International Journal of Research in Medical Sciences
Karabinis G et al. Int J Res Med Sci. 2015 Nov;3(11):2992-2997
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20150948

Review Article

Psychological support and quality of life in patients with gynecological cancer

Georgios Karabinis, Konstantinos Koukourikos*, Areti Tsaloglidou

Department of Nursing, Alexander Technological Educational Institute of Thessaloniki, Greece

Received: 29 September 2015
Accepted: 15 October 2015

***Correspondence:**
Konstantinos Koukourikos,
E-mail: kokaea@yahoo.gr

ABSTRACT

The gynecological cancer is the fourth in rate of occurrence in women and its treatment has a significant impact on their quality of life. The aim of the present study was to review the literature related to the impact of cancer on the quality of women' life, the psychosocial adjustment of women and the possible ways of psychological support. A search was conducted using the CINAHL, Medline, Google, and PubMed. The quality of life of women facing gynecological cancer is significantly affected. Various changes in the everyday life of the patients are observed as well as psychological exhaustion, which often occurs with depressive symptoms including fear and strong anxiety leading sometimes to panic. Sexual disorders also occur, and support should be immediately provided, prior to the announcement of the bad news from a health care professional. The supportive psychotherapy group contributes to the full understanding of the different aspects of the problem. It is also important for the patient to realize that she is not alone in coping with this difficult problem. The use of specific cognitive and behavioural methods can change her way of thinking and coping with her problem by using the most efficient ways. The diagnosis of gynecological cancer can, in many cases, cause severe anxiety and depression. The role of the nurse is important in psychological support and generally in dealing with problems arising from its treatment.

Keywords: Gynecological cancer, Psychological support, Quality of life, Nurse

INTRODUCTION

Gynecological cancer is the fourth most common type of cancer and despite the progress that has been made in recent years in both the diagnosis and treatment many women learn about it at the latest clinical stages, with subsequent effects on the physical, psychological and social dimensions of their quality of life.[1] Cancer of the female genital organs includes tumors of the ovary, endometrium, uterus body, cervix, vagina and vulva.[2] Therapeutic interventions cause serious side effects, so the patients are experiencing mental exhaustion, which is often appeared with depressed mood, symptoms of traumatic stress, fear, sadness, tiredness, and stress regarding the body changes, sexual dysfunction and their quality of life.[3]

The purpose of this review is to present the most updated information related to the psychological impact of gynecological cancer to quality of life of patients and their partners and also to the sexual dysfunction experienced by the patients. The role of the health professionals is fundamental in offering individualized care to patients with gynecologic cancer at all stages of the disease as well as in offering psychological support to them.

Quality of life and gynecological cancer

The quality of life refers to the extent of wellness and satisfaction experienced by the patient at a specific time, in areas of his/her life that are considered as important by him/her and are affected by the disease or treatment.[4] Therefore, the health related to quality of life concerns

the physical, social, emotional, functional (occupational), sexual and spiritual wellness. It seems not to be any general and universal stress response caused by the cancer, but the factors contributing to it are many, including the woman's age, the stage of the disease and its social context. Moreover, the diagnosis does not necessarily imply a high level of psychological stress and poor quality of life (QOL). In many cases, women with appropriate support eventually manage to turn a difficult disease such as cancer in an experience of commitment in life, an experience that gives a more positive meaning in their life.[5-7]

On the other hand, the diagnosis of cancer can cause major blow on one's daily routine and impair his/her quality of life, since all the parameters that form it are affected. In addition to physical health, both the social and occupational health is influenced. The disease is accompanied by severe stigma, which leads to restrictions and reduced self-esteem and self-confidence. Treatment exacerbates these restrictions and puts considerable barriers at work.[8]

Important however is the burden on mental health. Mental disorders are observed in 25-50% of cancer patients and the depression seems to be the most common diagnosis of mental disease observed in 20% of patients. The symptoms of depression include insomnia, inability to concentrate, loss of appetite, increased use of alcohol and sedatives, suicidal thoughts, sexual dysfunction and disruption of the daily activities. A common finding of the studies is that the level of a woman's depression at the initial stage is a powerful predictor of the level of depression in the later stages of the disease. Cancer patients are likely to experience post-traumatic stress when something reminds the treatment or their experience with the cancer, such as recurrent, intrusive memories, dreams about their treatment, relapse fears, death and physical reactions.[5,6,9]

