# SexualityandDisability

A JournalDevotedtothePsychologicalandMedicalAspects of Sexuality in RehabilitationandCommunitySettings

Editor-in-Chief: Sigmund **Hough**
ISSN: 0146-1044 (printversion)
ISSN: 1573-6717 (electronicversion)
Journalno. 11195




- ABOUT THIS JOURNAL
- EDITORIAL BOARD
- ETHICS & DISCLOSURES

OPEN ACCESS
Interested in publishing your article in this journal?
Learn about your Open Access option!
CLICK

ABSTRACTED/INDEXED IN
SocialScienceCitation Index, JournalCitationReports/SocialSciences Edition, SCOPUS, PsycINFO, EMBASE, Google Scholar, EBSCO, CSA, AcademicOneFile, AcademicSearch, AlliedandComplementaryMedicine Database (AMED), AustralianDomesticandFamilyViolenceClearinghouse, CINAHL, CSA EnvironmentalSciences, CurrentContents / Social&BehavioralSciences, Educational Management Abstracts, EducationalResearchAbstracts Online (ERA), EducationalTechnologyAbstracts, EMCare, Gale, Health Reference Center Academic, International Bibliography of BookReviews (IBR), International Bibliography of PeriodicalLiterature (IBZ), MulticulturalEducationAbstracts, OCLC, PSYCLINE, SCImago, Sociology of EducationAbstracts, Special EducationNeedsAbstracts, Studies on Women&GenderAbstracts, SummonbyProQuest, VocationalEducationand Training Abstracts

Sex Disabil (2013) 31:83–92
DOI 10.1007/s11195-012-9263-7

ORIGINAL PAPER

# Sexual Health in Patients with Gynecological Cancer: A Qualitative Study

**Meltem Demirgoz Bal · Sema Dereli Yilmaz · Nezihe Kızılkaya Beji**

Published online: 12 April 2012
© Springer Science+Business Media, LLC 2012

**Abstract** The sexual problems of patients with gynecological cancer were investigated. This qualitative study was conducted among eleven Turkish women who were treated in the gynecologic oncology clinic and aged between 30 and 55 years old. Data was collected using a semi-structured questionnaire. Of the cases, 55 % had been diagnosed with ovarian cancer, 27 % with cervical cancer and 18 % with endometrial cancer. The participants had been affected in terms of body image, sexual functioning, wifehood and motherhood and reproductive ability. Most of the participants reported severe decreases in such features as sexual desire, arousal, the frequency of intercourse and orgasm. In addition, all participants reported that they wanted information from health care professionals (preferably female) and to be able to share problems with them. Sexuality remains a problem that is ignored by healthcare professionals in Turkey. As a vital component in terms of quality of life, healthcare professionals should utilize a more sensitive and personalized approach to sexuality with patients.

**Keywords** Gynecological cancer · Female sexuality · Qualitative study · Treatment · Nursing · Turkey

## Introduction

Upon the diagnosis of cancer in a woman, whatever type, it is inevitable that the sexual functioning in the woman be influenced negatively. Having been diagnosed with cancer, women feel themselves as an in complete sexual object, not having sufficient intercourse,

M. D. Bal (✉)
Health College of Karamanoglu Mehmetbey University, Karaman, Turkey
e-mail: meltemdemirgoz@gmail.com; meltembal@kmu.edu.tr

S. D. Yilmaz
Department of Midwifery, Faculty of Health Sciences, Selcuk University, Konya, Turkey

N. K. Beji
Department of Gynecologic and Obstetrics Nursing, Florence Nightingale Nursing Faculty, Istanbul University, Istanbul, Turkey

and do not like their physical appearance any more. The primary feelings of almost all women who have just been diagnosed with cancer are about their body images. Those feelings may turn into negative complexities in a very short time and may have long term negative effects on their psychological well-being.

