-value
		No	%	No	%		

Demographic Characteristics	N	Sexual Functioning		Sexual Dysfunction		X2	P-value
		No	%	No	%		
1. Age							
❖ 30:<40 years	15	10	14.3	5	7.2	3.91	0.141
❖ 40:<50 years	19	11	15.7	8	11.4		
❖ > 50 years	36	14	20.0	22	31.4		
2. The educational level of women							
❖ Illiterate + Basic education	26	14	20.0	12	17.1	1.24	0.904
❖ Secondary education	34	17	24.3	17	24.3		
❖ Above secondary education	10	4	5.7	6	8.6		
3. Residence							
❖ Rural	33	20	28.6	13	18.6	5.59	0.236
❖ Urban	37	18	25.7	19	27.1		
4. Marriage age							
❖ < 20 years	40	22	31.4	18	25.7	0.933	0.235
❖ 20-30 years	30	13	18.6	17	24.3		

(*) statistically significant $p < 0.05$

6. DISCUSSION

Cervical cancer has an impact on all parts of a patient's life, including their sexual function. Patients aren't asked about it by their doctors, and women may be hesitant to bring it up on their own. Sexual dysfunction can harm a person's social, mental, emotional, and physical health. [12-14] Sexuality is a vital element of normal human functioning, but health care practitioners have generally overlooked this aspect of care for a variety of causes. Patients want to discuss this subject, but they want their health care practitioner to bring it up. As a result, healthcare practitioners are hesitant to start the conversation, preferring to wait for the patient to express their worries [15-17].

Whenever the socio-demographic features of the study participants were examined, it was discovered that the majority (51.4%) of the study sample was over 50 years old, and 48.6% of the women analyzed had just higher schooling. In line with the findings of the current study, Zhou et al., (2017) published a paper titled "Patterns and determinants of healthcare-seeking for sexual issues among cervical cancer survivors: An investigation in China indicated that slightly less than half of the women were between the ages of 46 and 55 and that over half of the patients had barely finished junior high school. [18]

According to the Female Sexual Function Index, all women (100.0 percent) suffered from the current study, there was sexual dysfunction. (FSFI). This result may be explained by the fact that 35.7 percent of women were in the first degree, 31.4 percent in the second degree, 5.7 percent in the third degree, and 4.3 percent in the fourth degree. This finding is consistent with Soliman & Abd-Elsalam (2018), who conducted a study in Egypt to assess the effect of "Standardized Oncology Nursing Care Intervention on Reducing Sexual Dysfunction among Cervical Cancer Survivors' Women," and discovered that the IIB stage accounted for 16 percent, the IIIA stage for 30 percent, the IIIB stage for 32 percent, and the IVA stage for 32 percent. [19]

The current study's findings show that women with cervical cancer had high mean scores on the Female Sexual Function Index or FSFI that is desire, lubrication, satisfaction, pain. This finding is consistent with Ramadan et al., (2020), who found that 60.0 percent of women had no desire (sexual stimulation), 87.5 percent of women didn't have sexual arousal, 65.0 percent of women didn't have lubrication (sexual moisture), 76.3 percent of women didn't have a sexual orgasm, 72.5 percent of women didn't have sexual satisfaction, and 71.3 percent of women didn't have sexual satisfaction. [20]

Additionally, suffering from sexual dysfunction may be an effect of type of treatment. The present study illustrated that as regard treatment type, 37.1% of ladies had gotten mixed treatment likes radiotherapy, chemotherapy, and surgical operation). Ahmed & Hassan (2016) show that slightly more than a third of the study sample received surgery along with chemotherapy and radiation. [21] Moreover, in line with current findings of the research, Zhou et al., (2017) conducted a study in China that revealed that the majority of patients in their study were having received combined treatment. This may be related to increasing cervical cancer degree the need to use combination therapy increases. [18] This pairing of therapies has the potential to cause significant vaginal toxicity and have a negative influence on sexual

function.[22] Moreover, Stabile et al., (2015) reported that surgery or Vaginal dryness, irritation, and vulvovaginal atrophy are common barriers to normal sexual activity in women with cervical cancer, and may be caused by radiation or cytotoxic treatment.

The study findings reveal that 5.7% of women had managed their cancer by radiotherapy. Radiotherapy produces fibrosis in the connective tissue of the vaginal wall, which can lead to inelasticity and pain during sexual activity. The amount to which radiation affects the epithelium, either through the cessation of estrogen production from the ovaries or through direct tissue injury, is unknown. Normal lubrication necessitates the presence of functional arteries and normal mucosal tissues; however, ionizing radiation may interfere with these requirements. [11, 23-25].