The first 12 to 18 months of diagnosis appears to be potentially the most difficult time for women with breast cancer and women with gynecologic cancers and, during this period, their emotional and physical well-being can be reduced. However, after the treatment, there seems to set out different paths to recovery course of psychological well-being and QOL of women. For many women, the mood gradually returns to the previous of the disease levels. Other women are struggling with the stress associated with cancer and other related emotional problems even after years of diagnosis. The concern about the QOL seems to grow by the end of the treatment and the uncertainty of recurrence dominates their thinking.[6]

In the research study of Vaz et al. the frequency of menopausal symptoms and sexual functioning and their relationship to QOL were investigated.[10] The sample of the study was consisted of 107 women (aged 21-75 years) who successfully had dealt with the gynecological cancer. These women had undergone radiation therapy of the pelvis and the first measurement was done before radiotherapy, after which followed other three measurements over a period of 4 months, 1 year and 3 years after radiotherapy. The survey results showed that dyspareunia negatively affected the physical, psychological and social dimension of quality of life, while a high proportion of women 42% were sexually inactive three years after completion of radiotherapy. Women, who faced successfully the gynecological cancer, were found to have good adaptation to the disease and therefore good quality of life, with few physical problems, psychological distress and sexual dysfunction. No difference was observed in parameters on QOL among survivors who were diagnosed at early and advanced stages of gynecological cancer. The study showed that there was a difference in parameters of QOL in patients treated with radiation therapy of the pelvis in relation to other therapeutic approaches. In general, women who successfully dealt with cancer of the cervix appear to have a positive attitude towards sexuality and have increased self-esteem.[6,11]

Apart from the influence of cancer on a woman's psychological state, it can also greatly affect her partner or her husband. The diagnosis of cancer in a woman can cause in many cases the intense anxiety and depression of her partner. It can also cause weakness of support and assistance to her, fear of loss and appearance of physical symptoms (pain, fatigue and weakness). Husbands after their wives' surgery usually suffer from postoperative discomfort, mood disorder, and they also express problems related to sexual intimacy. Generally, husbands feel unprepared to deal with their own emotional reaction against the cancer of their wife and its treatment. They experience similar levels of psychological stress with their wives. Even after the end of the treatment, both patients and their partners continue to live with the fear and anxiety of relapse.[5] Patients express openly their fears about possible recurrence while husbands keep their fears in secret, wishing not to further burden their wives.[12]

Therefore partners are trying to keep the balance between the emotional fear of relapse and the need to be positive, optimistic and happy for the patient. These results highlight the importance of open communication between partners who have to deal with the complex issue of cancer.[6]

The husbands or the partners of women with cancer have four main concerns: (a) to manage their stress in relation to any negative outcome of cancer. Stress is often accompanied by guilt, which can lead either to under-protection or to the emotional collapse of husband resulting in adverse effects on the life of the couple, even until the divorce; (b) to help the patient in coping with the effects of cancer on emotional level. In this case concern turns into genuine interest and motivation for a meaningful emotional support. They are seeking practical

methods to support the patient such as psychotherapeutic intervention or participation in specific groups of people with similar problems. It is obvious that in this case the results of the intervention can have only positive effects on the patient's and couple's quality of life; (c) to enable themselves adapting to the new situation and coping with the disruption of everyday life which is caused by the cancer. The diagnosis and therapeutic intervention changes the everyday life of the couple and the family. In many cases there is a neglect of work which leads to a financial burden. There is also a neglect of other family members resulting in the appearance of multiple behaviour disorders (anxiety, aggression, frequent crying). The husband is asked to take on new roles, to support his wife, his children, but he has also to process his own feelings. In this effort should be mainly helped by relatives (parents, brothers, sisters) or from experts in the field of mental health; (d) to manage the uncertainty and embarrassment they feel about the communication with the patient on issues related to the disease. This difficult situation starts from the participation of the husband to the information of diagnosis. The announcement of the bad news from a specialist can help both of the husbands to adapt in a better way to the new conditions imposed by the disease. If the husband chooses to disclose the diagnosis to his wife, then he undertakes the responsibility of arduous concealing the truth that can clearly affect their QOL and it is not recommended. Open communication, honesty and the assurance that he is always available for her as well as the assurance that nothing has changed in his feelings, and the use of silence, when it is necessary, are measures of coping with this difficult situation and of effectively promoting the quality of their lives.[7]

