

# Sexual Functioning of Gynecological Cancer Patients: A Literature Review

K.M. Chow<sup>\*</sup>, C.Y. Wong and L.L. Shek

*The Nethersole School of Nursing, The Chinese University of Hong Kong*

**Abstract:** *Background:* According to the World Health Organization, cervical, uterine and ovarian cancers were the third, sixth and eighth most common cancers in women worldwide. Unlike other physiological side effects of cancer treatment, sexual problems in gynecological cancer survivors do not tend to resolve after first few years of cancer treatment. However, women who experience sexual dysfunction do not discuss the problem openly with their healthcare professionals.

*Objective:* The objectives of this literature review are to identify, summarize and critically appraise current literatures investigating the sexual functioning and sexual health needs of gynecological cancer patients, as well as to identify the communication between gynecological cancer patients and healthcare professionals.

*Design:* A thorough analysis of the literatures on the topic of sexual functioning of gynecological cancer patients.

*Data sources:* EBSCO host (Medline, CINAL Plus and Academic Search Alumni Edition) and Ovid Technology (British Nursing Index).

*Review methods:* A comprehensive search was conducted in the named data sources from 2003 to 2014 to identify English articles with the keywords "ovarian cancer", "uterine cancer", "cervical cancer", "gynecological cancer", "sexual functioning", "sexuality" and "sexual health needs". Two authors assessed all identified articles independently for inclusion in the review.

*Results:* A total of eight studies were included in the review. All studies focused on the sexual functioning of gynecological cancer patients. Four of them assessed their sexual health needs and one evaluated the communication between the patients and healthcare professionals. The findings indicated that gynecological cancer patients experienced sexual dysfunction after the diagnosis and treatment of the disease. Uncertainty of the side-effects of cancer treatment on bodily functions led to misunderstanding and misconceptions on sexual functioning. Communication, in general, was found to be insufficient between gynecological cancer patients and healthcare professionals.

*Conclusion:* Sexual functioning after the diagnosis and treatment of gynecological cancer requires special attention and care. Appropriate interventions should be developed to meet the patients' needs. As most of the studies investigating the sexual functioning of gynecological cancer patients were carried out in Western countries, implications for research on this issue in different cultural background is suggested.

**Keywords:** Gynecological cancer, Literature review, Sexual health needs, Sexual functioning, Sexuality.

## INTRODUCTION

According to the World Health Organization, cervical, uterine and ovarian cancers were the third, sixth and eighth most common cancers in women worldwide [1]. Among these types of patients, 50% experienced long-term sexual dysfunction after the diagnosis and treatment of their disease [2]. Medical and surgical treatments for gynecological cancer adversely affected patients' sexual functioning, for example, decreased vaginal lubrication, loss of sensations, reduced libido and a shortened vagina [3]. Bukovic *et al.* indicated that the most common sexual problems experienced after gynecological cancer treatment were loss of desire and dyspareunia [4]. At the same time, gynecological cancer patients identified

sexuality as one of the three most important factors for their quality of life [5]. Gynecological malignancy and its related treatment significantly impact the patients' quality of life.

On the other hand, many women who experience sexual dysfunction do not discuss the problem openly with their healthcare professionals because talking about sexuality in public is embarrassing and viewed as taboo, especially in Chinese communities [6]. Cultural beliefs seem to play an important role in the communication between gynecological cancer patients and their healthcare professionals. While sexual education is lacking or discouraged in certain societies, this may lead to anxiety and fears about sex [7]. Although the importance of communication between gynecological cancer patients and healthcare professionals is of concern, Horden and Street stated that healthcare professionals seldom discuss sexual issues with their patients [8]. Furthermore, there was a growing acknowledgement that healthcare

<sup>\*</sup>Address correspondence to this author at the The Nethersole School of Nursing, Rm 628, Esther Lee Building, The Chinese University of Hong Kong, Shatin, The New Territories, Hong Kong SAR; Tel: 852-3943-4431; Fax: 852-2603-5269; Email: kmchow@cuhk.edu.hk

professionals do not adequately address the sexual health needs of their patients [9, 10]. These findings were consistent with the study by Zeng *et al.* that nurses in China felt uncomfortable or embarrassed about discussing sexuality issues with gynecological cancer patients [11]. The nurses explained that they were afraid of intruding into their patients' privacy because sexuality was considered to be an issue which should be discussed only in private [11].

