

Comparison of the Effects of Vaginal Honey Jelly with Vaginal Lubricant Gel on Atrophic vaginitis symptoms and Quality of life in Post-Menopausal Women with Endometrial Cancer

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Abstract

Background: General health and welfare of middle-aged women has become a major public health concern around the world. More than 80% of women experience physical or mental disorder symptoms during their menopausal years, which decrease the quality of their life. **Purpose:** to compare to the effect of vaginal honey jelly with vaginal lubricant Gel as an alternative treatment for vaginal atrophy and increasing the quality of life in post-menopausal women with endometrial cancer who have limitation for estrogen use. **Material and Methods:** This is a clinical trial study on 62 women with endometrial cancer referred to the Kosar Hospital in orumiye, Iran due to post-menopausal symptoms. The data were collected using a Vulvovaginal Symptom and a Quality of Life Questionnaire (VSQ) and MENQOL questionnaire. At the beginning of the study, patients were taught how to use vaginal lubricant and honey gel. The intervention period was 2 months and the collected data were analyzed using SPSS23 software. **Results:** The mean age in the study group was 55.09 ± 2.25 years and 59.67 ± 1.59 years in the control group. The mean of atrophic vaginitis score before the intervention was 4.58 ± 0.83 in the study group and 2.16 ± 0.55 in the control group. ($P = 0.02$), that after using the medication changed to 3.45 ± 0.62 in study group and 1.96 ± 0.47 in the control group ($P = 0.07$). Mean score of quality of life before intervention in the study group and control group was 29.64 ± 3.93 and 21.29 ± 3.83 respectively ($P = 0.24$), which decreased to 26.35 ± 3.71 and 17.09 ± 3.43 . the mean score of sexual problems before and after intervention in the study group was 7.03 ± 1.25 and 5.90 ± 1.02 and in the control group was 6.22 ± 1.06 and 4.64 ± 0.93 respectively. **Conclusion:** The present study showed that vaginal honey jelly can be an appropriate alternative for vaginal atrophy, sexual problems and improving the quality of life in postmenopausal women with endometrial cancer who cannot use estrogen and other hormonal medications.

Keywords: Honey Jelly, Lubricant Gel, Vulvovaginal Symptoms, Psychologic, Vasomotor.

Introduction

The General health and welfare of middle-aged women has become a significant public health concern around the world. More than 80% of women experience physical or mental disorder symptoms and several types of anxiety and disorientation during their menopausal years which reduce their life quality, (Poomalar, 2013). Various objects can diminish women life quality in postmenopausal phase, for example, Urinary incontinence stress is one of them that can influence the quality of life and leads to women escape the community and limit their activities (Seyyedi et al., 2016). Vulvovaginal disorders have an adverse effect on sexual activity, mental health and marital relationships (Nappi & Kokot-Kierepa, 2016). More than 53% of postmenopausal women suffer from painful intercourse due to vaginal dryness (Cumming et al., 2007) and painful intercourses due to decreased libido ultimately decrease the quality of their life (Cumming et al., 2009). The most common genital urinary tract symptoms in menopause is vaginal atrophy (vaginal dryness), followed by inflammation or pruritus, discharge, and dysuria. These problems result from vaginal atrophy that caused by reduction in vaginal epithelium outflow and cervical gland secretion due to estrogen loss after menopause. Vaginal atrophy is strongly associated with sexual dysfunction and problems with the lower urinary tract, such as frequent urination, nocturnal enuresis and dysuria, as well as urinary incontinence and recurrent infections. Therefore, before making irreversible changes, the vaginal atrophy should be diagnosed and treated promptly (Nappi & Kokot-Kierepa, 2016). In order to reduce the vulvovaginal atrophy symptoms, initial treatment is suggested as non-hormone vaginal creams, moisturizers and sexual function regulators are commended (Seyyedi et al., 2016). For women who have not been treated with moisturizing and non-hormone creams, estrogen treatment is recommended as a standard treatment. As the number of postmenopausal women increases, interest in estrogen also increases. The effect of estrogen on