Sexual disorders-psychosocial adjustment and gynecological cancer

Sexuality is a multidimensional phenomenon with biological and psychological dimensions and is represented as main component of an individual's quality of life. It is estimated that after the completion of cancer's treatment, sexual disorders account for 40-100% of these patients. The most common sexual disorders in cancer patients are the loss of the sexual desire, the erectile disorders in men and dyspareunia in women.[13]

Dyspareunia may be due to reduced wetting of the vagina, decreased size of the vagina and due to psychological causes. Administration of antiestrogens and radiotherapy in the lesser pelvis area reduce the wetting of the vagina. When the radiation field includes Bartholin's glands, their function is affected due to growing fibrosis. Radiotherapy is also responsible for the radiation-induced damage to the genitals and adjacent tissues, and especially for the appearance of vagina changes, such as stenosis and development of adhesions. There is loss of vaginal epithelium mainly in the areas receiving higher radiation dose. This is starting to be restored 3-6 months after the treatment and it will be completed in about two years. The new epithelium differs histologically from the normal one, it contains more vitreous and collagen components, fibrous elements, and the small glands are absent. It is reported that up to 66% of women who suffered from cervical cancer and they have been treated only with radiation, appear to have sexual disorders. The incidence of sexual dysfunction after the treatment of a cancer patient is very high and in some studies is indicated to be close to 100%. In oncology centres with a high level of workload, the evaluation of the QOL of cancer patients is frequently neglected. Sexuality is an important part of human life as the persons through sexuality can identify themselves. The design and implementation of multiple randomized studies dealing with sexual disorders is required.[14]

The problems experienced by patients who successfully dealt with gynecological cancer affect all the dimensions of sexuality such as physical, psychological and social dimension. As it regards to physical dimension of sexuality, dyspareunia is frequently appeared, changes in the vagina are also apparent, and sexual activity is diminished. In the psychological dimension, the main variations were identified in decreased libido, changes in body image, and anxiety associated with sexual performance. And as to the social dimension, the common concern is the difficulty that the woman has in keeping her previous sexual role, the emotional detachment from her partner, and the perceived changes in the level of sexual interest from him.[15]

Sexual problems experienced by women are mainly coming from four sources[15]: (a) the organic effects of treatments, (b) the perceptions of women about their sexuality, (c) the reactions of their partners towards them and (d) the quality of their relationships. Treatments may disturb the sexual activity of the patients, and the way they influence them varies depending on the type of treatment. Some of the treatments, such as surgery, radiation therapy in the pelvic area and chemotherapy, can cause anatomical changes or impede the normal functioning of the reproductive organs involved in sexual response. These treatments may cause side effects such as early menopause, infertility, vaginal dryness, pain during intercourse, reduced libido and change of the orgasmic capacity.

It is well documented in the literature that chemotherapy is closely connected with the problems of women with breast cancer and gynecological cancers that are related to their sexuality and the image of their body.[6,16,17] Due to the fact that younger women are more likely to undergo chemotherapy or some polymorphic treatment than older women, they seem to be particularly vulnerable to sexual problems. Prolonged treatments also tend to adversely affect the levels of women vigor. The fatigue is associated with serious sexual problems, particularly by reducing the desire and arousal.[18]

Radiation therapy to the pelvis area for the treatment of gynecological cancers can cause scarring in the vaginal walls and reduce the size and the elasticity of the vagina. Women in early stage of the disease, who had undergone hysterectomy and radiotherapy, suffer for a short period of time from dyspareunia, problems during the sexual penetration and lack of sexual satisfaction, which are decreased 6 months after the surgery. In contrast, women in an advanced disease stage suffer from reduced wetting of the vagina, loss of orgasm and reduced number of sexual contacts as they are influenced by the loss of sexual desire, for a period of 24 months.[19,20] It is also referred fibrosis of the clitoris resulting from radiotherapy which is a leading cause for the reduction or loss of orgasm.[21] Radiotherapy to the pelvis had a negative impact on the female sexuality, appearance, and physical problems such as fatigue, lack of strength, diarrhoea and skin rash. It also affects woman's anxiety and stress levels, as well as her reduced self-esteem.[22] It is also indicated that diagnosis of gynecological cancer is associated with a profound influence on the emotional state of both the woman and her partner, due to sexual disorders resulting from the therapeutic interventions, especially radiotherapy and they are related to the body image, sexual self-perception, vaginal narrowing and dryness. This psychological stress in combination with the natural progression of the disease reduces the interest about sexual activity.[23]