The identification of sexual issues facilitates the provision of accurate information to the women and their partners so that the understanding and interpretation of the impending experiences can be enhanced. Uncertainty can also be reduced and ultimately the quality of life will be improved [12]. Sexual functioning after the diagnosis and treatment of gynecological cancer requires special attention and care, but there are only a few studies which address this issue [13]. Therefore, it is necessary to review the influences of gynecological cancer and its related treatment on the sexual functioning and sexual health needs of these patients in order to develop and implement appropriate interventions to help them cope with the anticipated problems in their sexuality.

The objectives of this study are to identify, summarize and critically appraise current literatures investigating the sexual functioning and sexual health needs of gynecological cancer patients, as well as to identify the necessary communication between gynecological cancer patients and their healthcare professionals.

## **MATERIALS AND METHODS**

A comprehensive search of EBSCO host (Medline, CINAL Plus and Academic Search Alumni Edition) and Ovid Technology (British Nursing Index) was conducted. The keywords "ovarian cancer", "uterine cancer", "cervical cancer", "gynecological cancer", "sexual functioning", "sexuality" and "sexual health needs" were used to identify the relevant literatures. Two authors assessed all identified articles independently for inclusion in the review. The inclusion criteria were: women diagnosed with gynecological cancer only; studies published from 2003 to 2014 and focusing on the sexual aspects of gynecological cancer patients; and written in English. The exclusion criteria were: studies with participants under 18 years old; diagnosed with secondary cancer and had psychiatric diseases.

A total of 808 potentially relevant articles were identified from the search strategy. After the removal of

duplicates and irrelevant studies, 204 articles were retrieved for detailed evaluation. An additional two studies were identified from the reference lists of the retrieved articles. Full-text screening for eligibility was performed and 198 studies were excluded due to the inclusion criteria not being met. Finally, eight studies were included in the literature review.

## **RESULTS**

Of the eight included studies, three studies adopted a quantitative approach and four studies were of a qualitative design. The remaining study used mixed methods to collect both quantitative and qualitative data. All the included studies investigated the sexual functioning of gynecological cancer patients. Four of them assessed their sexual health needs as well, and one evaluated the communication between gynecological cancer patients and healthcare professionals. Characteristics of the included studies are summarized in Table 1.

### **Sexual Functioning of Gynecological Cancer Patients**

Overall, gynecological cancer patients reported having impaired sexual functioning. The study by Cleary *et al.* stated that gynecological cancer patients reported having negative changes in sexual relationships and sexual functioning. They experienced sexual dysfunction in every stage of the sexual response cycle [14]. Bukovic *et al.* indicated that ovarian cancer patients found intercourse was painful and expressed fear of pain due to the consequences of ovarian function disturbance [4]. Their satisfaction with their sex life decreased after the cancer treatment. Another study also investigated the sexual functioning of ovarian cancer patients, and it stated that the factors influencing sexuality included the hormonal alterations resulting from surgery and the side-effects of chemotherapy, such as changes in recognition, peripheral neuropathy and symptoms of menopause [15].

Physical alterations also occurred in gynecological cancer patients receiving radiotherapy. Those irradiated patients reported having decreased vaginal lubrication, loss of sensations, reduced libido and shortened vagina [16]. These findings were consistent with the study of Rasmussen and Thomè that radiotherapy reduced vaginal lubrication and cytostatic treatment, and that drugs retarded cellular activity and

