Research Article

Influence Total Hysterectomy against Function Sexual

Pengaruh Histerektomi Total dengan Fungsi Seksual

Andini Zuitasari[1], Ferry Yusrizal[1], Firmansyah Basir[1], Theodorus[2]

[1] Department of Obstetrics and Gynecology
[2] Medical and Health Research Unit
Faculty of Medicine Universitas Sriwijaya
Dr. Mohammad Hoesin General Hospital
Palembang

Abstract

Objective: To determine whether there are differences the impact of total hysterectomy on sexual function between each woman. Women who perform total hysterectomy often experience fear of the negative effects of hysterectomy on their sexual function.

Methods: Randomized clinical trials have been conducted in outpatient clinic Obstetrics and Gynecological wards of Dr. Muhammad Hoesin General Hospital, Palembang from February to October 2020. There were 40 samples of women undergoing a total hysterectomy met the inclusion criteria. Sexual function before and after hysterectomy was analyzed with the Wilcoxon test. Data analysis using SPSS version 22.0.

Results: This study showed decreased of desire, decreased stimuli, decreased orgasm, increased lubrication, increased sexual satisfaction, and increased dyspareunia samples after a total hysterectomy. However, with statistical analysis obtained results there were no meaningful changes in sexual function of desire (p = 0.849), stimuli (p = 0.716), lubrication (p = 0.261), orgasm (p = 0.839), sexual satisfaction (p = 0.613) and dyspareunia (p = 0.510) after total hysterectomy.

Conclusion: It can be concluded that there is no significantly total hysterectomy effect on sexual function, based on FSFI (sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction, and pain.

Keywords: clinical trial, FSFI, hysterectomy, sexual function.

Abstrak

Tujuan: *Mengetahui adakah perbedaan dampak histerektomi total pada fungsi seksual antara setiap perempuan. Perempuan yang melakukan histerektomi total sering mengalami ketakutan akan efek negatif histerektomi pada fungsi seksualnya.*

Metode: *Telah dilakukan uji klinis secara acak di poliklinik rawat jalan bangsal Obstetri dan Ginekologi RSUP Dr. Muhammad Hoesin Palembang mulai bulan Februari sampai Oktober 2020. Sebanyak 40 sampel perempuan yang menjalani histerektomi total memenuhi kriteria inklusi. Fungsi seksual sebelum dan sesudah histerektomi dianalisis dengan uji Wilcoxon. Analisi data menggunakan SPSS versi 22.0.*

Hasil: *Penelitian ini menunjukkan penurunan hasrat, penurunan rangsangan, penurunan orgasme, peningkatan lubrikasi, peningkatan kepuasan seksual, dan peningkatan dispareunia setelah histerektomi total. Namun dengan analistik statistik didapatkan hasil tidak ada perubahan yang bermakna pada fungsi seksual yaitu hasrat (p=0,849), rangsangan (p=0,716), lubrikasi (p= 0,716), lubrikasi (p=0,261), orgasme (p=0,839), kepuasan seksual (p= 0,613), dan dispareunia (p= 0,510) setelah histerektomi total.*

Kesimpulan: *Dapat disimpulkan bahwa tidak ada pengaruh histerektomi total yang signifikan terhadap fungsi seksual berdasarkan FSFI (hasrat, seksual, gairah seksual, lubrikasi, orgasme, kepuasan seksual, dan nyeri.*

Kata kunci: *fungsi seksual, FSFI, histerektomi, uji klinis.*

Correspondence author. Andini Zuitasari. Department of Obstetrics and Gynecology
Faculty of Medicine Universitas Sriwijaya. Dr. Mohammad Hoesin General Hospital. Palembang
Email: andinizhafira24@gmail.com

Received: February, 2021 Accepted: December, 2021 Published: January, 2022

INTRODUCTION

Sexual function is the degree or degree of the entire normal sexual response cycle. The sexual desire (sexual desire) of men and women is the same, i.e. influenced by sex hormones, psychic factors, sexual stimuli received, and previous sexual experiences. When these factors are positive, the sexual drive appears well. [1.2] The sexual reaction cycle is divided into four phases according to Master and Johnson, namely: excitement phase, plateau phase, orgasm phase, and resolution phase.[3] Sexual responses in women can arise from things such as meaningful eyes, sweet and pleasant words, or a romantic atmosphere that arouses desire.[4]