Surgical treatment can alter the dimensions of the vagina. These side effects can result in pain and disturbance during sexual contact. The number of treatments incurred by women can affect the quality of their sexual relations.[24,25] The way of women' thinking about specific aspects of themselves, such as their appearance, their attractiveness, their eroticism and femininity, are powerful predictors of the way they will adapt in sexual life long term.[24,25]

The image of women' body is also widely associated with their psychological well-being, their efficiency in social roles and their social functioning. After the appearance of cancer, the self-perception of a woman can be under dispute, as she realizes the discrepancy between the way that she is seeing herself now (true self) and how she ideally sees herself (ideal self). For example, before the diagnosis of cancer, a woman could have for herself the idea of a person with dynamism, confidence and vitality. But after the diagnosis of the disease, she feels that the ideal image of her has been lost. Menopause can make her feel that she has grown old prematurely and that she is less feminine and more vulnerable than before the disease. She may struggle herself to conciliate the real with the ideal image of herself. One reason for the close connection between the negative thoughts about the body and self-image with the poor sexual functioning is the creation of emotional responses that are against the sexual response. The woman, for example, who feels shame, grief or embarrassment for her external appearance, is likely to feel stress and have distraction during the sexual intercourse with her partner. The distraction is associated with stimulation of the autonomic nervous system, causing negative feelings, which are opposed to sexual stimulation and pleasure. Thus, it is important that the couple, under the guidance of a therapist, develops strategies that will help both of them to effectively cope with the referred sexual difficulties.[5,26]

Sexuality, as previously mentioned, is an important element of QOL of patient and a major factor for their psychological adjustment to the disease. The treatment of gynecological cancer negatively affects both sexuality and quality of life. Levin et al, examined the effect of sexual dysfunction in psychological adaptation and QOL in 186 patients successfully dealt with cancer (cervical, endometrial, ovarian, vulvar).[27] In these patients the cancer had diagnosed 2-10 years earlier, and for at least 6 months were subjected to therapeutic intervention. Most of them were diagnosed with cancer at an early stage of the disease (70%) and they were subjected to a hysterectomy (77%), chemotherapy (43%), or radiation therapy (23%). The patients experienced sexual dysfunction, sexual satisfaction problems, symptoms of post-traumatic stress, symptoms of toxicity of the treatment, fatigue, anxiety about the body image as well as changes in their quality of life. The findings of the above mentioned study suggest that the prevention or the treatment of sexual dysfunction can promote a better psychological adjustment to the disease and a better quality of life. Considering the relationship between sexuality and quality of life, there is a clear need for immediate and better integration of the restoration of sexual dysfunction to the clinical care.

Cancer's management through the acquisition of cognitive skills: the role of the nurse

Psycho-oncological interventions that promote the active management of the disease is the auxiliary cognitive treatment (cognitive psychotherapy) and the treatment through self-regulation, which mostly help patients to adapt to the psychosocial demands of the disease.[28] During this process, as well as to the psychological support of the patients, the participation of specialized nurses is really important, fact that it is known since antiquity.[29,30] A key concern of them should be the approach of the patients through communication.[31] The steps, in order the couple to develop the appropriate adaptive cognitive skills and to be able to fight the disease with a variety of methods, are taught in a series of sessions. This is necessary, as it is very difficult for someone to learn to cope with the problems related to his/her self or to the world in a different way. Learning the management of these difficult situations takes time and practice. Some of the patients mention that they discover a new self, a new way of being, which opens new horizons in their thinking, and it rewards but also it scares them. Therefore, couples are encouraged to

perceive this training as an ongoing process of self-development and relationship.[6,32]