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certain systems of the body, such as bone and cardiovascular system, is well known. But the part that is not emphasized enough on, is its effect on the genital urinary system and its main problem, genital ulcerative atrophy in relation to menopause. Atrophic vaginitis is actually an inflammation of the vagina that results from estrogen reduction. When the level of estradiol is reduced, the vaginal tissue will become atrophic, thin, dry and wrinkled (Castelo-Branco et al., 2005). The normal endometrium has a specific proliferation and distinction. Any disorder in this process can lead to pathological changes such as hyperplasia or endometrial carcinoma due to increased proliferation. Changes in the level of sex steroids, especially estrogen, androgen and progesterone, can lead to these types of pathological changes, such as hyperplasia and endometrial cancer. Studies have shown that estrogen can increase the proliferation of endometrial cells. Progesterone causes stopping of proliferation and the role of endogenous androgen on endometrium cells is not well known (Plaza-Parrochia et al., 2017). Honey is a natural product that has been widely used for its therapeutic effects. Honey is reported to consist of 200 raw materials. In fact, honey consists primarily of glucose and fructose, but also contains fructo oligosaccharide and many amino acids, vitamins, minerals and enzymes (Eteraf-Oskouei & Najafi, 2013). Honey combinations are different depending on the plants they feed on. However, almost all natural honey contains flavonoids such as apigenin pinocembrin, kaempferol, quercetin, galangin, chrysin and hesperetin, phenolic acids such as ellagic, caffeic, p-coumaric and ferulic acids, ascorbic acid, tocopherols, catalase (CAT), superoxide dismutase (SOD), reduced glutathione (GSH), Millard reaction products and peptides and Most of these materials in practice together provide synergistic antioxidant effects (Alvarez-Suarez et al., 2010). Honey has been used in traditional medicine since centuries, but has had limited use in modern medicine due to lack of scientific support (Eteraf-Oskouei & Najafi, 2013). It has long been observed that honey can be used to overcome liver, cardiovascular and digestive problems (El-Arab et al., 2006). Considering estrogen effects on body tissues and the problems and limitations of using hormonal methods and with regard to the prevalence of endometrial cancer, which is common in menopause ages, the purpose of this study is to compare the effect of vaginal honey jelly as an alternative treatment for vaginal atrophy and increasing the quality of life with vaginal lubricant Gel (as control group). Vaginal honey jelly can be an effective therapeutic alternate for women with endometrial cancer who have limitation for estrogen and other hormonal medications.

Method

This study was a one-blind randomized controlled clinical trial that is done on 62 postmenopausal women with endometrial cancer who referred to Kosar Hospital in Orumyeh, Iran with symptoms of menopause. After the approval of this research by Orumyeh University of Medical Sciences Ethics Committee, women interested in assisting in this clinical trial were asked to sign consent to the research project after clarifying the goals and the process. The women then entered their data in a questionnaire including basic characteristics, medical history, age and parity data. Finally, the participants were divided into 2 groups based on randomized sampling and individualization of the patients and the use of vaginal honey jelly or vaginal lubricant gel. 31 patients in this study received vaginal lubricant gel and 31 patients received vaginal honey jelly.

Inclusion criteria

At least 12 months of amenorrhea, vaginal atrophy symptoms, endometrial cancer.

Excluding criteria

Dissatisfaction of treatment and asking to leave the study, history of sensitivity to honey and its products.

The honey gel product used in this study was produced by Hakim treatment with Honey Research Center and the registration number was 39.1026-1 and has been used in several studies. Data were collected using the Vulvovaginal Symptom Questionnaire (VSQ) and the Quality of Life Questionnaire. Quality of life in menopause was evaluated based on the MENQOL questionnaire, which generally included 29 items with zero score for no symptoms and 6 score for maximum symptoms. Each category examines one of the menopausal problems during the last month, such as vasomotor (item 1-3), psychological (item 4-10), physical (item 11-26) and sexual (item 27-29). This questionnaire has been used in various studies in Iran that has been standardized and valid. The questionnaire was completed by the person outside the study before and after the intervention as an interviewer who is blind to the type of intervention. At the beginning of the study, patients were taught how to use vaginal creams. Vaginal creams were used once every night by an applicator for the first 2 weeks, then only 4 nights during a week for the next 2 weeks and finally 2 nights during a week until the end of the study. The intervention period was 2 months.

Results

At the beginning of the study, 64 cases of postmenopausal women with endometrial cancer referred to the Oncology Clinic of Motahari Hospital of Orumyeh were enrolled. 2 patients were excluded due to absence of regular follow up visits and finally the study was conducted with 62 women with endometrial cancer. 31 women received vaginal honey jelly study group), and 31 patients received vaginal lubricant gel, which were considered as control group. The mean age in the study group was 55.09 ± 2.25 years and

in the control group was 59.67 ± 1.59 years. According to T-test, there was no significant difference between the mean age of the 2 groups ($P = 0.09$).