The gynecological cancer may be treated by various methods such as surgery, radiation, chemotherapy, or a combination of them. In cases of gynecological cancer, the symptoms such as genital and pelvic pain, loss of sensation and sensitivity of sexual tissue, decrease in sexual desire, shortening and stenosis of the vagina, and atrophic vaginitis may be experienced by patients, as a result of anatomic changes and/or loss of ovarian hormones [1].

## Methods

### Aim of the Study

The aim of the study was to investigate characteristics such as body image, sexual functioning, fertility, sexual health, and how the malignancy affected the motherhood and wifehood in the survivors of gynecological cancer.

### Sample and study design

In this study, all participants were interviewed using a sexual health qualitative questionnaire. The research was conducted at the Gynecological Oncology Clinic of Cerrahpasa Medical School of Istanbul University (IU), between January and May 2011. A sampling group of eleven (11) out of twenty-three (23) women were chosen randomly to participate in an in-depth interview about their sexual health. While the group of eleven (11) out of twenty-three (23). Agreed to participate in the interview, the remaining individuals (12 numbers out of 23) refused to participate. The reasons for the refusal were as follows:

(1) Five participants reported to have inadequate time for the interview; and
(2) Seven participants reported feeling too bad to participate in the interview.

The sampling group was chosen according to the following inclusion criteria:

- Diagnosed with gynecological cancer,
- Completed treatments at least six (6) months previously,
- Had agreements from women to participate in the study,
- Had a partner.

### Collection of Qualitative Data

The sampling group consisted of eleven (11) patients. The qualitative study was designed under the criteria of grounded theory principles using a semi-structured in-depth interview. The data of the study was collected with a face to face and in-depth interview by the principle reseacher (Bal MD). The relevant literature has been investigated before the interviews. The sexual health of women with the treatment of gynecological cancer has been negatively affected by the characteristics such as; body image (weight gain/loss, disfigurement), gender role functioning (motherhood, wifehood), sexual functioning (desire, arousal, orgasm, etc.) and fertility (actual or potential desire for child bearing).

In the literature, guidelines for semi-structured interviews have been developed, and so this interview form was classified into our categories concerning women's sexual health:

1. Body image
2. Femininity
3. Sexual functioning
4. Reproductive ability.

The participants were asked how their physical appearance, partner/family relationships, sexual life and fertility had been affected by their disease and treatments.

The aim of the interviews was to find out the sexual health of patients with cancer in four categories. The interview survey form was first piloted with three sample women, and then the survey was conducted with the other participants. The interviews were conducted in a separate room in the hospital. Each interview lasted approximately in 40–45 min. A common language was used as much as possible to avoid the confusion caused by medical terminology. In order to collect the data from the interviews, the methods of tape recording and taking notes were used consistently. When the results have been converged (the results have no more been changed with new data), the interviews were stopped.

### Analysis of the Qualitative Data

The qualitative interpretation related to the exploration of the changes in categories, i.e., body image, feminine identity, reproductive ability, and sexual functioning, in accordance with the disease experienced, was based on the methods of descriptive and content analysis. The first step in the analysis was to listen to the participants, record the interviews and then transcribe them. Then, all the expressions associated with the study were identified and included in four pre-determined categories, according to the studies found within the literature. According to the pre-determined categories, data was collected to determine the sexual problems affecting the quality of life in the participants.

## Results

The ages of the participants ranged between thirty (30) and fifty-five (55), and eighty percent (80 %) of the participants had graduated from primary or secondary school and ten percent (10 %) graduated from high school. All participants were married, only one had one child and the others at least had two or more children. Fifty-five percent (55 %), twenty-seven percent (27 %), and eighteen percent (18 %) of the participants had ovarian cancer, cervical cancer, and endometrial cancer, respectively. The disease phases differed between Phase I and Phase III-B, and the participants received different treatments, such as surgery, chemotherapy, radiotherapy or a combination of them, in accordance with the diagnoses and the phases of the disease (Table 1).