The partner of a cancer patient should have as a primary concern to understand the ways of reaction in the diagnosis of cancer. The nurse in collaboration with the therapist examines and discusses the physical, behavioural, emotional and cognitive responses of the patient in relation to cancer. This offers to the couple a deeper understanding of the way their thoughts are connected, their emotions and their reactions toward the disease. Finally, it helps partners to learn the way by which their thoughts and their behaviours can help or hinder their partner to face the situation. Afterwards, the couples learn to control, monitor and examine the thoughts they make regarding the psycho-pressing conditions associated with the cancer. Once they recognize their own cognitive reactions, they learn to question the negative internal dialogue. They replace the cognitive distortions and the negative automatic thoughts with a more efficient internal dialogue. Subsequently, they are taught exercises of self-control, which are based on communication between them, aiming in helping each other on how to think more positively.[6,33] As part of this process they follow the steps below:

(a) The one examines the forms of self-control, self-awareness and self-observation of the other, (b) they identify and question their negative thoughts, and (c) they practice the internal dialogue that will help them to cope with the existing situation in a better way. It is not necessary that the partners have the same way of thinking about the cancer. Indeed, self-control and self-observation which is achieved through communication, helps both of the partners to better understand the fears and concerns of each other and help them find ways of thinking that improve their attitude.[6,34]

CONCLUSION

The diagnosis and treatment of gynecological cancer are an unpleasant experience for the patient, as the threat towards life is accompanied by the threat of deformation and alteration of the body image. Sexuality is a multidimensional phenomenon with biological and psychological dimensions. The diagnosis of gynecological cancer in a woman can, in many cases, cause both to the patient and to her husband or her partner intense anxiety and depression. Thus, the role of the nurse is important in psychological support and generally in dealing with the problems arising from the treatment. Additionally, the presence of a strong support network from the partner, family, friends and the wider social network during and after the therapeutic intervention, is associated with a better adaptation to the disease, with positive coping strategies, lesser psychological burden and improved quality of life.

REFERENCES

1. Lavdaniti M. Issues of Women's health throughout their Lifespan. Review of Clinical Pharmacology and Pharmacokinetics. International Edition. 2009;23(2):163-70.
2. Bontis I. Basic Knowledge of Obstetrics and Gynecology. Publications University Studio Press AE, 2nd edition. Thessaloniki, 2007.
3. Norton TR, Manne SL, Rubin S, et al: Prevalence and predictors of psychological distress among women with ovarian cancer. J Clin Oncol. 2004;22(5):919-26.
4. Penson R, Cella D, Wenzel L: Quality of life in ovarian cancer. J Reprod Med. 2005;50(6):407-16.
5. Oikonomou C, Kalofonos X. Assessment of quality of life of cancer patients in clinical research. Step of Clinical Oncology. 2003;2(3):248-57.
6. Hodgkinson K, Butow P, Fuchs A, Hunt GE, Stenlake A, Hobbs KM, et al. Long-term survival from gynecologic cancer: Psychosocial outcomes, supportive care needs and positive outcomes. Gynaecol Oncol. 2007;104(2):381-9.
7. Kayser K, Scott J. Psychological support of the couple with cancer. Scientific Editing: Ph. Anagnostopoulos. Publications Pedio 1st edition, Athens, 2010.
8. Stavraka C, Ford A, Ghaem-Maghami S, Crook T, Agarwal R, Gabra H, et al. A study of symptoms described by ovarian cancer survivors. Gynecologic Oncology. 2012;125(1):59-64.
9. Gonçalves V, Jayson G, Tarrier N. A longitudinal investigation of posttraumatic stress disorder in patients with ovarian cancer. Journal of Psychosomatic Research. 2011;70(5):422-31.
10. Vaz AF, Pinto-Neto AM, Conde DM, Costa-Paiva L, Morais SS, Pedro AO, et al. Quality of life and menopausal and sexual symptoms in gynecologic cancer survivors: a cohort study. Menopause. 2011;18(6):662-9.
11. Gonçalves V. Long-term quality of life in gynecological cancer survivors. Curr Opin Obstet Gynecol. 2010;22(1):30-5.
12. Keskin G, Gumus AB. Turkish hysterectomy and mastectomy patients depression, body image, sexual problems and spouse relationships. Asian Pac Cancer Prev. 2011;12(2):425-32.
13. Valdivieso M, Kujawa AM, Jones T, Baker LH. Cancer survivors in the United States: a review of the literature and a call to action. Int J Med Sci. 2012;9(2):163-73.
14. Vomvas D, Iconomou G, Soubasi E, Leotsinidis M, Kalofonos HP, Beratis S, et al. Assessment of sexual function in patients with cancer receiving radiotherapy - a single center prospective study. Anticancer Res. 2012;32(2):657-64.
15. Abbott-Anderson K, Kwekkeboom KL. A systematic review of sexual concerns reported by gynecological cancer survivors. Gynecol Oncol. 2012;126(3):477-89.

