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Psychosexual Adaptation and Quality of Life After Hysterectomy

Güliz Onat Bayram · Nezihe Kizilkaya Beji

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Abstract Psychosexual adaptation and quality of life after hysterectomy has been a subject of concern to women and gynecologists. By performing a hysterectomy, it is expected to treat abnormal bleeding, chronic pelvic pain and symptomatic myomas, and to improve health related general quality of life (QoL). Most controversy arises from the assertion that many hysterectomies are performed unnecessarily, although it has minor positive effects, the problems encountered after hysterectomy negatively affect QoL and psychosexual health problems may develop. The reported sexual problems after hysterectomy include dyspareunia related to vaginal shrinkage and decreased lubrication, low libido, and not experiencing orgasm. Studies show that the prevalence of sexual dysfunction among women who have undergone hysterectomy procedure varies depending on methodological factors. No consensus exists on whether hysterectomy causes sexual dysfunction. The aim of this study is to draw attention to the impact of hysterectomy on women's health and to discuss the related factors affecting psychosexual adaptation.

Keywords Hysterectomy · Sexual function · Psychosexual adaptation · Quality of life · Turkey

Introduction

Hysterectomy increasingly has been recognized as a procedure that can affect many aspects of a woman's health. For a woman considering a hysterectomy, the outcomes of interest include its effectiveness for relief of symptoms, duration of hospitalization and

G. O. Bayram (✉)
Bakirkoy Ruh ve Sinir Hastalıkları Hastanesi Bahcesi Ici B Kapisi, Istanbul University Bakırkoy Saglık Yuksekokulu Binası, 34740 Bakirkoy, Istanbul, Turkey
e-mail: gulizonat@hotmail.com

N. K. Beji
Florence Nightingale School of Nursing, Department of Obstetric and Gynecologic Nursing, Istanbul University, 34381 Sisli, Istanbul, Turkey
e-mail: nezihebeji@yahoo.com; kkayanez@istanbul.edu.tr

recuperation, and long-term effects on quality of life, including mental health and sexual function [1].

Hysterectomy is the most common performed major surgery for all women, and most are performed on women between ages of 40 and 44 [2]. Thus its consequences concern many women [3]. About 40% of hysterectomies are elective and these elective procedures are expected to treat abnormal bleeding, chronic pelvic pain and symptomatic myomas, and to improve health related general quality of life [4, 5]. The appropriateness of hysterectomy to treat non-malignant conditions has increasingly been debated in recent years. This is, in part, because of rising health care costs and reports of negative outcomes after hysterectomy, such as pelvic pain, reduced sexual functioning, urinary symptoms, and psychological distress [6].

Defining Quality of Life

Quality of life (*QoL*) became an important priority in Western society following World War II, and has increasingly been recognized as an important outcome variable in medicine and nursing research and practice. Many scientific disciplines have been engaged in QoL-related aspects over time. The interest is multidisciplinary, but the different sciences approach QoL from different perspectives. No single, universally accepted definition of the concept exists, which complicates the operationalization of the concept. World Health Organization's definition of QoL is organized into six broad domains: physical, psychological, level of independence, social relationship, environment and spirituality, religion, or personal beliefs. The different domains have reciprocal influences on each other and QoL encompasses a totality and wholeness. The World Health Organization also emphasizes the individual's goals, expectations, standards and concerns as an important facet of QoL. Hence, QoL is a multidimensional evaluation of an individual's current life circumstances in the context of the culture and value system in which they live and the values they hold [3].

Health-related quality of life (*HRQL*) is a multidimensional concept referring to an individual's total well-being. Although many definitions of HRQL have been proposed, a recent consensus conference of international experts concluded that the fundamental dimensions essential to any HRQL assessment are physical, social, and emotional functioning, as well as perceptions of overall quality of life or general life satisfaction. For specific investigations, however, the assessment of other dimensions of HRQL may be important. These dimensions include: cognitive or neuropsychological functioning, sexual functioning and intimacy, personal productivity, pain, symptoms, and sleep disturbance [6].