The findings revealed that 20.0% of women had received chemotherapy and surgical intervention. This is in line with Soliman & Abd-Elsalam (2018) that conduct their study in Egypt to evaluate the Effect of "Standardized Oncology Nursing Care Intervention on Reducing Sexual Dysfunction among Cervical Cancer Survivors' Women"; They discovered that chemo-radiotherapy was used by 22% of women who had cervical cancer. [19] Chemotherapy can affect the vaginal mucosa, reducing vaginal feeling, flexibility, and lubrication. Additionally, decreased sexual desire/arousal, dyspareunia, decreased sexual activity frequency, anorgasmia, and vaginal bleeding during or after intercourse. [10, 26-29]

According to the statistics, 12.9 percent of cancer cases were surgically treated for women. Regarding the type of surgical intervention, according to the findings of this survey, 81.4 percent of women had a total hysterectomy, 10.0% of women had a partial hysterectomy, and 8.6% of women had a local tumor surgery. This finding is supported by Ahmed & Hassan (2016) show that the majority of the people in the study had a hysterectomy. Radical hysterectomy, this procedure is linked to short- and long-term impairments in sexual function as well as the overall quality of life. [21] Because the nerves and vascular supplies to the vagina are resected during a radical hysterectomy, sexual function may be harmed. Women who have received this procedure have reported a lack of desire, lack of sensation in the labia, decreased vaginal lubrication, vaginal shortening, and dyspareunia.[7]

Many factors influence women's sexual happiness, including age, marital status, degree of wealth, and interpersonal traits [30]. The current study reveals that no link is statistically significant between all items of studied demographic characteristics of women (age, education,

residence, and age at marriage) and total female sexual function index scores. However, sexual dysfunction was more prevalent among older age (31.4% with 50 years old) than younger ones (7.2% with 30-40 years old). As per this, the majority of the studied women were in their premenopausal (32.9% had irregular menstruation) or menopausal phase (41.4% had a session of menstruation or amenorrhea). This result is following Ramadan et al., (2020) who studied "Effect of an Educational Package on Knowledge, Practices, and Attitude of Premenopausal Women Regarding Sexuality" 55.0 percent of the women they studied were over 45 years old, and 53.7 percent of the women in their study had a poor sexual gratification. [20] The average age of menopause in Egypt is 46.7 years, which is low compared to other nations, however, it has recently been rising. [31]

Sexual dysfunction was four times as common in menopausal women than in reproductive-age women. [32]. Additionally, after menopause, the most prevalent symptom was a decline in beauty, desire, and activity in the bedroom. [33]. Scientists determined that 35% of ladies who have reached menopause experienced a decrease in sexual desire, with a further 62 percent reporting this condition at various phases of their lives. Sexual desire diminution is very common was observed to be 47 percent, 54 percent, 42 percent, and 24 percent in menopausal women of English, Italian, French, and German ethnicity, respectively [34]. In various countries, the prevalence of sexual dysfunction varies. Nonetheless, Egypt has conducted a small number of sexual function research in various races and ethnic groups. [20]

Even though there was no statistically substantial link between sexual dysfunction and women's marriage ages, the current study shows that sexual dysfunction is more common among women who have been married for less than 20 years. This could be attributed to the fact that everyday life enriches women's experiences and knowledge. [35]

According to the findings of the current research; there was no statistical difference between men's and women's sexual preferences. dysfunction amongst those upper Egyptian women who were undergoing cervical cancer treatment in regards to their educational level. However, women's sexual dysfunction was more prevalent among the low educational attainment (17.1% for illiterate and basic education, 17.0% for secondary education) compared to higher educational attainment (6.0 % for above secondary level). This could be explained by the fact that highly educated women will have a higher opportunity of accessing better knowledge sources.

Although there was no statistically substantial distinction in women's sexual incompatibility among upper Egyptian women undergoing cervical cancer treatment based on where they lived, Sexuality in women dysfunction was more common among persons who lived in urban (27.1 percent) compared to those who lived in rural (27.1 percent) (18.6 percent). This could explain why citizens in metropolitan regions are more likely to experience prolusion and psychological anguish, which has an impact on their physical life and quality of life. Previous research has revealed that housewives are more likely than outside laborers to suffer from depression or anxiety. [36-41] Furthermore, according to Boivin (2003), psychiatric illnesses are more common among housewives than among working women. [42]

7. Conclusions

It may be inferred, based on the findings of this investigation, that: According to the Female Sexual Function Index, all women undergoing cervical cancer treatment had sexual dysfunction (FSFI). Even though there was no analytically important association between women's demographic factors and overall female sexual function index scores, sexual dysfunction was more common among the elderly and illiterate, urban inhabitants, and those who were less than 20 years old at the time of marriage.

8. Recommendations

Following are some suggestions based on the study's findings:

i. Organizing wellness workshops for cervical cancer survivors about sexual dysfunction after treatment.

ii. More research into women's perceptions and practices of sexual dysfunction in the context of cervical cancer.

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