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Investigation of the effect of mindfulness on sexual desire and sexual satisfaction in primigravida pregnant women

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Abstract:

BACKGROUND: Pregnancy causes a set of complex physiological and psychological changes that affect marital relationships. Mindfulness is a form of meditation that can promote person's performance and perception of sexual relationships. The present study aimed to determine the effect of mindfulness on sexual desire and sexual satisfaction in primigravida pregnant women.

MATERIALS AND METHODS: The present study is a quasi-experimental that has investigated on 72 primigravida pregnant women. The samples were selected randomly and assigned to experimental and control groups. The experimental group received six 90-min sessions of mindfulness intervention, and the control group received the educational pamphlet. The female sexual function index (FSFI) was filled by the subjects of the two groups in three stages of before the intervention, a week, and a month after the intervention. Data analysis was done by SPSS20 (Statistics 20 software; SPSS Inc., Chicago, IL, USA) at the significance level of 0.05.

RESULTS: According to the statistical tests, there was no significant difference between the two groups in terms of demographic characteristics and pregnancy information. The findings suggest no significant difference between the mean pretest and posttest score of sexual desire in the two groups ($P > 0.05$). However, the two groups were significantly different in terms of the mean score of sexual satisfaction before and after the intervention ($P < 0.05$).

CONCLUSION: By increasing the concentration on the present moment and avoiding judgment, mindfulness can increase sexual satisfaction. However, sexual desire can be affected by various factors such as the cultural context, the quality of marital relationships, and the pregnancy hormonal changes that can influence the sexual response.

Keywords:

Mindfulness, pregnant women, primigravida, sexual desire, sexual satisfaction

Introduction

As the introducer of psychoanalytic theory, Freud considered sexual desire as a natural and physiological phenomenon that is the basis of human needs. According to Maslow, the humanist theoretician (1960), in the case of dissatisfaction of this need, it can significantly affect the human's transcendence.^[1]

Sexual desire is one of the main aspects of health^[2] that is closely related to satisfaction with other aspects of life.^[3] Satisfactory sexual relationship is considered an important factor in survival of a family, and it can widely affect the couples' relationships by influencing their thoughts and emotions.^[4] Lack of sexual satisfaction leads to the sense of failure and insecurity in couples, and finally, it can ruin the family foundation.^[5] Sexual dissatisfaction has been reported as the cause of 40% of divorces in Iran.^[6]

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Sexual desire and satisfaction are multifactorial and multidimensional phenomena, and they vary depending on individual, cultural, and value differences in couples.^[7] Sexual desire and satisfaction have a medium level of correlation. In general, sexual desire is related to internal thoughts, and sexual satisfaction is related to the overall sexual and mental health and the general internal thoughts.^[8]

Pregnancy is one of the factors that can affect the quality of sexual relationships.^[9] Pregnancy causes a set of complex physiological and psychological changes that affect marital relationships so that it can make marital relationships more in-depth or less strong.^[10] On the other hand, lifestyle changes can also affect the couples' expression of their demands, sexual behaviors, and sexual performance.^[11]

Comparison of the areas of sexual function over the different trimesters of pregnancy showed that the lowest and highest mean scores have been reported for sexual desire and sexual satisfaction. The decreased desire to sexual relationships during pregnancy that can last for several months after the delivery may lead to the occurrence or intensification of sexual disorders in couples.^[12] The primary studies of sexual relationships during pregnancy show sexual desire decreases with the advance of pregnancy.^[13] A study has reported the prevalence rate of decreased sexual desire in pregnancy about 57%–75%.^[14] The sexual desire problems of the second trimester of pregnancy are lower than other trimesters.^[15]

Sexual satisfaction decreases in the first trimester of pregnancy. This reduction is caused by the adoption processes that are manifested by negative changes in mood. During the second trimester of pregnancy when the individuals have a better condition, sexual satisfaction is increased.^[16] There is a significant relationship between sexual satisfaction over the third trimester of pregnancy and several factors such as the couples' age, the wife's education, the economic condition of the household, occupational situation, planned pregnancy, and sexual desire. A study reported the women's sexual dissatisfaction over the third trimester of pregnancy about 0.9%.^[17] Another study showed that the mean scores of sexual desire do not significantly vary in the different trimesters of pregnancy, whereas the mean score of sexual satisfaction in the third trimester has been significantly higher than the first trimester of pregnancy.^[18]