Table 1: Characteristics of the Included Studies

Author(s) (year)	N Sample	Study Design	Data Collection	Results
Juraskova <i>et al.</i> [16]	N = 20 women treated for stage I or II cervical or endometrial cancer in Australia	A qualitative phenomenological approach based on grounded theory	Semi-structured telephone or face-to-face interviews	<p>Patients were afraid to resume sex after treatment for gynecological cancer. They also felt that their partners were afraid of resuming sexual intercourse.</p> <p>Most women felt that their knowledge of female anatomy and physiology was overestimated by their doctors, leading to misinterpretations of the body changes associated with cancer treatment.</p>
Bukovicet <i>et al.</i> [4]	N = 483 women treated for ovarian cancer in Croatia	A descriptive cross-sectional study	Self-designed questionnaires were used to assess sexual functioning	<p>Patients indicated that their sex life deteriorated after treatment for ovarian cancer. The most intensively affected patients were those diagnosed with the advanced stages of ovarian cancer and treated with surgery and chemotherapy, and those with an inoperable disease treated with chemotherapy alone. The reasons for sexual dysfunction were fear of pain and feelings of pain during sexual intercourse.</p> <p>More than half of the patients indicated that their sex life was an important part of their life, but nearly 30% did not discuss their sex life with their partners after the treatment.</p>
Rasmusson & Thomé [3]	N = 11 women with completion of treatment for cervical, corpus or ovarian cancer in Sweden	A qualitative study using latent content analysis	Semi-structured face-to-face interviews	<p>Patients reported having a negative impact on sex and reduced sexual desire due to uncertainty of the effects of treatment on their bodily functions.</p> <p>Insufficient knowledge and unmet needs for sexual information influenced the women's experience of well-being.</p>
Greimel <i>et al.</i> [17]	N = 121 women treated for stage I-IV cervical cancer in Graz	A descriptive cross-sectional study	Sexual Activity Questionnaire was used to assess sexual functioning	<p>Patients treated with surgery plus radiotherapy had a significantly lower sexual activity rate when compared with those treated with surgery alone or surgery plus chemotherapy.</p> <p>43.3% of the participants were sexually inactive after treatment for the disease.</p>
Khoo [6]	N = 32 Asian women diagnosed with cervical or ovarian cancer	A mixed methods design with quantitative and qualitative data	<p>Self-designed questionnaires were used to assess sexual functioning and communication between patients and doctor</p> <p>Qualitative data on couple relationship was collected</p>	<p>58% of the patients who were sexually active before the diagnosis refrained completely from sexual activities after completion of treatment.</p> <p>38% of the patients believed sexual activity could cause cancer recurrence, and 30% believed cancer was sexually transmitted.</p> <p>86% of the patients did not discuss sexual issues with their doctors, and 82% reported that their doctors did not take the initiative to discuss sex with them.</p> <p>From the perspectives of the patients and their spouses, sexuality was regarded as related to procreation. They stopped having sex because of misconceptions about cancer.</p>
Cleary <i>et al.</i> [14]	N = 106 women with a diagnosis and treatment for gynecological cancer in Ireland	A descriptive, correlational, cross-sectional study	Intimate Relationships Scale was used to assess sexual relationships, and the Arizona Sexual Experiences Scale was used to assess sexual functioning	<p>53% of the participants indicated some degree of negative changes in their sexual relationship, and 64% indicated a negative change in their sexual functioning.</p> <p>73% of the participants reported having reduced frequency of sexual intercourse after their cancer diagnosis.</p> <p>The overall sexual functioning among the participants was found to be poor. 60% of the participants reported difficulties with sexual arousal, 64% had vaginal lubrication problems, 35% experienced difficulty reaching orgasm, and 23% never reached orgasm.</p> <p>There was no association between age, treatment modalities, type of cancer and time since diagnosis with sexual relationships and sexual functioning.</p>

(Table 1). Continued...

Wilmoth <i>et al.</i> [15]	N = 13 ovarian cancer patients in the United States	A qualitative study with a descriptive method	Individual (n = 8) or focus group (n = 5) interviews	<p>Patients indicated that the diagnosis of ovarian cancer had a detrimental impact on their sexuality.</p> <p>Factors influencing their sexuality could be classified into physiological, psychological and situational. Physiological factors included hormonal alternations resulting from surgery and the side-effects of chemotherapy. Psychological factors included perception of the surgical scar, implanted port for chemotherapy and alopecia. The situational factor was related to the presence of a significant other.</p> <p>None of the participants received sexual information from their doctors during the course of cancer treatment.</p>
Zeng <i>et al.</i> [18]	N = 35 Chinese cervical cancer survivors	A qualitative study with a descriptive exploratory design	Semi-structured face-to-face interviews	<p>13 participants did not resume sexual activities after treatment for cervical cancer because they believed that sexual intercourse might affect the cancer treatment efficacy.</p> <p>Others reported having reduced frequency and quality of sexual activity after the diagnosis and treatment of the disease.</p> <p>Their sex life was regarded as one of the essential indicators of their quality of life.</p>

