

# The Effectiveness of Mindfulness-Based Cognitive Therapy on Psychiatric Symptoms, Marital Satisfaction, and Sexual Function of Women aged 25-45 Years Old with Candidal Vaginitis in Shahrekord County

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## ABSTRACT

**Background:** Candida vaginitis is the second leading cause of female genital tract infection, which is often caused by *Candida albicans*.

**Aim:** To investigate the effectiveness of mindfulness-based cognitive therapy (MBCT) on psychiatric syndromes, marital satisfaction and sexual function in women aged 25 to 45 years with Candida vaginitis in Shahrekord city.

**Methods:** A quasi-experimental study with pretest-posttest design was performed on 60 people. Participants were randomly divided into two groups of 30 each, i.e., control and intervention.

The intervention group completed the questionnaires of psychiatric syndromes, marital satisfaction and sexual function, and underwent MBCT in 8 sessions of 2 hours (weekly one session). After the completion of the course, the tests were re-administered to both groups. The results were analyzed using SPSS version 16.

**Results:** The results on the effect of MBCT on psychiatric syndromes in women showed that there was a significant difference between the mean post-test scores of the experimental and control groups ( $p < 0.05$ ,  $F = 45.7$ ). The effects of MBCT on marital status in women in the experimental and control groups were significantly different ( $p < 0.05$ ,  $F = 18.5$ ). MBCT also caused a significant difference in sexual function between the two groups ( $F = 35.9$ ,  $p < 0.05$ ).

**Conclusion:** MBCT is effective on psychiatric syndromes, marital satisfaction, and sexual function of women.

**Key words:** Mindfulness-Based Cognitive Therapy, Psychiatric Syndromes, Marital Satisfaction

theory often used to refer to the way people live<sup>9</sup>. One of the important components of lifestyle is the concept *mindfulness*.

Mindfulness is a method to live a better life, relieve pain and enhancing the to make enriched and meaningful to one's inner and subjective satisfaction<sup>10</sup>. Various studies have shown the usefulness of mindfulness in certain cases such as stress and chronic pain<sup>11</sup>, behavioral abnormalities such as aggression and substance abuse<sup>12</sup>, social anxiety, individual differences, learning styles and mental health in women.

In addition, it should be noted that candida vaginitis is effective on psychiatric syndromes, marital satisfaction, and sexual desires and behaviors of women.

Therefore, given that one of the common problems in women is the frequent acquisition of candida vaginitis, this disease leads to physical and psychological consequences and affects the sexual desire and behaviors of patients, it is therefore essential to identify the physical and psychological consequences of the infection, especially with respect to sexual and marital affairs<sup>13</sup>.

Studies have shown the efficacy of mindfulness-based stress reduction for many conditions, including chronic pain (14), flash<sup>15</sup>, asthma (16), depression<sup>17,18</sup>, psoriasis (19), and fibromyalgia<sup>20</sup>.

Mindfulness has even been reported to act as a complementary intervention in patients with complex medical conditions, including cancer and psychological depression, as well as to promote promoting health and mental health-related quality of life mental health, with positive effects far beyond those of the primary treatment course<sup>21</sup>.

## INTRODUCTION

Candida vaginitis is a common female genital tract infection that is caused by Candida species, which is the second leading infection following vaginitis due to anaerobic bacteria. Most women sometimes acquire vaginitis in their lives<sup>1</sup>.

Vaginitis is the most common infection in the genital tract and is common among women in primary care wards and in obstetrics and gynecology clinics. It is estimated that vaginal infection alone accounts for 10% of the outpatient referrals to gynecology health centers<sup>2</sup>.

Vaginitis, a general term, leads to vaginal wall inflammation and is generally caused by one of the three infections, i.e. yeast infections, bacterial vaginitis and trichomoniasis<sup>3,4,5</sup>.

Vaginitis is a global health problem affecting men, women, families and communities. This infection may lead to very adverse consequences such as infertility, abnormal pregnancy, chronic pelvic pain, abortion, and an increased risk of HIV transmission, early delivery, or low birth weight. Therefore, it is important to prevent and treat this infection properly<sup>5,6,7,8</sup>.

Regarding the above-mentioned, lifestyle is associated with vaginitis. The term *lifestyle* represents a

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After completion of the course, the tests were re-administered to both groups and the results were analyzed by the SPSS version 16 by covariance test, ANOVA, the One Sample Kolmogorov-Smirnov Test and Shapiro Test.

## RESULTS

The results of data analysis showed that the MBCT was effective on psychiatric syndromes, marital satisfaction and sexual function of women. As shown in Table 2,  $F$  is equal to 4.45, which is statistically significant with  $df$  of 1 and 57 at the significance level of 0.008, and since this value was lower than 0.05, it was concluded that the intervention and control groups' psychiatric syndromes were significantly different and the mean post-test scores of the intervention and control groups were 0.991 and 1.35, respectively, indicating that the intervention group attained a lower mean post-test score on the psychiatric syndromes than the control group.