The stop or decrease in the number of sexual activity during pregnancy may impact the couples' emotional relationship and the quality of their sexual life and increase their irritability. At least in women,

sexual desire can be facilitated by the awareness of physical senses and emotions and better emotional regulation.^[10]

Mindfulness is one of the factors that can promote the person's function and perception of sexual relationships.^[19] In simple words, mindfulness means the awareness of thoughts, behaviors, emotions, and physical senses, and it is considered a special form of attention in which the two elements of presence in the current moment and avoiding judgment are highly valuable.^[20] Mindfulness includes the cognitive therapy practices and body review, and it creates a relationship between the mood, thoughts, emotions, and physical senses.^[21] Mindful people express more adjustability, higher levels of self-inhibition, and positive attitude to their spouse in case of facing environmental stressors.^[22] Hence, they experience more effective relationships and consequently increased sexual satisfaction and improved sexual function.^[23]

Normal sexual function is a part of women's sexual and mental health. Regarding the importance of sexual health over the different stages of life such as pregnancy and the major role of pregnancy in sexual relationships and the family's cohesion, sexual health is one of the most important concerns in pregnancy cares.^[24]

For women and especially those who have not had the experience of pregnancy and its physical and mental problems, this period can be a starting point of sexual problems or intensify the previous problems. Study of sexual desire and satisfaction in pregnant women provides a comprehensive recognition of their needs in this period, and providing them with training programs will help them to spend this period more easily and have a favorable experience of that. Regarding the different findings of studies and the ambiguous and contradictory claims about sexual function in pregnancy, further studies should be done in this field. Hence, the present study aimed to determine the effect of mindfulness on sexual desire and sexual satisfaction in primigravida pregnant women.

Materials and Methods

Study design and setting

After preparing the list of the subjects' name and their phone number, the researcher called them and explained them the research goals and procedure. In the cause of the mothers' willingness to participate in the study, they were asked to refer to the health centers. Then, the samples received some explanations about the goals and procedures again, and in case of willingness, they filled an informed consent form.

Then, the researcher filled demographic characteristics and pregnancy information questionnaires for every subject, and female sexual function index (FSFI) questionnaire was distributed among the subjects. Meanwhile, the women received some explanations about how to fill the questionnaires. Then, the researcher started the mindfulness training sessions.

The experimental group was divided into three groups. Every group received six 90-min weekly sessions of mindfulness under the supervision of an advisor professor.

The educational content of the training sessions was planned as the following:

- Session one: General contents and focusing on the present moment
- Session two: Physical mindfulness
- Session three: Emotional mindfulness
- Session four: Thinking mindfulness
- Session five: Body, thought, and emotion mindfulness
- Session six: Mindfulness regimen.

At the end of every session, the subjects received a pamphlet of the summary of the trained contents and skills, and they were asked to practice the educational contents at least twice a day.

The subjects who were absent from the sessions for one or two session received the educational podcasts via Telegram.

The subjects of the control group also filled the informed consent form, demographic characteristics, pregnancy information, and FSFI questionnaires. Then, they received the educational brochures of pregnancy physiology, pregnancy nutrition, pregnancy risk factors, and prevalent pregnancy problems (the contents that were irrelevant to mindfulness).

A week and a month after the last session of mindfulness training, the online FSFI questionnaire was sent to the experimental and control groups subjects, and they also received some explanations about filling them at home.

The collected data were analyzed by independent *t*-test, repeated measures ANOVA, and Mann–Whitney U-test at the significance level of $P < 0.05$.

Study participants and sampling

To decrease the bias in the results, the samples of the experimental and control groups were selected out of different health centers. The sampling centers were selected randomly and based on lottery. For this purpose, first, the names of six centers were separately written on six pieces of paper and put inside a box. After shaking

the box, the researcher got the papers out one by one. It was continued until getting out the names of three centers determined as the intervention sampling centers, and three other centers were also selected as the control centers. After reviewing the medical files of pregnant women in SIB system, the women having the inclusion criteria were assigned a two-digit number. In this way, 72 people (36 people from the intervention centers and 36 people from the control centers) were selected by random numbers (Excel) in terms of the share of pregnant women covered by each health centers.