multiplication, thereby affecting the mucous membranes and causing them to become dry and fragile which resulted in vaginal soreness during sexual intercourse [3]. All of these symptoms resulted in reduced sexual desire and hesitancy to resume sex. Moreover, the study of Greimel *et al.* reported that symptoms, which included vaginal tightness, urine leaking and frequent urination, were well-known side-effects of radiotherapy among cervical cancer women [17]. Furthermore, patients treated with surgery with adjunct radiotherapy had a significantly lower sexual activity rate when compared with those treated with surgery alone or surgery with chemotherapy. Adverse effects on sexual functioning were also identified in gynecological cancer patients after surgical treatment for the disease. Surgery was found to lead fertile women to pass directly into the menopausal stage [3].

Studies conducted in Asia also reported similar findings on sexual functioning in gynecological cancer patients. Asian women with cervical or ovarian cancer reported having sexual problems including vaginal dryness, loss of libido, dyspareunia and treatment-induced menopause. These symptoms contributed to a poorer body image, a lower self-esteem and a reduced sense of being feminine, which resulted in a reduced desire to have sexual intercourse. 58% of the patients who were sexually active before the disease diagnosis refrained completely from sexual activities after completion of the treatment [6]. Another study conducted in China indicated that there were significant changes in sex life among cervical cancer patients. They reported having reduced frequency and quality of

sexual activity after the diagnosis and treatment of the disease [18].

### Sexual Health Needs of Gynecological Cancer Patients

In view of the negative impacts of gynecological cancer and its related treatment on sexual functioning, the sexual health needs of the patients should be identified. Rasmussen and Thomè conducted a study to explore the wishes and needs of gynecological cancer patients for knowledge concerning sexuality. The patients expressed that they wished to get sufficient information about the disease and its potential effects on their sex life. Besides, they indicated that uncertainty about the side-effects of cancer treatment due to knowledge deficits was one of the factors contributing to sexual dysfunction [3]. Similar results were found in the study of Wilmoth *et al.*, that is, that women with ovarian cancer wished to know whether or not having sex was permissible and whether they anything needed to treated cautiously in particular [15]. Juraskova *et al.* further indicated that the gynecological cancer patients' understanding of female anatomy and physiology were overestimated by healthcare professionals. Bodily and functional changes correlated with various treatment modalities were misinterpreted by the patients [16]. As a result, education on the potential treatment-induced alterations in sexual functioning was important to prevent misconceptions among gynecological cancer patients.

Misconceptions on sexual functioning were also reported in the study by Khoo. It was discovered that 38% of gynecological cancer patients believed that sexual activity could lead to a recurrence of the cancer, and 30% thought that their cancer could be sexually transmitted to their partners. As a result, 58% of the patients who were sexually active before the diagnosis of the disease refrained completely from sexual activities after completion of treatment [6]. These findings were consistent with the study by Zeng *et al.* that cervical cancer survivors believed sexual intercourse might affect the treatment efficacy, resulting in 13 out of 35 participants reporting the complete cessation of sexual activities after treatment. In addition, eight participants who had resumed sexual activities stated that there were significant changes in their sex life after the diagnosis and treatment of cervical cancer [18].

Due to the patients' needs for sexual information and their misconceptions on sexuality, healthcare professionals were expected to discuss sexual issues with gynecological cancer patients on a routine basis [6]. Chinese cervical cancer women described their sex life and the harmony of the sexual relationship with their husbands as being one of the major important indicators of their quality of life [18]. Gynecological cancer patients also expressed their strong wish to seek information and knowledge relating to sexuality from competent healthcare professionals because they believed that a lack of information led to a higher level of uncertainty [3].

### **Communication between Gynecological Cancer Patients and Healthcare Professionals**

Although the need for sexual information was found to be urgent in gynecological cancer patients, most healthcare professionals failed to address their patients' needs in clinical settings because they felt uncomfortable about initiating the psychosexual discussion or because they had insufficient knowledge relating to the alterations in sexuality after the diagnosis and treatment of gynecological cancer [6]. Cultural beliefs also seem to play an important role in the communication between gynecological cancer patients and healthcare professionals. A study conducted in Ireland indicated that Irish culture and the religious beliefs of Catholic Church contributed to the climate of sexual repression, which made people feel difficult about discussing their sexual issues [14]. In Asia, sex education was also limited. People believed that sex was culturally a taboo subject. Even though