A hysterectomy is the removal of the uterus through a surgical procedure that can be performed vaginally, abdominally, or laparoscopic. Total hysterectomy is the removal of the entire uterus and cervix, while subtotal hysterectomy is the removal of the uterine corpus only. In premenopausal patients, hysterectomy is most common in benign diseases, such as abnormal uterine bleeding, uterine fibroids, endometriosis, and chronic pelvic pain, abnormal utero defects, utero prolapse, and cancer; whereas in postmenopausal patients it is most often done in cases of pelvic organ prolapse.[5]

Hysterectomy has been widely studied to affect and cause changes in various phases of sexual activity, whether anatomical, hormonal, or psychological changes in women. The existence of various contradictions between the positive and negative impacts of total hysterectomy on the sexual function of patients, and the absence of research related to this in Palembang, became the background of research related to the effects of total hysterectomy on sexual function.

Female Sexual Function *Index* (FSFI) is a widely used assessment tool for female sexual function. The 19-point Questionnaire was designed to measure sexual function in women. FSFI assesses 6 domains of sexual function, including sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction, and pain (example: pain associated with vaginal penetration).[6] An FSFI cut point value of ≤ 26.55 as a diagnosis of sexual dysfunction in women.[7] Female Sexual Function Index (FSFI) has been reported as valid and reliable where the Cronbach alpha values in all six domains >0.82, and test-retest reliability over 2-4 weeks show high reliability in all domains (r = 0.79-0.86), as well as on total FSFI scores (r = 0.88). This reliability was proposed and has been confirmed in follow-up researches. Thus FSFI concluded reliable to discriminate between women with sexual dysfunction and women without sexual dysfunction in the entire domain or on a total score.

METHODS

This study was a Randomized clinical trial without comparison pre vs post-test in female patients who underwent total elective hysterectomy procedure in Obstetrics and Gynecology Department of RSUP Dr. Mohammad Hoesin Palembang to find out the outerness of postoperative sexual function compared to sexual function before surgery. The research was conducted from May to November 2020. The subject of this study was a woman who underwent a total hysterectomy. Obstetrics and Gynecology Department of RSUP Dr. Mohammad Hoesin Palembang Hospital during the research period, and met the research criteria (for matching).

The protocol of this research has been approved by ethics committee health research RSMH. The number of subjects is 40. Inclusion criteria consist of women aged 20-60 years, diagnosed with gynecological disorders and oncology indicated total hysterectomy, willing to do gynecological examinations and interviews before and after a total hysterectomy, willing to follow the research, and sign an informed consent sheet. Exclusion Criteria consists of women diagnosed with other diseases, whether metabolic, cardiovascular, hormonal, neurological, lung, paralysis or limb abnormalities, urinary tract infections, sexually transmitted infections, memory disorders, psychiatric disorders, women with poor family harmony, divorced (single), women with husbands who experience sexual dysfunction.

Drop out criteria consists of patients not having a total hysterectomy procedure, bleeding complications or postoperative infections, subjects unreachable or encountered for advanced data collection. The subject was selected purposive sampling according to the research criteria and accordingly diagnosed and decided to undergo a total hysterectomy (time of diagnosis). Every woman with gynecology and oncology patients at Obstetrics and Gynecology Department of RSUP Dr. Mohammad Hoesin Palembang Clinic who met the research criteria was explained the research conducted, for those

who agreed to participate in this study were asked to sign the informed consent sheet that had been provided for the research. All subjects performed anamnesis and routine gynecological examinations following standard procedures at Obstetrics and Gynecology Department of RSUP Dr. Mohammad Hoesin Palembang.

In each subject performed anamnesis, physical examination (vital sign, head to toe), anthropometric, gynecological examination (external examination and deep examination, or as indicated), and supporting examination (ultrasound and laboratory) following Obstetrics and Gynecology Department of RSUP Dr. Mohammad Hoesin Palembang therapy protocol. The diagnosis of the subject is documented. Subjects who fulfilled inclusion criteria were given informed consent by the researchers to follow the research.

The subjects who agreed to participate in the study were followed by filling out the Female Sexual Function Index (FSFI) questionnaire through a research-led interview. Follow up anamnesis clinical complaints, and fill out an FSFI questionnaire 6 months postoperative total hysterectomy performed back on each patients by researchers.