## Discussion

### Data Related to Body Image

The diagnostic and therapeutic modalities in gynecological cancer may lead to negative changes in the perception of body image by the patients. The body image is of critical

**Table 1** Demographic and disease characteristics

| Characteristics | n |
|---|---|
| *Educational level* | |
| Primary–secondary | 9 |
| Higher education | 2 |
| *Employment status* | |
| Unemployment–retired | 10 |
| Employment | 1 |
| *Cancer type* | |
| Cervical cancer | 3 |
| Ovarian cancer | 6 |
| Endometrial cancer | 2 |
| *Disease phase* | |
| Phase I | 2 |
| Phase II | 5 |
| Phase III | 4 |
| *Type of the treatment* | |
| Surgery | 5 |
| Surgery + Chemotherapy | 5 |
| Surgery + Radiotherapy | 1 |
| *Time spent after the treatment* | |
| 4–12 months | 2 |
| 12–24 months | 6 |
| ≥24 months | 3 |

significance in the quality of life and the affect upon their psychological well-being, their role and social functioning, respectively. Those emerging subsequently from the diagnosis of gynecological cancer are among the problems of body images. This problem involves cancers because tumors and treatments are associated with the sites of femininity and sexuality, which are perceived more broadly not only by women but also by society. In addition, this situation affects the relationship between the women and their partners [2].

In this study, the researcher asked the following questions:

What sort of physical complaints have you had during the treatment period?
What have you experienced emotionally during the treatment period?

The participants mostly answered to these questions as "incomplete women" and complained about alopecia caused by chemotherapy. The uterus is considered a very important organ in Turkey, the symbol of being a woman. The disability of this organ, whatever the reason is, means "being an incomplete woman". As well as being a sexual entity, it is still considered to be the symbol of motherhood [3].

Parallel to the results of the study performed by Reis, one participant reported in this study that she felt herself to be disturbed after the treatment as an incomplete woman [4].

> All organs related to my femininity were lost. I feel no longer as a woman. Anyone without womb cannot be seen as a woman. I feel myself to be tortured. I even avoid talking about femininity. It seems to me as if everyone watches me due to my incompleteness and so I always want to be alone (forty-five years old, patient with cervical cancer).

Sometimes several medical injuries like scar tissues and frustrations caused by these scars on and around the operation area may affect the daily and sexual lives of women with treatment of gynecological cancer [3]. One woman experiencing negative feelings after the treatment of ovarian cancer reported as the following statement:

> I had a serious operation. An abnormal appearance was formed around my abdomen and genital area. Even I don't want to look at myself (fifty-three years old, patient with recurred ovarian cancer).

One of the adverse effects of chemotherapy and radiotherapy given during the treatment of cancer is alopecia or hair loss. Since the wonderful hair style contributes greatly to the physical appearance and body image, cancer patients with alopecia might have difficulty in public, resulting in decreased social interactions [5].

Parallel to the results of studies in the literature, [5–7], with the effect of alopecia after the chemotherapy treatment one participant reported, "I always have enjoyed combing my hair for years. My hair was the most significant symbol of my femininity. In ever went out without styling my hair. I had very thick hair reaching my waist. Everyone was watching me and admiring my hair when I had no cancer. Now, they watch me by startling and feeling compassion for me, but no admiring at all, since I have no hair" (fifty-three years old, patient with recurred ovarian cancer).

Another participant stated, "In fact, I am the one not using a head scarf, but a woman with no hair looks very ugly. Thus, I always wear bonnet at home and a scarf outside. Not only have other people, but I also see myself as a bald head" (fifty-one years old, patient with ovarian cancer).

At the age of thirty-two with ovarian cancer, another participant said, "My hair was long. I never used to go out without makeup or hair styling. A man looking at me wished to look at me again with admiration. I have neither hair nor eyebrows now, and I only go out for the hospital."

The participants mostly replied to the question "What have you emotionally experienced during the treatment?" with the complaints of adduction, feeling joyless and focusing constantly on cancer. For example, a participant stated, "I am always thinking over cancer and can concentrate on no other activities. I feel very unhappy and always cry. Now, I spend most of my time remembering my old good days" (thirty-four years old, patient with ovarian cancer).