16. Hart J, Shaver PR, Goldenberg JL. Attachment, self-esteem, worldviews, and terror management: Evidence for a tripartite security system. J Person Soc Psychol. 2005;88(6):999-1013.
17. Coan JA, Schaefer HS, Davidson R J. Lending a hand: Social regulation of the neural response to threat. Psychological Science. 2006;17(12):1032-9.
18. Lavdaniti M. Women with breast cancer undergoing radiotherapy: Nursing approach. Nursing (Nosileftiki). 2007;46(2):181-8.
19. Jensen P, Groenvold M, Klee MC, Thranov I, Petersen MA, Machin D. Early stage cervical carcinoma, radical hysterectomy and sexual function: a longitudinal study. Cancer. 2004;100(1):97-106.
20. Jensen PT, Groenvold M, Klee MC, Thranov I, Petersen MA, Machin D. Longitudinal study of sexual function and vaginal changes after radiotherapy for cervical cancer. Int J Radiat Oncol Biol Phys. 2003;56(4):937-49.
21. Schroder M, Mell LK, Hurteau JA, Collins YC, Rotmensch J, Waggoner SE, et al. Clitoral therapy device for treatment of sexual dysfunction in irradiated cervical cancer. Int J Radiat Oncol Biol Phys. 2005;61(4):1078-86.
22. Rodrigues AC, Teixeira R, Teixeira T, Conde S, Soares P, Torgal I. Impact of pelvic radiotherapy on female sexuality. Arch Gynecol Obstet. 2012;285(2):505-14.
23. Katz A. Interventions for sexuality after pelvic radiation therapy and gynecological cancer. Cancer J. 2009;15(1):45-7.
24. Ganz PA, Kwan L, Stanton AL, Krupnick JL, Rowland JH, Meyerowitz BE, et al. Quality of the life at the end of primary treatment of breast cancer: First results from the moving beyond cancer randomization trial. J National Cancer Institute. 2004;96(5):376-87.
25. Fobair P, Stewart SL, Chang S, D 'Onofrio C, Banks PJ, Bloom JR. Body image and sexual problems in young women with breast cancer. Psycho Oncology. 2006;15(7):579-94.
26. Greimel E, Daghofer F and Petru E. Prospective assessment of quality of life in long-term ovarian cancer survivors. Int J Cancer. 2011;128(12):3005-11.
27. Levin AO, Carpenter KM, Fowler JM, Brothers BM, Andersen BL, Maxwell GL. Sexual morbidity associated with poorer psychological adjustment among gynecological cancer survivors. Int J Gynecol Cancer. 2010;20(3):461-70.
28. McCorkle R, Dowd M, Ercolano E, Schulman-Green D, Williams AL, Siefert ML, et al. Effects of a nursing intervention on quality of life outcomes in post-surgical women with gynecological cancers. Psycho-oncology. 2009;18(1):62-70.
29. Kourkouta L. Ancient Greek psychotherapy for contemporary nurses. J Psychosoc Nurs Ment Health Serv. 2002;40(8):36-9.
30. Goncalves V, Jayson G, Tarrier N. A longitudinal investigation of psychological morbidity in patients with ovarian cancer. British Journal of Cancer. 2008;99(11):1794-801.
31. Kourkouta L, Papathanassiou I. Communication in Nursing Practice. Mater Sociomed. 2014;26(1):65-7.
32. Hess LM, Stehman FB. State of the science in ovarian cancer quality of life research: a systematic review. International Journal of Gynecological Cancer. 2012;22(7):1273-80.
33. Grzankowski KS, Carney M. Quality of Life in Ovarian Cancer. Cancer Control. 2011;18(1):52-8.
34. Arriba LN, Fader AN, Frasure HE, von Gruenigen. A review of issues surrounding quality of life among women with ovarian cancer. Gynecologic Oncology. 2010;119(2):390-6.

Cite this article as: Karabinis G, Koukourikos K, Tsaloglidou A. Psychological support and quality of life in patients with gynecological cancer. Int J Res Med Sci 2015;3:2992-7.