Total hysterectomy surgery was performed by consultant Obstetrics and Gynecology Department of RSUP Dr. Mohammad Hoesin Palembang. Diagnosis data, pre-questionnaire answers, and total post-hysterectomy are recaptured and tabulated in Microsoft excel 2003 for window data tables for later analysis using SPSS ver: 20.0. Data analysis is carried out according to data type and data dissemination type (Kolgomorov Smirnov test). Hi, Square/ Fisher's C-test is performed for nominal and categorical data. Paired sample T-test or Wilcoxon test was conducted at interval data, ROC (Receiver Operating Characteristic) test was conducted to assess the cut-off point of FSFI score in the sample, and regression logistics test was conducted to determine the risk factor of decrease or improvement of sexual function of women undergoing total hysterectomy. Results are presented in the form of tables and graphs to facilitate data reading and analysis of results with a confidence interval (CI) of 95%.

RESULTS

A total of 40 female subjects underwent total hysterectomy who met the research criteria. Examination of sexual function is assessed before and 6 months after hysterectomy. In this study, the average age of patients who performed hysterectomy totaled 45.55 ± 9.126 years with an age range of 32 to 60 years. The majority of subjects were housewives (85%) and married (100%).

Table 1. Demographic of Research Subjects

Characteristics	Amount	Percentage
Age		
Mean ± SD	45.55 ±9.126	
Median (MinMax)	44.5 (32-60)	
Job		
Housewives	34	85.0
Private Employees	1	2.5
Honorer	1	2.5
Retired	2	5.0
Students	2	5.0
Marital Status		
Married	40	100
Unmarried	0	0

The majority of subjects in this study were multipara (85.0%) with oncology diagnosis 57.5% and gynecological diagnosis 42.5%.

Table 2. The Efficacy of Total Hysterectomy on Sexual Function

Characteristics Sexual Function	Hysterectomy		*P-value*
	before	after	
Desire			
Mean ± SD	3.175 ±0.895	3.100 ±0.941	0.849*
Median (Min-Max)	3.6 (1.2- 5.4)	3.3 (1.2- 5.4)	
Stimulation			
Mean ± SD	3.728 ±1.399	3.720 ±1.400	0.716*
Median (Min-Max)	4.3 (0,0 – 5.4)	4.2 (0.0 – 5.4)	
Lubrication			
Mean ± SD	4.180 ±1.715	4.513 ±1.596	0.261*
Median (Min-Max)	4.8 (0.0 – 6.0)	4.95 (0.0 – 6.0)	
Orgasm			
Mean ± SD	4.080 ± 1.661	4.055 ± 1.700	0.839*
Median (Min-Max)	4.4 (0.0-6.0)	4.4 (0.0-6.0)	
Sexual satisfaction			
Mean ± SD	4.490 ±1.599	4.625 ±1.493	0.613*
Median (Min-Max)	4. 8 (0.8 – 6.0)	4, 8 (0.8 – 6.0)	
Sexual pain			
Mean ± SD	3.870 ±1.674	4.05 ±1.577	0.510*
Median (Min-Max)	4.0 (0.0 – 6.0)	4.2 (0.0 – 6.0)	

*Wilcoxon Test, p = 0.05

The study showed, there was a decrease in desire, increased stimuli, increased orgasm, increased lubrication, increased sexual satisfaction, and increased sexual pain of oncology subjects after a total hysterectomy. However, with statistical analysis obtained results there were no meaningful changes in sexual function of desire (p = 0.624), stimuli (p = 0.569), lubrication (p = 0.217), orgasm (p = 0.709), sexual satisfaction (p = 0.554) and sexual pain (p = 0.273).

Table 3. Comparison of Total Hysterectomy Effect on Sexual Function Based on Organs Removed