Effects of Hysterectomy on Health-Related Quality of Life

With the loss of fertility, women who have undergone a hysterectomy may become worried about and afraid of many issues such as changes in their relationship with their husband, changes in body image, effects of menopause and physical energy loss. Many difficulties are reported by patients with uterine problems, including physical and menstrual symptoms, pain, emotional and sexual dysfunctions and decrease in general health perception. In general, quality of life is affected negatively by the increase in the severity of these problems, and serious symptoms lead women to seek surgical treatment. According to studies, a great majority of women who had undergone hysterectomies report that their quality of life improved as a result of alleviation of their problems after the operation, their

perception of general health improved, pain and physical symptoms decreased [4, 5]. According to SOGC (Society of Obstetricians and Gynaecologists of Canada) clinical guidelines for hysterectomy, in the properly selected patient, the result from the surgery should be an improvement in the quality of life [7].

Nevertheless, in 40–50% of women who had undergone hysterectomies, complications like haemorrhage, urinary system injuries, bowel perforation and infections may be observed in the early post-operative period. Moreover, in the literature it is emphasised that women are experiencing physical, social and sexual problems such as post-operative fatigue, weight changes, irritability, insomnia, poor concentration or poor memory, crying spells, poor appetite, diarrhoea or constipation, sadness, changes in sexual behaviour [8–10]. In a study by Carlson et al. [1] it was reported that the women who had undergone hysterectomy suffered new symptoms: 13% of them suffered hot flashing, 8% depression, 6% anxiety and 7% low sexual desire.

Most of the controversy arises from the assertion that the majority of the hysterectomies are being performed unnecessarily, although it has minor positive effects, the problems encountered after the hysterectomy negatively affect the quality of life in women. However, the majority of hysterectomies are performed to improve quality of life, rather than save life. Some studies show that hysterectomy affects positively women's quality of life, while others indicate the opposite. Some of the factors which produce this variance are preoperative mental health and sexual function of woman, operational indication and the operative technique used in the operation. The answer to why hysterectomy affects some women positively and others negatively has not been researched sufficiently. Whether there are specific factors such as surgical techniques or psychosocial factors which increase the women's risk of experiencing negative outcomes, is another controversial issue [4].

Carlson et al. [1] report that, in women who had undergone hysterectomy, the quality of life improved with the relief of symptoms within 6–12 months in the postoperative period. The study by Uzun et al. [5] which was conducted with 50 Turkish women revealed that the total abdominal hysterectomy (TAH) performed due to myoma uteri improves general quality of life with its all sub-dimensions. The study conducted by Çimen [4] which evaluates the sexual functioning and general quality of life in 50 women who had undergone myomectomy and 50 women who had undergone hysterectomies, it was observed that in the 6th month of the postoperative period the quality of life was better in both groups compared to preoperative period, and compared to myomectomy, the hysterectomy provided more improvement in general quality of life. A 2 years prospective study by Kjerulff et al. [11], it was observed that, after hysterectomy there were a significant decrease in severity of symptoms, levels of depression and anxiety, and improvement in general quality of life and especially in social functioning.

In contrast with the positive results reported in the studies on hysterectomy, in a study by Bislawska Batorawicz [12] on Polish women, which evaluated the impact of hysterectomy on physical, psychological and sexual functions, it was observed that the quality of life was affected negatively.

Effects of Hysterectomy on Sexual Function

Changes in sexual function after hysterectomy have been a subject of concern to women and to gynaecologists. The effect of hysterectomy on women's sexual function has an important role on HRQL. No consensus exists on whether hysterectomy causes sexual dysfunction. Sexual problems after hysterectomy that have been reported include

dyspareunia related to vaginal shrinkage and decreased lubrication, low libido, and not experiencing orgasm [6, 13]. Prevalence of sexual dysfunction among women who have undergone hysterectomy varies depending on methodological factors [14]. Early studies of hysterectomy patients suggested that 10–46% of these patients experienced poorer sexual functioning after surgery [15]. As many as one-third of the women having hysterectomies report decreased orgasm and excitement related to absence of cervical stimulation and decreased pelvic congestion [16]. Several mechanisms for adverse effects on sexual function after hysterectomy have been proposed, including decreasing ovarian function, changes in pelvic anatomy after surgery, decreased orgasmic ability because of loss of the uterus, and the symbolic psychological meaning of loss of the uterus. Impaired sexual function can occur in women who feel that their sexuality is dependent on the presence of the uterus [2]. However it was reported that hysterectomy increases sexual satisfaction by relieving the complaints like dysmenorrhoea [9]. Factors proposed to explain the increase in sexual desire include absence of fear of pregnancy and absence of the pain related to the condition requiring hysterectomy [2].