The effect size or the difference was equal to 0.11, that is, 11% of the variance in the post-test scores of the psychiatric syndromes can be attributed to the MBCT. The statistical power is equal to 0.76.

As shown in Table 3,  $F$  is equal to 1.75, which was statistically significant with  $df$  of 1 and 57 at the significance level of 0.027, and since this value was lower than 0.05, it was concluded that the marital satisfaction in the intervention and control groups was significantly different, with the mean post-test scores of 154.71 and 134.72, respectively, indicating that the intervention group attained a higher mean post-test score on the marital satisfaction than the control group.

As shown in Table 4,  $F$  is equal to 9.35, which was statistically significant with  $df$  of 1 and 57 at the significance level of 0.000, and since this value was lower than 0.05, it was concluded that the sexual function in the intervention and control groups was significantly different, with the mean post-test scores of 26.95 and 24.09, respectively, indicating that the intervention group attained a higher mean post-test score on the sexual function than the control group.

The effect size or difference was also equal to 0.14, that is, 14% of the variance in post-test sexual function score could be explained by the MBCT. The statistical power was also obtained 0.85.

The aim of this study was to determine the effectiveness of mindfulness-based cognitive therapy (MBCT) on psychiatric syndromes, marital satisfaction and sexual function of women aged 25-45 years with candida vaginitis in Shahrekord County to achieve an effective approach to improve the level of women's health.

## MATERIALS AND METHODS

The present study was a semi-experimental, controlled study with pretest-post-test design. The study population consisted of all women referred to the Specialized Clinic of Hajar Hospital in Shahrekord who referred to gynecologist for gynecologic problems.

The sample size was determined to be 60 according to clinical trials. The participants were randomly selected from the study population during 2012-2013 by clinical interviews and paraclinical diagnosis, and then were randomly divided into two groups, namely, intervention and control. First, participants were selected by convenience sampling, and then were randomly assigned to intervention and control groups.

Every efforts were made to match the two groups by demographic characteristics and other factors and both groups underwent a routine medical treatment. After the participants were assigned to the two groups, the tests were administered to the two groups and then the intervention group underwent MBCT in group during 8 sessions of 2 hours. The sessions were held twice a week and the participants given homework tailored to the content of the sessions. During this period, no psychological intervention was performed on the control group.

The inclusion criteria were lack of suffering from physical and mental problems and disabilities, lack of undergoing drug therapy, lack of any mental disorders, not having undergone any psychological treatment in the last six months, and providing consent to participate in the study.

Data collection instruments included the *Symptom Checklist-90-R* (SCL-90-R), *ENRICH Marital Satisfaction Scale* and the *Female Sexual Function Index* (FSFI). The first part of the research instrument included items on the patient's demographic information such as age, marital status and education, and the second part addressed the studied variables.

Table 1: Contents of therapeutic sessions

Sessions	Session contents
First session	Giving introductory information about the disease, training meditation to examine the body with an emphasis on gaining knowledge about body activities such as conscious eating and conscious walking
Second session	Continuing exploration of body feelings, teaching meditation with conscious breathing, doing exercise and meditation as a homework
Third session	Learning soft yoga movements for mitigating physical symptoms of stress and gaining knowledge, and fine and delicate movements of the body, doing homework including exploration of body feelings and soft yoga
Fourth session	Teaching and practicing meditation with emphasis on perception of body feelings, homework including soft yoga, meditation (for a long time), gaining knowledge about stress response
Fifth session	Exercising sitting meditation with an emphasis on stress and how to deal with it in special conditions, doing homework, continuing exploration of body feelings, soft yoga, meditation
Sixth session	Physical meditation, continuing exploration of body physical feelings, soft yoga, meditation
Seventh session	Talking about and exercising stress and communication, and doing homework including exploration of body feelings, soft yoga, meditation
Eighth session	An overview of the sessions, continuing meditation exercise and consciousness without emphasis on the continuation of the exercises after the completion of the sessions, eliciting the participants' feedback about the mindfulness and the assigned exercises

Table 2. The post-test results of covariance analysis on the effect of mindfulness-based cognitive therapy on the psychiatric syndromes of patients with candida vaginitis in post-test

Source	Sum of squares	df	Mean square	F	Significance level	Eta square	Statistical power
Pretest	14.52	1	14.52	54.60	0.000	0.48	1
Group membership	1.98	1.57	1.98	7.45	0.008	0.11	0.765

Table 3. The post-test results of covariance analysis on the effect of mindfulness-based cognitive therapy on the marital satisfaction of patients with candida vaginitis in post-test

Source	Sum of squares	df	Mean square	F	Significance level	Eta square	Statistical power
Pretest	777.132	1	777.132	74.87	0.000	0.53	1
Group membership	488.00	1.57	488.00	5.18	0.027	0.08	0.609

Table 4: The post-test results of covariance analysis on the effect of mindfulness-based cognitive therapy on the sexual function of patients with candida vaginitis

Source	Sum of squares	df	Mean square	F	Significance level	Eta square	Statistical power
Pretest	838.195	1	838.195	64.41	0.000	0.53	1
Group membership	121.76	1.57	121.76	9.35	0.003	0.14	0.852

Behavioral activation and concentration interventions can be a useful framework for providing more research on the non-clinical population that seeks to increase their health and learn skills to protect them against depression and other mental health problems. The MBCT reduces these symptoms by teaching cognitive techniques such as the recognition of everyday autonomous thoughts, the unreality of these thoughts, the multiplicity and the observation of thoughts, and explaining the ways through which they can see their thoughts differently.