Characteristics Sexual Function	Removed Organs		*P-value*
	Uterus	Uterus + Ovaries	
Desire			
Mean ± SD	3.240 ±0.809	2.993 ±0.946	0.078*
Median (Min-Max)	3.6 (1.2- 4.2)	3.0 (1.2- 5.4)	
Stimulation			
Mean ± SD	3.660 ±1.231	3.600 ±1.362	0.09*
Median (Min-Max)	3.75 (1.2 – 5.4)	3.75 (0.0 – 5.4)	
Lubrication			
Mean ± SD	4.720 ±0.985	4.657 ±1.494	0.354*
Median (Min-Max)	5.1 (2.4 – 5.7)	5.1 (0.0 – 6.0)	
Orgasm			
Mean ± SD	4.040 ± 1.041	3,900 ± 1,685	0.167*
Median (Min-Max)	4.0 (2.8-5.6)	4.0 (0.0-6.0)	
Sexual satisfaction			
Mean ± SD	4.420 ±1.109	4.533 ±1.458	0.279*
Median (Min-Max)	4.5 (2.4 – 6.0)	4,8 (0,8 – 6,0)	
Sexual pain			
Mean ± SD	4,400 ±0.998	4,080 ±1.598	0.875*
Median (Min-Max)	4.6 (2.8 – 6.0)	4.2 (0.0 – 6.0)	

*Mann Whitney Test, p = 0.05

DISCUSSION

Hysterectomy is a surgical procedure that can be performed vaginally, abdominally, or laparoscopic. Total hysterectomy is the removal of the entire uterus and cervix, while subtotal hysterectomy is the removal of the uterine corpus only. In this study, women who underwent hysterectomy procedures were diagnosed with gynecological and oncological disorders (fibroma/ myoma, adenomyosis, endometriosis, cystic ovarian neoplasms, solid ovarian neoplasms, and cervical cancer).

A study conducted in the northern state of India found that hysterectomy is 7% among married women over the age of 15.[8] Another studies from the western state of India showed that 7-8% of rural women and 5% of urban women had undergone a hysterectomy at an average age of 37 years. In this study, the average age of subjects who performed total hysterectomy was approximately 45 years with a range of 32 to 60 years.

Previous studies which reported the average age of subjects who performed a total hysterectomy was approximately 45 years.[9] In this study obtained the average age of the subject of oncology patients who performed a total hysterectomy of 48.04 ± 10.53 years with an age range of 32 to 60 years. Similarly, the average age of gynecological patients who performed total hysterectomy was at 42.18 ± 5.43 years with an age range of 32 to 52 years.

This finding is in line with the study in 2018 that reported the same age average, in the study reported the average age of the sample who performed a total hysterectomy approximately 45 years with a range of 19 to 75 years.[10] The study found the majority of subjects in both diagnosis groups were housewives (78.3% and 94.1%) known to be married (100%). These results are no different from another research reported the majority of hysterectomy patients were housewives (73.2%) and married (90.2%).[11]

In a previous study involving 110 patients who performed hysterectomies, found that the majority of patients were married (95.37%). The percentage and likelihood of undergoing a hysterectomy are relatively high in women with high parity.[12,13] In this study, the majority of women who performed total hysterectomy were multipara (85%), only 2 people (5%) women who have not had children (nullipara) perform a total hysterectomy. Another study also received similar results, women who performed hysterectomy total majority had children 3 - 4 people (43.92%) and only 5.8% do not have children (nullipara). This is in line with the results of this study, the majority of subjects in both groups with gynecological diagnosis and oncology are multipara (82.6% and 88.2%). Similarly, research reported as many as 30.9% of women who performed hysterectomy had children 3-4 people.[14]

Sexual function is the degree or degree of the entire normal sexual response cycle. Due to sexual excitation, the body will experience a sexual reaction called a sexual reaction cycle. Sexual reactions occur not only in the genital

organs but also in other parts of the body. Psychically there is also a change.[15]

Based on analysis of this study, there were no significant changes in sexual function in the domain of desire (p = 0.624), stimuli (p = 0.569), lubrication (p = 0.217), orgasm (p = 0.709), sexual satisfaction (p = 0.554) and sexual pain (p = 0.273) in oncology patients after undergoing a total hysterectomy procedure. This finding is similar in patients with gynecological diagnosis, i.e. there is no meaningful change in sexual function in the domain of desire (p = 0.862), stimuli (p = 0.981), lubrication (p = 0.795), orgasm (p = 0.773), sexual satisfaction (p = 1.000) and sexual pain (p = 0.599).