The inclusion criteria included: willingness to participate in the study, literacy, having a smart phone and Telegram, the age of 18–35 years, the first pregnancy, the gestational age between 14–24 weeks, getting pregnant naturally, no smoking, and no use of the drugs that affect sexual function (such as blood pressure and blood sugar drugs), no drug addiction in the women's spouse, no report of topical genital problems and pelvic disorders, no record of genital system surgery, no endocrine disorders, no nervous disorders and depression, no threat of abortion or cervical insufficiency, singleton pregnancy, and monogamous families.

The exclusion criteria included: unwillingness to continue participating in the study, absence in mindfulness training sessions for more than two sessions, being far from the spouse for any reason, sudden tension, and stress or new pregnancy problems (diagnosed by asking the subjects).

Data collection tool and technique

Data collection tools include the demographic characteristics, pregnancy information, and FSFI (female sexual function index) questionnaires.

In the FSFI questionnaire, in the area of sexual desire, each question was assigned a score of 1–5, and in the area of sexual satisfaction, each question was assigned a score of 0 or 1–5. The total score of sexual desire was multiplied by 0.6 and the final score ranged between 1.2 and 6. The total score of sexual satisfaction was multiplied by 0.4 and the final score ranged between 0.8 and 6. The cutoff points of sexual desire and sexual satisfaction were, respectively, equal to 3.3 and 3.8. In other words, the final scores that were above the mentioned values indicated a favorable function.

FSFI is a tool for measuring women's sexual function. This questionnaire was designed by Rosen *et al.*, and its reliability ($r = 0.79–0.86$) has been reported as 0.82 by Cronbach's alpha coefficient.^[25] In Iran, Mohammadi *et al.* have approved the reliability and validity of the questionnaire with the Cronbach's alpha coefficient of 0.70, they reported a high level of differential validity of this test.^[26]

Ethical consideration

This research is a single-blinded quasi-experimental conducted in two groups over three stages (2019–2020). The subjects were the primigravida pregnant women referring to the selected health centers of Isfahan, and it has been registered in the Ethics Committee of Isfahan University of Medical Sciences under the ethics code IR.MUI.RESEARCH.REC.1398.491.

To observe the ethical consideration and keep the subjects privacy, the subjects were assigned a nickname, and they were asked to memorize their nicknames and write their nicknames on their filled questionnaires.

Finally, all the contents of mindfulness sessions were sent to the control group subjects via Telegram.

Results

In this research, 72 primigravida pregnant women were included in the study, and finally, 65 people filled the questionnaires (32 people in the experimental group and 33 people in the control group).

Independent *t*-test showed that there was no significant difference between the two groups in terms of the women's age, their spouses' age, the marriage duration, Pre-pregnancy body mass index, and gestational age [Table 1].

Mann–Whitney U-test showed that the women's education and economic status were not significantly different in the two groups.

Independent *t*-test showed that there was no significant difference between the two groups in terms of the mean score of sexual desire a week and a month after the intervention ($P > 0.05$) [Table 2].

Independent *t*-test showed that the mean score of sexual satisfaction a week and a month after the intervention was significantly higher in the experimental group than the control group ($P < 0.05$) [Table 3].

The mindfulness intervention caused no complication such as vaginal bleeding, abortion, and preterm labor.

Discussion

The present study is a quasi-experimental that has aimed to determine the effect of mindfulness on sexual desire and sexual satisfaction in primigravida pregnant women.

The findings suggested that mindfulness intervention does not have any significant effect on sexual desire in pregnant women. This finding is consistent with the results reported by Bagherzadeh *et al.*^[27] and Martins *et al.*^[28] and inconsistent with the study performed by Adam *et al.*^[29] and Dascalu and Brotto.^[30]

Bagherzadeh *et al.* reported that there was no significant difference between the mean scores of sexual desire in mindfulness intervention and control groups before and after the intervention.^[27]

Martins *et al.* showed that there is no significant difference between the high and low levels of mindfulness in the area of sexual desire.^[28]

Sexual desire is a mental psychological experience and a multifactorial and multidimensional phenomenon that can be significantly different depending on the individuals' cultural values. The main factor in marital relationships is sexual desire, and it is closely related to the quality of relationship. Low sexual desire is not necessarily caused by marital problems in the couples' life. Although sexual desire and activity are usually accompanied, sexual function is not necessarily an indicator of adequate sexual desire and lack of sexual activity does not necessarily indicate the lack of sexual desire.^[7,31]