their sex life was adversely affected by the disease and related treatment, 70% of gynecological cancer patients did not discuss sexuality with their partners and 86% of them did not talk about it with their doctors [6]. Zeng *et al.* further indicated that Chinese culture might be one of the contributing factors to this situation. Cultural beliefs and misperceptions were identified as barriers in gynecological cancer patients obtaining adequate knowledge about sexual functioning [18]. Bukovic *et al.* also stated that almost half of ovarian cancer patients in the study were not aware of the need for consultation regarding their sex life even though they encountered sexual problems such as fears about having sex and rated their sex life as an important issue after treatment. The patients were reticent in seeking help because of embarrassment [4].

Therefore, healthcare professionals should take proactive roles to initiate the discussion of sexuality with gynecological cancer patients [15]. There is a need for healthcare professionals to be sensitive to the needs of their patients, as well as to implement the appropriate type and source of supportive psychosexual interventions at suitable timing for patients with various cultural beliefs.

### **CRITICAL APPRAISAL OF THE INCLUDED STUDIES**

The quality of the quantitative and qualitative studies which were included in the review was assessed by using critical appraisal checklists of the Center for Evidence-Based Management and the Critical Appraisal Skills Programmed, respectively [19, 20]. All the three quantitative studies and the quantitative part of the mixed methods study adequately addressed the focused questions, and the study designs were appropriate for assessing the sexual functioning of gynecological cancer patients. The method of selecting the subjects was clearly described in all of the quantitative studies. However, convenience sampling might introduce selection bias, and the calculation of sample size was not mentioned [4, 6, 14, 17]. The response rate was satisfactory in two of the studies [4, 17]. After all, the findings from all quantitative studies could be applied to local organization.

With regard to the four qualitative studies and the qualitative part of the mixed methods study, all stated the aims of the studies with appropriate qualitative methodology and research design for investigating the sexual functioning and the sexual health needs of

gynecological cancer patients, as well as the communication between gynecological cancer patients and healthcare professionals. In addition, the method of participants' recruitment was clearly stated and the data collected in an appropriate way to address the research issues in all of the studies [3, 6, 15, 16, 18]. Data analysis was sufficiently rigorous in four of the studies [3, 15, 16, 18]. Moreover, ethical considerations were addressed and the findings were clearly reported in all qualitative studies [3, 6, 15, 16, 18]. The findings of the studies were valuable for future research.

Overall, the quality of the included studies was average. The strength of the evidence was acceptable. Critical appraisals of quantitative and qualitative studies are illustrated in Table 2 and Table 3.

## DISCUSSION

The review findings indicate that women experience sexual dysfunction after the diagnosis and treatment of gynecological cancer. According to the increasing incidence rate of gynecological cancer [1], more women are expected to suffer from sexual dysfunction due to the disease. The review also points out the urgent need for sexual health information for gynecological cancer patients. However, cultural beliefs and misperceptions act as barriers to acquiring adequate knowledge on sexual functioning among gynecological cancer patients. Moreover, the patients

always find it difficult to discuss sexual issues with their partners and healthcare professionals due to embarrassment and cultural taboos. The study thus highlights the need for healthcare professionals to take proactive roles to discuss sexual issues with gynecological cancer patients so as to encourage open communication and to provide a better sexual healthcare for the patients.

On the other hand, the review sheds light on the sexual health needs and communication between gynecological cancer patients and healthcare professionals from different cultural backgrounds. This contributes to a bigger picture of similarities and differences across cultures. Although most of the included studies investigating the sexual functioning of gynecological cancer patients were conducted in Western countries, two studies were conducted in Asia; this therefore increases the transferability of the findings to the Chinese cultural context, such as to Hong Kong, and thereafter to develop and implement appropriate interventions to address the patients' needs.