Previous Research conducted found that there was a decrease in sexual desire in patients who underwent a radical hysterectomy after 12 months postoperatively. A study previously reported a decrease in sexual desire in patients undergoing radical hysterectomy after 12 months postoperatively. Decreased sexual desire after hysterectomy can occur due to a history of pre-operative low libido, besides, menopausal women surgically can increase the risk of hypoactive sexual desire disorder (HSDD) or lack of libido.[16] Also, changes in vaginal length become shorter after a hysterectomy procedure causing frequent trauma during intercourse that leads to poor quality of life. Some studies state that a penis size that is disproportionate to the size of the vagina will result in trauma during intercourse that causes dyspareunia.[17]

Another Research reported that the level of dyspareunia felt by the respondents of his research after a total hysterectomy procedure was mostly in the category of mild dyspareunia (64.5%). However, this level of mild dyspareunia occurred in both groups of subjects with sexual improvement (66.7%) and subjects felt there was a sexual decline (57.1%) and there is no relationship between dyspareunia and hysterectomy procedures. It's just that there remains a link between dyspareunia and sexual gratification.[17] Previous study that mentioned the absence of differences in sexual function after hysterectomy, where it is mentioned that the pain experienced during the 3 months in the study did not come from dyspareunia but other locations namely the area around the pelvis.[17]

In previous studies proposed an FSFI cut point value of <26.55 as a diagnosis of sexual dysfunction in women.[17] Based on the results of FSFI questionnaire calculations obtained assessment that before hysterectomy as many as 24 subjects suffered from sexual dysfunction and after hysterectomy still obtained 24 subjects suffering from sexual dysfunction. Another research found no significant difference between the frequency of sexual intercourse before and after hysterectomy. It relies on many anatomical and psychological factors such as emotional interactions between partners, the intimate closeness between partners, and quality of life and physical health.[18] Previous research also found no difference in FSFI scores before and after hysterectomy (p > 0.05). Similarly, research reported no difference in FSFI score before and after hysterectomy (p = 0.931).[18] This study also assessed changes in sexual function based on organs removed with the results that there was no change in sexual function to hysterectomy procedure with uterine removal only, but there were changes in sexual function in the form of decreased desire, decreased stimuli, decreased orgasm, increased lubrication, decreased sexual satisfaction and increased sexual pain after the total hysterectomy procedure with the removal of the uterus and ovaries.

In previous study which mentioned that hysterectomy and bilateral salpingo-oophorectomy performed for benign indications cause urinary tract disorders in the short term after surgery in sexually active and healthy women, resulting in sexual dysfunction and increased depression. However, age factors, educational status, employment also affect.[19] Another study also found that only a small number of women reported sexual dysfunction after a hysterectomy. Decreased sexual function is found in long-term follow-ups that may be caused by aging and bilateral salpingo-oophorectomy.[19]

It is known that premenopausal women who undergo hysterectomy accompanied by oophorectomy may experience menopausal symptoms, such as depression, volatile emotions, communication disorders, and low self-control, which can then affect sexual function, accelerate menopause time, and reduced elasticity of the vaginal mucosa, as well as shortening of the vaginal fornix. These changes cause pain and dryness of the cervical mucus during sexual activity. Decreased estrogen levels also result in decreased libido and sexual arousal. A study found that hormonal changes only occur in premenopausal women who undergo a total hysterectomy, whereas menopausal women do not experience this.[19] It is suspected that it is for

this reason that this study generally does not show any significant changes in sexual function due to the age of the majority of the study subjects who have begun to enter menopause. After a comparison based on the organs removed also, it was found that there was no significant difference in the influence of sexual function between hysterectomy procedures in uterine removal along with the removal of the uterus and ovaries. No significant difference in overall sexual function between post-hysterectomy women and healthy control.[19]

RESEARCH WEAKNESSES

The drawback of this study is the limited number of subjects and time. Some factors that were not explored in this study such as psychological factors, the quality of harmony in the household in addition to this study was not examined the length of the vagina because the length of the vagina also affects sexual satisfaction. This study also did not analyze the subject of oncology who received chemotherapy treatment. It can be added that another influencing factor is the bias of response to culture and norms in Indonesia, sexual problems are still considered taboo.

CONCLUSION

Scores of sexual function after total hysterectomy showed decreased desire, decreased stimuli, decreased orgasm, increased lubrication, increased sexual satisfaction, and increased sexual pain. Statically, there was no significant difference in the influence of sexual function between hysterectomy procedures in uterine removal alone and uterine and ovarian removal.

ADVICE

Other follow-up research on post-hysterectomy sexual function using more specific subject characteristics, using other hysterectomy surgical procedures techniques, measured the hormonal levels of the study subjects, or used long vaginal examinations of research subjects before and after hysterectomy.