The mean number of pregnancies (gravid) in the study group was 4.09 ± 0.51 and in the control group was 5.53 ± 0.59 times. There was no significant difference between the mean number of pregnancies in both groups ($P = 0.07$). (Table1)

Table 1. Comparison of mean and standard deviation of demographic characteristics of the two groups

Criteria	Control group	Study group	P.value
Age	59/67±1/59	5/59 ±2/25	0/09
Gravida	5/53±0.59	4/9±0.51	0/07

According to pathology smear findings, 14 patients of study group (45.2%) and 12 case (38.7%) in control group had vaginal atrophy. According to Fisher Exact test, there was no significant difference in pre-treatment vaginal atrophy between both groups ($P = 0.39$). After intervention pathology exam showed that 8 patients in study group (33.3%) and 9 patients (39.1%) in control group had vaginal atrophy. According to Fisher Exact test, also there was no significant difference in post-treatment atrophy in both groups ($P = 0.45$). Endometrial cancer grading in 8 patients of study group (25.5%) was Grade Ib, 23 patient in study group (74.2%) was grade Ia, 9 patient in control group (29%) was grade Ib and in 22 patients (71%) of control group was grade Ia. According to Fisher Exact test, there was no significant difference between the cancers grading in both groups.

The mean Atrophic vaginitis score was 4.58 ± 0.83 in the study group and 2.16 ± 0.55 in the control group before using medication. The mean of atrophic vaginitis score after using the gel in the study group was 3.45 ± 0.62 and in the control group was 1.96 ± 0.47 . According to non-parametric Mann-Whitney test, there was a significant difference between the mean vaginitis score before and after the gel use in both groups ($P = 0.02$). The mean score of atrophic vaginitis is decreased after gel use in the study group but this change was not statistically significant.

Mean score of quality of life before treatment in the study group was 29.64 ± 3.93 and in the control group Was 21.29 ± 3.83 . According to Mann Whitney test, there was no significant difference between the quality of life scores between the two groups before the treatment ($P = 0.24$). Mean score of quality of life after intervention in the study and control group was 26.35 ± 3.71 and 17.09 ± 3.43 respectively. According to Mann Whitney test, there was no significant difference between the quality of life scores of the two groups after the treatment ($P = 0.09$).

There is statistically significant difference between the change of mean quality of life score in both groups.

Mean pre-treatment psychologic score in the study group was 14.87 ± 2.07 and in the control group Was 11.51 ± 2.17 . According to Mann Whitney test, there was no significant difference between the two groups in the psychologic score ($P = 0.09$).

The mean psychological score after treatment in the study group was 15.25 ± 2.70 and in the control group 8.54 ± 1.60 According to the Mann-whitney test, there was a significant psychological difference between the two groups ($P = 0.04$).

The mean score of sexual problems before treatment in the study group was 7.03 ± 1.25 and in the control group was 4.64 ± 0.93 . According to Mann Whitney test, there was no significant difference between the two groups in terms of sexual problems score ($P = 0.80$).

After taking the treatment, score of sexual problems in the study group and control group changed to 5.90 ± 1.02 and 4.64 ± 0.93 , respectively. Mann-Whitney test did not show a significant difference in terms of sexual problems between the two groups ($P = 0.38$). The mean vasomotor problem score before treatment in the study group and control group was 5.77 ± 1.06 and 5.03 ± 0.33 that changed to 4.83 ± 1.06 and 4.87 ± 1.01 after treatment.

Table 2: Comparison of mean and standard deviation before and after treatment in two groups

Criteria	Control group	Study group	P.value
Atrophic Vaginitis	0/19 ± 0/31	1/19 ± 0/53	0/02
Sexual problems	1/58 ± 0/58	1/12 ± 0/87	0/67
Life quality	4/19 ± 1/52	3/29 ± 10/06	0/63
Psychogenic	2/96 ± 0/92	-0/83 ± 1/63	0/07
Vasomotor problems	0/16 ± 0/35	0/93 ± 0/58	0/26

Discussion

According to this study, the mean of atrophic vaginitis in the study group and control group before the using of the gels was significantly different, so that in the study group, the mean atrophic vaginitis score was 4.58 ± 0.83 vs. 2.16 ± 0.55 . although no significant difference was observed between the score of two groups after intervention, but the mean atrophic vaginitis score in the study group decreased to 3.45 ± 0.62 Which show the effect of honey jelly on vulvovaginal symptoms. Also, in our study, the control group in comparison to the study group had a lower atrophy rate, which was considered as the mean difference of atrophic vaginitis score before and after treatment in the study group was 1.19 ± 0.53 and in the control group was 0.19 ± 0.31 which There was a significant difference between the two groups before and after treatment ($P = 0.02$). This means that the vaginal honey jelly showed a better effect than vaginal lubricant gel.