Some studies in the literature have helped to clarify the issue of psychosexual effects of hysterectomy, although comparisons are complicated by differences in studied populations and outcome measures (Table 1). Since the study of Ayoubi et al. [17] is retrospective, inaccuracies about recall bias and memory are unavoidable. Yet in the other studies which are prospective, the fact that the evaluations are made just a couple hours or days before the operations, will affect the answer given by the women who suffer the symptoms and experience preoperative anxiety [18]. In the studies of Rhodes et al. [19], Dragisic and Milad [13], Bayram and Şahin [20], Jeng et al. [21] and Aziz et al. [22], postoperative sexual functions are compared with the *operation-time* sexual functions. However, sexual functions during the operation may be affected negatively by complaints such as bleeding and pain. One other limitation of these studies is not conducting the statistical analyses which allow comparison of the outcomes with the type of the hysterectomy and the hormonal state, as in the study by Rhodes et al. [19]. The researchers except Kuppermann et al. [23], Aziz et al. [22] and Bayram and Şahin [20], used the questionnaires prepared by themselves instead of scales useful in providing objective data in the evaluation of psychosexual state. Due to limited use of objective diagnostic methods and not being able to determine the subjective aspect of sexuality, many scales are developed today as diagnostic tools. Used for objective diagnosis, these questionnaires enquire the desire, excitation, orgasm and satisfaction sexuality and the pain during the coitus [14, 24].

Usually, one of the indicators affecting the postoperative sexual behaviour is the preoperative sexual adaptation. The woman who has a satisfying sexual relationship preoperatively tends to resume it from where she left in the postoperative period. If preoperative sexual problems exist, those will not vanish but remain after the operation [25]. In the study by Saylam [9] on 30 women who had undergone hysterectomy, it was reported that the women with preoperative sexual problems informed that these problems continued after the operation. Studies evaluating preoperative sexual functions and comparing them with the postoperative functions are highly useful in determining the impact of hysterectomy on sexual functions. However, the existing state of the sexual functions before the operation is not sufficient alone to explain the impact of hysterectomy on sexual functions. Furthermore, sexuality is a highly complex concept shaped by many factors to consider such as previously taken medications, chronic diseases, level of hormones, satisfaction of the relationship between partners, and social norms [25–27]. It is an extreme challenge to methodologically bring all of these external factors under control.

Table 1 Summary of the studies related to psychosexual adaptation after hysterectomy

Researcher	Methods	Measuring tool	Result
Rhodes et al. [19]	*n*: 1,101, Pre-op, post-op 6, 12, 18, 24th months, prospective, comparative	Questionnaire	Decrease in dyspareunia (from 18.6 to 3.6%) and sexual desire (from 10.4 to 6.2%)
Bayram and Şahin [20]	*n*: 93, Pre-op, post-op 3rd month, prospective, comparative	FSFI (female sexual function index), Beck depression scale	34.3% Decrease in total FSFI score, decrease in Beck depression scale total score (from 32.3 to 11.8%), negative correlation between depression levels and sexual functions
Dragisic and Milad [13]	*n*: 75, Pre-op, post-op 6th month, prospective, comparative	Questionnaire	Increase in severity of orgasm, decrease in dyspareunia (from 43 to 8.1%)
Ayoubi et al. [17]	*n*: 170, TAH, VAH, laparoscopic hysterectomy, retrospective	Questionnaire	No change in sexual functions (60.4%), improvement (21.3%), deterioration (18%)
Yeoum and Park [28]	*n*: 89, Post-op 3rd	Questionnaire	Decrease in lubrication (68%), changes in frequency of coitus and severity of orgasm (25%)
Jeng et al. [21]	*n*: 78, Vaginal hysterectomy, pre-op 6th, post-op 6th month, prospective, comparative	Questionnaire, analog scale	Decrease in sexual desire (5.1%), decrease in frequency of orgasm (21%)
Aziz et al. [22]	*n*: 323, (217 Only hysterectomy and 106 TAH + BSO), pre-op, post-op first year, prospective, comparative	McCoy's sex questionnaire, psychological well-being index, Kupperman's index	Increase in postoperative well-being for both groups, positive correlation between McCoy's SQ and PGWB
Kuppermann et al. [23]	*n*: 135, TAH, post-op 6th month and second year, randomized, prospective, comparative	Medical outcomes, study sexual problems scale	Improvement in sexual functions in the 6th month, some new problems in sexual functions in the second year