## Implications for Nursing Practice and Future Research

Strong wishes for information and conversations about sexuality from gynecological cancer patients have been identified from previous literatures [3,15]. Nurses, being the healthcare professionals who have

**Table 2: Critical Appraisal of Quantitative Studies**

Appraisal Questions	Bukovic <i>et al.</i> [4]	Greimel <i>et al.</i> [17]	Khoo [6]	Cleary <i>et al.</i> [14]
Did the study address a clearly focused question / issue?	Yes	Yes	Yes	Yes
Is the research method (study design) appropriate for answering the research question?	Yes	Yes	Yes	Yes
Is the method of selection of the subjects (employees, teams, divisions, organizations) clearly described?	Yes	Yes	Yes	Yes
Could the way the sample was obtained introduce (selection) bias?	Yes	Yes	Yes	Yes
Was the sample of subjects representative with regard to the population to which the findings will be referred?	Yes	Yes	Yes	Yes
Was the sample size based on pre-study considerations of statistical power?	No	No	No	No
Was a satisfactory response rate achieved?	Yes	Yes	Can't tell	No
Are the measurements (questionnaires) likely to be valid and reliable?	No	Yes	No	Yes
Was the statistical significance assessed?	Yes	Yes	No	No
Are confidence intervals given for the main results?	No	Yes	No	No
Could there be confounding factors that haven't been accounted for?	No	No	No	No
Can the results be applied to your organization?	Yes	Yes	Yes	Yes

Table 3: Critical Appraisal of Qualitative Studies

Appraisal Questions	Juraskova <i>et al.</i> [16]	Khoo [6]	Rasmusson & Thomè [3]	Wilmoth <i>et al.</i> [15]	Zeng <i>et al.</i> [18]
Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes
Is a qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes
Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Yes	Yes
Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes	Yes	Yes	Yes
Was the data collected in a way that addressed the research issue?	Yes	Yes	Yes	Yes	Yes
Has the relationship between researcher and participants been adequately considered?	Can't tell	Can't tell	Can't tell	Can't tell	Can't tell
Have ethical issues been taken into consideration?	Yes	Yes	Yes	Yes	Yes
Was the data analysis sufficiently rigorous?	Yes	Can't tell	Yes	Yes	Yes
Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes
How valuable is the research?	The research findings investigated post-treatment sexual adjustment and its impact on quality of life in cervical and endometrial cancer patients, which highlighted the need for effective interventions to improve post-treatment patients' outcomes.	The research findings explored the views on sexuality from the perspectives of Asian gynecological cancer women, which reflected the cultural differences in psychosexual activities and needs of Asian gynecological cancer patients.	The research findings clearly indicated the wishes of gynecological cancer women for knowledge concerning sexuality. This informed healthcare professionals of the need to provide more in-depth information about sexuality to their patients.	The research findings clearly stated the changes in sexuality from the perspectives of ovarian cancer survivors. The information they wanted to know from healthcare professionals was also identified. This highlighted the need to provide education to the survivors.	The research findings found the importance of sex life in quality of life from the perspective of the patients. Besides, changes in sex after the diagnosis and treatment of the disease were identified. This highlighted the need to provide interventions to cope with sexual problems so as to improve their quality of life.

frequent contact with patients, have an obligation to provide such information and to educate gynecological cancer patients about the anticipated changes in sexuality due to the disease and its related treatment. Besides, interaction with women in a similar situation was regarded as important by the patients because they could understand each other [16]. Therefore, gynecological cancer patients should be encouraged to join support groups with a nurse as convener to provide accurate sexual information.

Healthcare professionals were found to inadequately address the patients' needs for sexual information due to lack of training and embarrassment

[9, 10, 11]. They should equip themselves with updated knowledge and communication skills in order to provide effective assessment and nursing care for their patients.

On the other hand, sexual care has been neglected in clinical practice in many countries, especially in Chinese societies or those countries with repressive sexual attitudes. Future studies should be conducted to investigate the sexual functioning and the sexual health needs in different cultural backgrounds in order to identify culturally appropriate strategies to help gynecological cancer patients cope with their problems in sexuality. Moreover, evidence-based psychosexual

interventions should be developed and delivered on a formal, standardized and routine basis for all gynecological cancer patients in order to effectively improve their sexual functioning and ultimately to improve their quality of life.

## CONCLUSION

Women with gynecological cancer identify sexual functioning as an important part of their quality of life and overall health. However, cultural beliefs and misperceptions about sexuality act as barriers for them to acquire adequate knowledge of sexual functioning. Moreover, communication concerning sexual functioning between gynecological cancer women and healthcare professionals remains insufficient, and this inhibits gynecological cancer women from regaining and improving their sexual functioning after gynecological cancer treatments. Therefore, future research directions have been identified in order to enable us to develop and provide appropriate, effective and evidence-based interventions on sexual care for gynecological cancer women.

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