Another participant, fifty-one years old, patient with ovarian cancer said, "I continuously cried and wanted to die (suicide) by jumping from balcony. I'm tired of living in this way."

A participant with endometrial cancer reported, "I punished myself, because I thought that if I had taken care of myself, I wouldn't have had this disease and all negative followings. I regret for the things I did and didn't do. I am always crying" (forty-nine years old, patient with endometrial cancer).

After the first session of the chemotherapy, a participant said, "I felt my life to turn upside-down. I hadn't considered my hair to be so important when I had it" (forty-one years old, patient with recurred ovarian cancer).

## Data Related to Gender Role

It is inevitable that the motherhood and wifehood roles of women with gynecologic cancer can be affected very negatively. The womb for healthy and sexually functional woman is of a vital importance in conservative and developing societies, such as Turkey. The womb

is the symbol of femininity, sexuality, fertility and motherhood in such societies [3]. In the present study, the findings of cancer associated with the gender role were consistent with those reported in the literature [5, 8].

In this study, to the question asked: "How did the period of diagnosis and treatment affect you to do the tasks as a wife and a mother?" a woman replied: "I suspect my femininity if I loose of the womb. Women without womb do not differ from men anymore. If you have not your womb, you lack of your fertility and your creative feature. It is very nice to know that you are able to give a birth. The opposite of this can't be even imagined" (forty-five years old, patient with cervical cancer).

Another participant reported, "It's too early for me to have menopause and to feel old, and more interestingly it's too early to leave off my femininity. It's too early for me to leave my husband without a wife and my daughter without a mother" (thirty-two years old, patient with ovarian cancer).

A participant said that she had responsibilities to her husband and her marriage, and she could not carry out responsibilities (forty-nine years old, patient with endometrial cancer).

Another participant told, "I do not feel as a wife, I feel like nothing. However, each breath I inhale is for my children, I live for them" (forty-one years old, patient with recurred ovarian cancer).

Most of the participants reported that the role of motherhood was not affected. However, all felt upset, since they were physically helpless towards their children because of tiredness and fatigue.

A participant stated: "I couldn't explain my cancer to my children, not to make them sad. I tried to keep it hidden as much as long, because they feel very sad. As a mother, I don't wish to make them sad" (fifty years old, patient with cervical cancer).

Another participant said: "I have two babies, one and three years old, respectively. I don't know who looks after them if I die. I don't want to leave them to anyone. I regret to have babies and to leave them alone. No other women can care for them like me. I am deeply sad to leave them without a mother. Whenever I look in their eyes, I see the death of their mother" (thirty years old, patient with ovarian cancer).

## Data Related to Sexual Functioning

The women diagnosed with and treated for gynecological cancer experience several difficulties in their sexual life and intimacy is of a great impact on their quality of life. Alterations commonly encountered in the sexual life and fertility of women with gynecological cancer is characterized by the course of the disease, affecting their sexual life at varying degrees [9]. Approximately half of the patients treated of gynecological cancer may suffer from some type of sexual problem. Among unfavorable changes in sexual desire are radiation tissue changes, early menopause, vaginal shortening and deformations in body images [10].

The psycho social issues of cancer diagnosis may play an independent role in cancer-related sexual dysfunction. Sexual dysfunction can be negatively affected by illness, pain, anxiety, anger, stressful circumstances and medications [11].

In this study, the following questions were asked to the participants during the interviews:

- How did you consider yourself as a woman before the diagnosis of cancer?
- How did your partner or husband think of you before the disease?

- What kind of differences have you been noticed between the present and previous perception by your partner?
- How do you define your sexual life before and after the period of the diagnosis and treatment of cancer?
- When did you return to your sexual life after the surgery?
- Has the return to your sexual life been due to your partner's desire or your both consensus?
- Has your sexual life been affected during the period of the diagnosis and treatment?
- Have such features as sexual desire, arousal, orgasm, frequency of intercourse and sexual life affected your marriage significantly?