TAH total abdominal hysterectomy, *VAH* vaginal hysterectomy, *BSO* bilateral salphingo-ooferectomy

In a study by Rhodes et al. [19], it is reported that 6, 12, 18, 24 months after hysterectomy, sexual functions eventually improve compared to previous period. This research finding suggests that sexual functions improve gradually after the hysterectomy. Thus the evaluation time of the sexual functions after the operation is the most important methodological factor in explaining the different results of study findings. It is reported that the recovery period for pelvic organs after the operation is at least 6 months, and 80% of women prefers to restart sexual activities after this period elapses. Therefore psychosexual effects must be observed at least 6 months after the operation [18]. In the studies by Bayram and Şahin [20] and Yeoum and Park [28], in which the psychosexual evaluations following hysterectomy were made in the 3rd month of postoperative period, it is observed that, in this period sexual functions after hysterectomy were affected negatively.

By definition, sexuality is a concept that involves the sexual satisfaction and a harmonic partnership of a couple, so the woman cannot be considered separately from the man [27, 29]. The studies listed in Table 1, which evaluate the psychosexual adaptation after hysterectomy, overlooked this point, none of them considered the man's sexual functions.

The factors that could affect the *psychosexual adaptation* after hysterectomy are listed below:

1. *Age*. Hysterectomy is usually performed at the end of the fertility period or in the postmenopausal period. In the postmenopausal period anatomic changes are observed with the aging, including shortening of vaginal length, thinning of vaginal tissue, loss of elasticity of vaginal tissue, shrinkage of labia majora, thinning of labia minora, loss of clitoral sensitivity, clitoral shrinkage, reduction in perineal muscle tone and deteriorated orgasmic platform [27, 29]. The effects of this period on sexual physiology are reported to be as follows: sexual arousal stage and lubrication take longer time, less vaginal lubrication, decrease in frequency of orgasms [30]. The fact that the hysterectomy is usually performed in climacterium period can lead to confusion of abovementioned negative impacts of the characteristic conditions of this period with the impacts of hysterectomy [18].
2. *Hormones (Hormone Therapy, Ooforectomy, etc.)*. Ooferoctomy, which is performed simultaneously with hysterectomy, causes the interruption of ovarian function, makes the woman experience vaginal dryness and dyspareunia. Postoperative hormone replacement therapy is another significant factor on psychosexual adaptation [14, 18, 26].
3. *Type of Hysterectomy*. Whether the hysterectomy is total or subtotal, which surgical method is used, abdominal, vaginal or laparoscopic, are all among the factors affecting the psychosexual adaptation after hysterectomy [14, 18, 26]. Laparoscopic surgery provides better postoperative QoL in many clinical situations [31]. Kluivers et al. [32] reported in theirs systematic review about comparison of laparoscopic and abdominal hysterectomy in terms of QoL that the data available show that QoL after laparoscopic hysterectomy as compared to abdominal hysterectomy is better or equal in the first 6 weeks after surgery and equal subsequently.
4. *Culture*. Some ethnic groups have difficulties in accepting hysterectomy. In West India, women think that menstruation has a cleansing role which makes the body become purified from impurities and they are reluctant to undergo hysterectomy. They are afraid of being defined as "disabled woman" by their husbands and that they may tend towards "whole-women" [25, 26].
5. *Reasons Related to Sexual Partner*. Woman's level of satisfaction from the relationship with her partner, age of her sexual partner, his possible erection difficulties, premature ejaculation problem, his chronic diseases and the medications he uses are among the factors that could affect the psychosexual adaptation after hysterectomy [18, 25, 26, 30, 33, 34]. In a study by Çimen [4], it is reported that in the group of patients with poor relations with their partners, sexual arousal levels were worse compared to preoperative period.
6. *The Meaning of Uterus for Women*. Women see the uterus as the fertility organ, sexual organ, secretory organ, body function regulator, source of energy-soundness, youth, beauty, attractiveness and power [9, 18, 33, 35]. Many women believe that best days of their life will be over with hysterectomy, and perceive the operation as loss of the youth, femininity and health. With the removal of the uterus, women experience psychosocial problems such as feelings of weakness, fear of losing physical attractiveness and sexual identity, hopelessness and depression [9].
7. *Alleviation of Symptom Related to Hysterectomy*. A strong correlation was found between the post-hysterectomy sexuality and complaints leading to hysterectomy. For women who had pain or heavy bleeding from myoma uteri, the relief of the source of the problem has quite a positive effect on postoperative sexuality [34, 36]. It was