In fact, this treatment helps these people see their thoughts and their behavioral responses as different from the previous ones. The approach to achieve this purpose is MBCT. The statistical power was obtained 0.76. The research data and the results of the covariance analysis revealed that there was a significant difference between the mean post-test scores of the experimental and control groups ( $F = 5.18$ ,  $P < 0.05$ ). Therefore, the MBCT course affected and increased marital satisfaction in the intervention group. The effect size was equal to 0.08, that is, 8% of the variance in the post-test marital satisfaction scores was due to the MBCT.

In addition, in explaining the above findings, it can be suggested that MBCT increased marital satisfaction with a significant difference in the subscales financial monitoring, marriage and children, sexual intercourse and ideological orientation between the control and intervention groups and a comparatively higher mean post-test score in the intervention group. The findings on the efficacy of the MBCT on marital satisfaction are in line with the study of Stuart et al<sup>23</sup>.

Regarding the results on the third hypothesis stating the efficacy of MBCT on sexual function, the research data and the results of the covariance analysis revealed that there was a significant difference between the mean post-test scores of the experimental and control groups ( $F = 9.35$ ,  $P < 0.05$ ). Therefore, the MBCT course affected the sexual function so that it improved the sexual function and decreased sexual dysfunction in the intervention group.

The effect size or difference was 0.14, that is, 14% of the variance in sexual function after the test was related to the effect of the MBCT course. The statistical power was also obtained 0.85. In explaining the above findings, it can

## DISCUSSION

Candida vaginitis is the second leading cause of female genital tract infection, which is often caused by *Candidaalbicans*.

Because one of the most common problems in women is the frequent acquisition of candida vaginitis, this disease has physical and psychological outcomes and affects the sexual desire and behaviors of patients.

The identification of the outcomes of mindfulness is a method to live a better life, relieve pain and make the life enriched and meaningful to one's inner and subjective satisfaction.

In this study, 60 women with candida vaginitis were studied by SCL-90-R, *ENRICH Marital Satisfaction Scale* and FSFI. The results of the covariance analysis showed that there was a significant difference between the mean post-test scores of the experimental and control groups ( $F=7.45$ ,  $P < 0.05$ ). Therefore, the MBCT course affected psychiatric syndromes and reduced psychiatric symptoms in the intervention group. The effect size or difference was obtained 0.11, that is, 11% of the variance in the post-test scores of the psychiatric syndromes could be explained by the effect of the MBCT. It can be argued that the MBCT caused a reduction in psychiatric syndromes.

Anxiety, obsession, and anxiety were one of the problems experienced by the participants. Nirenberg and Sport trained 145 treated depressed patients using the MBCT, and after a 60-week follow-up, observed that the likelihood of developing depression in patients who had a high risk of the disease recurrence (for example, those who had three or more periods of depression) was 40%, while the likelihood of developing depression in a depressed person who had not undergone the training was 66%.

The study of the Basirat et al. in 16 non-clinical samples for 4 weeks, which was conducted using behavioral activation and concentration intervention, indicated that progression in psychological stresses and several other indicators in behavioral activation occurred and half of the participants experienced a significant clinical improvement in the amount of time feeling happy after the intervention, and a quarter of the participants reported such improvement after the follow-up<sup>22</sup>.

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be argued that MBCT improves women's sexual function, with a statistically significant difference in the subscales sexual desire, sexual satisfaction, and sexual pain between the control group and the intervention group and comparatively higher mean post-test score in the intervention group.

The findings of this section are in line with the studies of Ahmadi and Jamilian et al., showing that the MBCT is effective to improve sexual function<sup>19,24,25</sup>.

In other studies, women who completed full psychotherapy have improved their sexual function and sexual intercourse compared to those who were not treated<sup>26,27</sup>.

In general, a research has suggested that psychotherapies that are used to increase sexual desire and orgasm in women should be strongly supported and that combination treatments should be provided to men whenever possible. In this study, the training provided improved sexual function in individuals. It should be noted that under the subscales of orgasm, psychological stimulation, and humidity, the level of statistical significance was greater than 0.05 and there was no significant difference between the control and intervention groups.

Obviously, the significance of the second hypothesis in the sexual intercourse subscale along with the third hypothesis (sexual function) indicated that this treatment had a significant effect on women's sexual function.

## CONCLUSION

The results of this study confirmed the efficacy of the MBCT on psychiatric syndromes, marital satisfaction and sexual function in women aged 25-45 years with Candida vaginitis in Shahrekord.

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