In parallel to the results in the literature [5, 12, 13], a participant reported that the perception of femininity changed too much, adding "I was very beautiful in the past, but I don't even want to look at the mirror now. The color of my face is pale, and my face is full of wrinkles" (forty-nine years old, patient with endometrial cancer).

With a great fear and anxiety, another participant stated: "I don't want to have intercourse, because I think that the disease will recur or deteriorate when my body is contaminated with semen. I have heard this information from one of my mates before" (thirty-seven years old, patient with cervical cancer).

Another participant stated that she was afraid of contaminating her husband with the disease, and so she always refused to have intercourse (forty-nine years old, patient with endometrial cancer).

Another failure commonly seen in patients with gynecological cancer is the loss of estrogen. The loss of this vital hormone, estrogen, insexual life can lead to hot flashes, vaginal mucosal dryness and atrophy, urinary incontinence, depression and loss of libido. On the other hand, testosterone, another vital hormone in the course of sexuality, has been caused decrease in desire, energy, memory, libido, orgasm and genital sensation [10].

A participant reported: "I hardly want to have intercourse. I feel that my sexual desire is not only decreased, but also lost. My husband touches and cares me, but I feel nothing. This situation also causes my husband to feel himself bad. The thing worrying me is that the situation is permanent" (fifty-three years old, patient with recurred ovarian cancer).

Another participant said, "I felt my vagina to be lubricated before and during the intercourse, but the lubrication disappeared after the surgery and having intercourse with dry-vagina is so difficult. Both my husband and I have difficulty during intercourse, so I'd rather not have intercourse" (forty-five years old, patient with cervical cancer).

With the stimulation of the pudental or pelvic nerves, orgasm is formed. A damage or destruction to the area including these nerves during surgery is among the fundamental reasons which are causing orgasmic ability to be impaired. After the pelvic radiation or intra cavitary intervention, a fibrous formation may be seen in vaginal tissue as soon as scarring has begun. Subsequently, the stretching ability in the tissue is lost [10].

To support the notion in the literature, one participant aged thirty-two years old pointed out that her capacity to reach orgasm had decreased, compared to that before the treatment. She has also said: "I rarely have an orgasm at present. I had intercourse twice or three times per week previously and also used to reach an orgasm in each intercourse. However, both my frequency of intercourse, sexual desire and the capacity to reach intercourse become so difficult now" (ovarian cancer).

In this study, a participant reported that she experienced during the intercourse, "I feel much pain whenever I have intercourse and want to scream; I feel some of my organs inside are being torn, it's un likely to describe the feeling. Sometimes I feel as if I was

raped, and I have the same pain and emotions whenever I have intercourse" (thirty-seven years old, patient with cervical cancer).

Bergmark and colleagues provided with long-term follow up information concerning vaginal function in patients treated for early stage of cervical cancer. The cancer-related complaints that reported by patients, included the insufficient vaginal lubrication (26 %), shortening of the vagina (26 %), and insufficient vaginal elasticity [14].

One of the participants in this study also reported what she experienced: "After the treatment, my vagina became so shortened and I have much pain during intercourse due to the short of lubrication. The insertion of the penis becomes so difficult and painful, like compacting lots of materials into a small box. I pray for the night time not to come and my husband onto desire me" (fifty years old, patient with cervical cancer).

Women who have operations related to gynecological cancer and radiation therapy may have sexual problems in the excitement phase. The operations might also affect orgasm, and painful intercourse can be the result of lack of hormone, caused by the failure of the ovaries [15].

In this study, it was found out that although the participants had significant problems related to their sexual function, they continued with their sexual lives in order to satisfy their husbands and to protect their marriages. They emphasized that they felt very upset for the problems not shared with their husbands and with the health professionals, and for the lack of help and support on this issue.

In this context, a participant stated: "I do not want to have intercourse at all. However, I know that I have to do it as my responsibility to keep my marriage. In a marriage, the main task of a wife is to make her husband happy. In order to make my husband happy, I have intercourse even if I don't want to, because I don't want my husband to meet his sexual need with another partner" (thirty-four years old, patient with ovarian cancer).