reported that in women who had undergone hysterectomy due to fibroid or endometriosis, the sexual intercourse was less painful and better compared to preoperative period. Positive outcomes after hysterectomy are found to be as follows: stopping of abnormal uterus bleedings/relief of menstrual symptoms and pelvic pains, decrease of depression and anxiety [25].

8. *Woman's Psychological Reactions to the Operation.* In literature, it is reported that there is a correlation between the psychological reactions developed after hysterectomy and the woman's way of perception of this organ and the operation [25, 26].

Psychological reactions after hysterectomy must be considered in its physical, psychiatric and cultural aspects. For some women hysterectomy is an operation that protects against the development of a malignant disease, prevents unwanted pregnancy, increases sexual freedom, saves from painful menstrual periods. Yet for others, it is the loss of femininity and sexuality. While the ones who do not want another child or are afraid of getting pregnant feel relieved with hysterectomy, the youth ones who wish to have children react negatively. It is reported that the women who think that hysterectomy leads to decrease of sexual excitement and satisfaction, experienced decreased libido [25]. A comparative study by Bayram and Şahin [20] which evaluates 93 women's sexual functions before and after the operation by using Female Sexual Function Index (FSFI), it is observed that 34.4% of women think that their sexual life will be affected negatively when their uterus is removed. In addition, it is reported that in 34.3% of women, postoperative sexual function scores decreased, compared to their preoperative scores.

For some women, the thought of removing the source of disease, makes them worry about that their sexual partner will expect from them a higher level of sexual activity. Therefore the operation may be considered as a danger for the relation between couples [25]. Many women develop worries about decrease in sexual desires, attractiveness, capacity to get pleasure and cohesion of her partner. The attitude of the relatives and the partner contribute as well to the development of these reactions [25, 33].

Psychological and Biophysical Health Problems After Hysterectomy

It is reported that, after hysterectomy a great majority of women may suffer psychological symptoms such as depression, fatigue, anxiety, as well as new symptoms, including urinary inconsistence, constipation, premature ovarian failure and sexual dysfunction [14, 25, 26, 37, 38]. Psychological and biophysical aspects of the symptoms that occur after hysterectomy are considered below:

Psychological Health Problems. Supporters of Freud's theories as the cause of decrease in sexual responses after hysterectomy, used to believe that the loss in sexual organs was causing a sort of castration. In the past, basing on the idea that all women should exhibit same symptoms after hysterectomy, it was believed that hysterectomy was preventing sexual functions not because of the physiological changes but as a result of the psychological stress. Today, it is accepted that not all women who had undergone hysterectomy will experience these physiological changes and their intensity varies [14, 36, 39].

Postoperative psychosexual adaptation is more difficult for women having worries about femininity [33, 39]. Partners (men) of women who had undergone hysterectomy may experience anxiety as well, during the sexual intercourse with the fear of hurting their partner. The level of depression is closely related to cultural values and role sharing within

the family. If the cohesion between partners is not strong enough, this period can witness crises [39].

Factors affecting psychological problems after hysterectomy are listed below:

- Sexual identity problem
- History of depression
- Mental disease or depression in family
- Being younger than 35
- The wish to have a child
- Fear of losing sexual attractiveness
- Negative attitude of the partner or his state of unemployment [40].