The anatomical, physiological, and mental changes caused by pregnancy can affect sexual function during pregnancy.^[32] The sudden physical changes during pregnancy create a different feeling in women and consequently their dissatisfaction with their body image in pregnancy.^[33] People with a negative body image are more prone to sexual problems of this period.^[34]

Regarding the above statements, the insignificant results of our study in the area of sexual desire may be related to the cultural context, the previous experiences, the quality

Table 1: The mean women's age, spouse's age, marriage duration, Pre-pregnancy body mass index, and gestational age in the two groups

Variable	Mean±SD		Independent <i>t</i> -test		
	Experimental group	Control group	<i>t</i>	df	<i>P</i>
The woman's age (years)	25.22±3.50	25.03±4.07	0.20	63	0.84
The spouse's age (years)	30.16±3.37	29.42±3.76	0.83	63	0.41
Marriage duration (years)	2.39±1.46	2.14±1.23	0.77	63	0.44
Pre-pregnancy BMI	23.99±4.15	23.92±2.84	0.07	63	0.94
Gestational age (weeks)	19.98±2.68	18.95±2.75	1.54	63	0.13

SD=Standard deviation, BMI=Body mass index

Table 2: Comparison of the mean scores of sexual desire in the experimental and control groups over the three stages

Group	Sexual desire, mean±SD			P (significance)**
	Preintervention	A week after the intervention	A month after the intervention	
Experimental	3.45±0.93	3.84±0.76	3.67±0.87	0.21
Control	3.49±1.10	3.54±1.10	3.40±0.80	0.83
P (significance)*	0.87	0.21	0.19	

** (Repeated measures) sphericity assumed, *Independent sample t-test. SD=Standard deviation

Table 3: Comparison of the mean scores of sexual satisfaction in the experimental and control groups over the three stages

Group	Sexual satisfaction, mean±SD			P (significance)**
	Preintervention	A week after the intervention	A month after the intervention	
Experimental	3.99±1.51	4.70±1.05	4.37±0.94	0.025
Control	3.98±1.35	4.05±1.29	3.67±1.18	0.36
P (significance)*	0.97	0.03	0.01	

** (Repeated measures) sphericity assumed, *Independent sample t-test. SD=Standard deviation

of marital relationships, the dominating hormonal changes of pregnancy, and the women's negative body image in this period that can lead to a negative sexual response.

To explain the findings reported by Adam *et al.* and Dascalu and Brotto about the effect of mindfulness on sexual desire, it can be stated that mindfulness can directly lead to improved sexual function by influencing the mental health.^[30]

The second finding of the present study suggests that mindfulness can increase sexual satisfaction in pregnant women. This finding is consistent with the results reported by Sughanloo *et al.*,^[35] Falsafi and DashtBozorgi,^[36] and Farajkhoda *et al.*^[37] and inconsistent with the results reported by Mosalanejad *et al.*^[38]

To explain the findings related to sexual satisfaction based on Brown *et al.*'s claims, it can be stated that mindfulness can help women to adjust their behavioral patterns and regulate their positive behaviors. In addition, by combining vitality with the clear experiences, it can create positive changes in social relationships and the quality of sexual relationships. These factors can have an effective role in the promotion of sexual satisfaction.^[39]

Mindfulness, i.e., living in the present moment, is effective in promotion of sexual satisfaction in pregnant women and enables them to be aware of the strengths and weaknesses of their marital life^[40] and improve the relationship with their spouse.^[41]

The mentioned facts show that mindfulness can increase sexual satisfaction by its fundamental mechanisms, such as acceptance, increased awareness, avoiding judgment, attending the present moment, and leaving the past and future.

Mosalanejad *et al.* reported that there is no significant difference between the levels of sexual satisfaction in the women affected by multiple sclerosis between the three groups of mindfulness, pelvic floor muscle exercise, and the combination of mindfulness and pelvic floor muscle exercise, 8 and 12 weeks after the intervention.^[38]

Limitation and recommendation

The limitations of this study include the cultural limitations related to sexual issues, the traditional and religious attitudes of the majority of people in Isfahan, and the lack of honesty in answering the questionnaires because of embarrassment. It is suggested to conduct similar studies in other societies and cities with different cultures, larger number of samples, and also longer period of follow-up.

Conclusion

The results of the study show that mindfulness does not have any effect on sexual desire in pregnant women. However, it can increase their sexual satisfaction.

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Conflicts of interest

There are no conflicts of interest.

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