REFERENCES

1. Pemaron IBU. Differences in sexual function in post total abdominal hysterectomy and supravaginal hysterectomy at Sanglah Hospital Denpasar. E-Journal Obstet Gynecol Udayana. 2015;3(5).
2. Pangkahila W. The role of sexology in reproductive health. In: Martaadisoebrata D, Astrawinata R, Saifudin AB. Editor. Potpourri obstetrics and social gynecology. Jakarta: Yayasan Bina Pustaka Sarwono Prawirohardjo. 2005:64.
3. Pratamagriya. Female sexual dysfunction. In: Widjanarko B, Editor. Sexual Function. Jakarta; Yayasan Bina Pustaka Sarwono Prawirohardjo. 2009:70.
4. Saremi A, Homa B, Fariba F. Uterinefundectomy in patients with benign etiology undergoing hysterectomy: New surgical technique. JMIR Res Protoc. 2017:6:1-3.
5. Hoffman, Schorge, Bradshaw, Halvorson, Schaffer, Corton. Psychosocial issues and female sexuality. Gynecologist Williams Ed 23th. Jakarta. Medical Book Publisher. EGC; 2012:297.
6. Yule MA. Female Sexual Function Index. In: Michalos A.C. (eds) Encyclopedia of Quality of Life and Well-Being Research. 2014. Springer, Dordrecht.: https://link. springer.com/referenceworkentry/10.1007%2F978-94-007-0753-5_1033.
7. Illiano E, Giannitsas K, Costantini E. Hysterectomy and sexuality. Eur J Contracept Reprod. 2016:2-26.
8. Schiff L, Wegienka G, Sangha R, Eisenstein D. Is cervix removal associated with patient-centered outcomes of pain, dyspareunia, well-being and satisfactio after laparoscopic hysterectomy? Arch Gynecol Obstet. 2015;291:371-6.
9. Wulandari, B. The effect of total abdominal hysterectomy (TAH) on dyspareunia and sexuality in married couples. J Bid Il Ks. 2020; 10(1), 66–75.
10. Thomas Obinchemti E, Fidelia M K, Metogo M A, Eta-Nkongho E, Jacques Ernest N, Robinson Enow M. Prevalence and outcome of hysterectomy at the Douala General Hospital, Cameroon: A cross-sectional study. Int J Sur Res Pract. 2018 ; 5(4): 1–8.
11. Desai S, Sinha T, Mahal A. Prevalence of hysterectomy among rural and urban women with and without health insurance in Gujarat, India. Reprod Health Matters. 2011; 19(37): 42–51.
12. Liu F, Pan Y, Liang Y, Zhang C, Deng Q, Li X, et al. The epidemiological profile of hysterectomy in rural Chinese women: A population-based study. BMJ Open. 2017; 7(6): 1.
13. Shekhar C, Paswan B, Singh A. Prevalence, sociodemographic determinants and self-reported reasons for hysterectomy in India. Reprod Health. 2019;16(1): 1–16.
14. Okunade KS, Sekumade A, Daramola E, Oluwole AA. A 4-Year clinical review of elective hysterectomies at a University Teaching Hospital in Lagos, Nigeria. J Gynecol Sur. 2017; 33(5): 193-7.
15. Hoga LAK, Higashi AB, Sato PM. Psychosexual perspectives of the husbands of women treated with an elective hysterectomy. Health Care Women Int. 2012:799-813.

16. Singh A, Arora AK. Why hysterectomy rate are lower in India. Indian J Comm Med. 2008 ;33:196-7.
17. Wiegel M, Meston C, Rosen R. The Female Sexual Function Index (FSFI): Cross-validation and development of clinical cut-off scores. J Sex Marital Ther. 2005;31:1–20.
18. Kayataş S, Ozkaya, E, Api M, Çıkman S, Gurbuz A, Eser A. Comparison of libido, female sexual function index, and Arizona scores in women who underwent laparascopic or conventional abdominal hysterectomy. Turk J Obstet Gynecol, 2017;14(2): 128–132.
19. Goktas SB, Gun I, Yildiz T, Sakar MN, Caglayan S. The effect of total hysterectomy on sexual function and depression. Pak J Med Sci. 2015;31(3):700-5.