Depression. Depression is the most frequently reported symptom after hysterectomy [2, 38]. One major cause of depression is that the hysterectomy is considered to be the "losing of fertility function" and the development of infertility after hysterectomy. Problems after hysterectomy like decrease in sexual interest, loss of sexual identity, change of body image, usually lead to depression [18, 25, 26, 39, 41]. While in the early weeks after hysterectomy clinical psychiatric problems are rarely observed, once the surgical intervention trauma is completely left behind, psychological problems can develop during the period of adaptation to new life [33].

In the past decade, however, more methodologically sound studies have established that hysterectomy for benign disorders does not cause depression and may decrease psychiatric symptoms in many women. These prospective studies consistently have found that presurgical psychopathology was predictive of postsurgical psychopathology. A recent prospective cohort study used a non-clinical population-based sample to assess the effects of hysterectomy on psychological functioning using psychological state before any indication of a need for hysterectomy as a baseline [42]. This study similarly reported no higher levels of depressive symptoms, stress, or psychosomatic symptoms in women undergoing hysterectomy than in premenopausal control women. In fact, women who had a hysterectomy experienced significantly less stress and more optimistic attitudes than control women [1].

Although there is little evidence to suggest that hysterectomy is a risk factor for depression, others have suggested that the converse is true: depression may be a risk factor for hysterectomy. A study of trends in psychiatric morbidity in women undergoing hysterectomy for benign conditions with time demonstrated a decline in preoperative psychiatric morbidity during the years 1975–1990 [43]. The decline was not related to socio-demographic factors, menstrual problems, or women's understanding and expectations of surgery. One possible explanation for this finding may be that, in the past, patients reporting emotional symptoms preferentially were referred for hysterectomy [1].

From a clinical perspective, the implications of these findings include the following. Women with pre-existing psychiatric disorders may be at higher risk for psychiatric morbidity after hysterectomy and should be psychologically prepared for surgery and closely followed afterward. The majority of women experiencing symptoms of depression and anxiety before hysterectomy for benign conditions, however, can expect a significant improvement in psychological status in the year after hysterectomy [1].

Biophysical Health Problems. As another cause of decrease in sexual responses after hysterectomy, it is emphasized that the scarred tissue produced by the operation may disrupt the blood stream to genital organs. Moreover, the inferior hypogastric nerve plexus, which contains important sympathic and parasympathic nerves and conveys the nerves directly to the genital organs may be damaged during the operation [14, 25, 34]. In 1/3 of women the intensity of orgasm and orgasmic satisfaction may vary subjectively after

hysterectomy. This may be due to absence of uterine contraction. Since the uterine contractions are both related to sexual arousal and orgasm, absence of uterus can affect the sexual function. However, this cannot completely affect the sexual satisfaction gained from sexual intercourse [25].

Summary and Recommendations for Researchers

Hysterectomy is a significant operation and event that affects women's quality of life and psychosexual states. Psychological and biophysical health problems may develop after hysterectomy. Health care providers should consider women's age, hormonal states, the type and indications of the hysterectomy, the meaning ascribed by her to uterus and her culture, general health condition of her partner, when determining psychosexual adaptation requirements of women who had undergone hysterectomies. Recent randomized trials and prospective cohort studies have provided new information on the health outcomes of hysterectomy for non-malignant conditions. These studies consistently have demonstrated a marked improvement in symptoms and quality of life during the early years after surgery. Hysterectomy does not cause long-term psychiatric morbidity, and psychological status generally improves. Studies of sexual function have shown varying results, with most suggesting improvement or no change in sexual function for the majority of women. It is thought that methodological variances should be considered in explaining the variations between the study findings. In order to attain clear evidence concerning the subject, the following methods are suggested to the researchers:

- To conduct studies comparative and prospective studies which evaluate the preoperative and postoperative psychosexual state and quality of life,
- In quantitative researches which evaluate psychosexual adaptation and quality of life, in order to ensure the objectivity of data, scales passed from validity and reliability tests should be used,
- To prepare qualitative designs for research questions which are unobtainable with qualitative researches, to use "Methodological Triangulation" models comprising both qualitative and quantitative research methods which enable multidimensional inquiry of the problem,
- To evaluate the psychosexual adaptation at least 6 months after the operation,
- To take into considerations the factors that may affect psychosexual adaptation, to conduct case–control studies with homogeneous groups that could enable taking these factors under control.

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