A study by Zaid and colleagues in the mice which treated with honey for 2 weeks significantly increased uterine weight and showed an increase in the thickness of the vaginal epithelium and improvement of the morphology of tibia and more weight loss, compared to the control group. The levels of estradiol and progesterone in the group treated with honey were significantly lower compared to oophorectomy group. In the low dose honey recipient, increased serum free testosterone levels were seen compared to control group. The tualang honey showed beneficial effects in menopause symptoms, prevention of uterine atrophy, increased bone density and prevention of weight gain, suggesting that honey could be an effective substitute for hormone therapy (Zaid et al., 2010). these findings showed that the vaginal honey jelly had affected vaginal symptoms, quality of life, and vasomotor problems in women with endometrial cancer.

In a study done by Murat (Ekin et al., 2011) on postmenopausal women treatment with estradiol and hyaluronic acid vaginal pills reduced vaginal symptoms, improved epithelium atrophy, decreased vaginal pH and increased vaginal epithelium maturation in both groups. These changes occurred in estradiol group more than group 2, which ultimately concludes vaginal hyaluronic acid pills can be used in patients with atrophic vaginitis who are reluctant to estrogen use.

The results of our study also showed that patient's vaginal atrophy improved after using vaginal honey jelly which increased their satisfaction, quality of life and the psychological relief in this group compared to the Lubricant gel user group.

In a study done by Gloria Bachmann and colleagues (Bachmann et al., 2005). Who examined the effect of low and high estradiol dosage (10mcg and 25 mcg), their results showed that vaginal pills with 25 mcg and 10 mcg estradiol both significantly improved the combined vaginal health score. Improvement of vaginal atrophy symptoms and quality of life in honey gel user group, suggests that vaginal PH levels have not decreased.

In our study, the sexual function score in the honey gel users group decreased from 7.03 ± 1.25 to 5.9 ± 1.02 , indicates improved sexual satisfaction in postmenopausal women after treatment. Although the results is not statistically significant. In a study by Hardip Kaur Dhillon and colleagues in 2005, examined the sexual function of women in postmenopausal women. Sexual desire was reduced or lost in two-thirds of the participants. Sexual function appears to be significantly reduced during menopause. In our study, the mean psychologic scores before using the gel was 14.87 ± 2.07 in the study group, which increased to 15.25 ± 2.70 after using the gel, but in the control group, the mean of the psychologic score before using the gel was 11.51 ± 2.17 which decreased to 8.54 ± 2.17 after using lubricant gel. Therefore, the mean psychologic score change in the two groups was significantly significant, which resulted in the satisfaction of the patients in the vaginal honey jelly users group compared to the lubricant gel users. Also according to researches done for improving the quality of life and psychological problems in cancerous patients around the world, the use of counseling and interviewing sessions along with psychological strengthening of these patients significantly improved the quality of life and increased Satisfaction and their participation in the community Our findings suggest that vaginal honey jelly can be a good alternative to estrogen and progesterone and it is needed for more studies for suitable dose and frequency of use. In general, it can be concluded that vaginal honey jelly has a good effect on post-menopausal women with endometrial cancer in reducing atrophy, improving the quality of life, and eliminating the sexual and psychosocial problems of these patients (Eteraf-Oskouei & Najafi, 2013).

Conclusion

Referring to the fact that the present study is the first study conducted in Iran and the duration of the study was two months, and perhaps the failure to reach the significant results in this study for several reasons such as low sample size and short interval of intervention and etc , but according to the effects of estrogen on the tissues of the body and the problems and limitations of using hormonal methods and with regard to the prevalence of endometrial cancer, which is common in menopause ages , honey Vaginal jelly is a good alternative for estrogen replacement therapy in the treatment of vaginal atrophy and it can increase the quality of life of this group of women and decreases the symptoms in specific groups of menopausal women without any hormonal complications and steroid treatment constraints.

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