Another participant at the age of forty-nine years old with endometrial cancer reported: "I have loved my husband, but I have refused to have intercourse after the treatment. I thought that my sexual life was over. Now, I force myself to have intercourse so as to keep my happy marriage, as I feel responsible for cooking."

Another participant said: "I feel neither a desire for intercourse and arousal nor orgasm, the frequency of my intercourse has decreased too much. However, men always want to keep on having intercourse even if they get old. As I know this, I force myself to satisfy my husband's request" (thirty-four years old, patient with ovarian cancer).

Another participant reported: "My husband fears of hurting me. I tell him to have intercourse, but heal ways refuses the intercourse with the fear of causing damage" (thirty year's old, patient with ovarian cancer).

The sexual function demonstrated no difference in terms of age limits of the participants, education level, type of cancers, and method and period of the treatment. All participants were determined to start intercourse with the joint resolution from 6 months to 1 year after they operation, although they accept the situation involuntarily. All participants reported that they had no desire for intercourse, and had experienced problems for arousal and orgasm. They also reported that the frequency of intercourse became much decreased.

## Data Related to Reproductive Ability

In various studies, it was stated that the operation performed in the treatment of gynecological cancers are of a great impact on the reproductive capabilities in future and sexual responsibilities of the women diagnosed with a gynecological malignancy. A great number of women diagnosed with gynecological cancer were determined not to complete their reproductive potential. These women usually have a strong desire to maintain their ovarian

function and fertility [16, 17]. A young lady (woman) with one child (thirty-two years old woman with ovarian cancer) expressed her feelings: "Losing reproductive capability is not good for a woman. I'm a teacher, and think that children without siblings are always a problem. I wish I could have given another birth. In addition, I suppose that I'm the responsible not to have a second baby. I think this is a problem without solution and I feel myself very useless".

In addition, all other participants mentioned to have no more children and this situation was not a problem for their families. They also reported that their fertility has been affected least by their cancer, and that menopause caused hot flashes and anxiety.

To the questions; "Have you talked to your healthcare provider or a nurse about sexuality?" and "With who would you like to have an interview on sexuality?" all participants answered positively, although this is a taboo generally in Turkey. All participants explained also that they felt relaxed when speaking with a health professional on sexuality. All women stated that consultancy to an expert; especially to a woman health professional was invaluable. They all pointed out that those who diagnosed with and treated for cancer might have sexual challenges. They stated that they have not wanted to be alone. All patients treated for gynecological cancer have shared the similar (almost same) feelings. However, they have added that they failed to talk about their problems clearly with health professionals, and they needed to get information.

The health care professionals give a priority to the survivals of gynecological cancer patients. They have ignored sexuality as a significant part of quality of life, and therefore have not estimated the issue correctly.

The findings determined in this study are consistent with those given in the literature. In the preservation of fertility and sexuality in women treated for gynecological cancer, medical professionals in the field of oncology are required to follow and apply the latest developments and technological changes in gynecological cancer treatments.

## Conclusion

It has been concluded that the diagnosis and the treatment of gynecological cancer affect the sexual health in many ways, and the women with gynecological cancer mostly lack the necessary support in coping with the problem. Thus, the health care professionals should be more sensitive to the sexuality of the patients with gynecological cancer after the diagnosis and treatment.

## Limitations of the Study

The sampling number of the participants may have a restricting effect on the findings in this study. An increase in the sampling number of participants may enhance the content and findings of the study. Recording the data during the interviews could have made the participants feel themselves auto-controlled. Future qualitative studies are suggested in order to determine why healthcare professionals avoid talking to the patients diagnosed with and treated for gynecological cancer, and what they think about the sexual problems experienced by the patients and not problems having by the patients. The data to be obtained from future studies may solve the problems of avoidance observed in both patients and healthcare professionals.

**Conflict of interest** This study has no conflict of interest/financial disclosure

## References


1. Katz, A.: Interventions for sexuality after pelvic radiation therapy and gynecological cancer. In: DeVita, V.T., Lawrence, T.S., Rosenberg, S.A. (eds.) Cancer: principles & practice of oncology, pp. 33–35. Wolters Kluwer/Lippincott Williams &Wilkins Health, Philadelphia (2010)
2. Kayser, K., Scott, J.L. (eds.): Enhancing sexuality and body image. In: Helping couples cope with women's cancers: an evidence-based approach for practitioners, pp. 145–152. Springer, New York (2008)
3. Reis, N.: Nurse's role of the care and the rehabilitation of patient with gynecological cancer. Atatürk Univ. J. Nurs. **9**(3), 88–97 (2006)
4. Reis, N., Engin, R., Ingec, M., Bag, B.A.: Qualitative study: beliefs and attitudes of women undergoing abdominal hysterectomy in Turkey. Int. J. Gynecol. Cancer **18**(5), 921–928 (2007)
5. Reis, N., Beji, N.K., Coskun, A.: Quality of life and sexual functioning in gynecological cancer patients: results from quantitative and qualitative data. Eur. J. Oncol. Nurs. **14**(2), 137–146 (2010)
6. Phianmongkhol, Y., Suwan, N.: Symptom management in patients with cancer of the female reproductive system receiving chemo therapy. Asian Pac. J. Cancer Prev. **9**(4), 741–745 (2008)
7. Frith, H., Harcourt, D., Fussell, A.: Anticipating an altered appearance: women undergoing chemotherapy treatment for breast cancer. Eur. J. Oncol. Nurs. **11**(5), 385–391 (2007)
8. Kritcharoen, S., Suwan, K., Jirojwong, S.: Perceptions of gender roles, gender power relationships, and sexuality in Thai women following diagnosis and treatment for cervical cancer. Oncol. Nurs. Forum **32**(3), 682–688 (2005)
9. Ratner, E.S., Foran, K.A., Schwartz, P.E., Minkin, M.J.: Sexuality and intimacy after gynecological cancer. Maturitas **66**(1), 23–26 (2010)
10. Hoskins, W.J., Young, R.C., Markman, M., Perez, A.C., Barakat, R., Randall, M.: Principles and practice of gynecologic oncology, 4th edn, pp. 1137–1139. Lippincott Williams & Wilkins, Philadelphia (2005)
11. Ratner, E.S., Foran, K.A., Schwartz, P.E., Minkin, M.J.: Sexuality and intimacy after gynecological cancer. Maturitas **66**, 23–26 (2010)
12. Vrzackova, P., Weiss, P., Cibula, D.: Sexual morbidity following radical hysterectomy for cervical cancer. Expert. Rev. Anticancer Ther. **10**(7), 1037–1042 (2010)
13. Tsai, T.Y., Chen, S.Y., Tsai, M.H., Su, Y.L., Ho, C.M., Su, H.F.: Prevalence and associated factors of sexual dysfunction in cervical cancer patients. J. Sex. Med. **8**(6), 1789–1796 (2010)
14. Bergmark, K., Avall-Lundqvist, E., Dickman, P.W., Henningsohn, L., Steineck, G.: Vaginal changes and sexuality in women with a history of cervical cancer. N. Engl. J. Med. **340**(18), 1383–1389 (1999)
15. Dollinger, M., Rosenbaum, E.H., Tempero, M., Mulvıhıll, S.J.: Everyone's guide to cancer therapy: how cancer is diagnosed, treated, and managed day to day, 4th edn, pp. 225–226. Andrews McMeel Pub, Kansas City (2003)
16. Kesic, V., Rodolakis, A., Denschlag, D., Schneider, A., Morice, P., Amant, F., Reed, N.: Fertility preserving management in gynecologic cancer patients: the need for centralization. Int. J. Gynecol. Cancer **20**(9), 1613–1619 (2010)
17. Butler, L., Banfield, V., Sveinson, T., Allen, K.: Conceptualizing sexual health in cancer care. West. J. Nurs. Res. **20**(6), 683–705 (1998)