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DOI: 10.4103/jehp.jehp_1609_22

The relationship between depression and sexual satisfaction: An equation model analysis

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Abstract:

BACKGROUND: The relationship between depression and sexual satisfaction in middle-aged women has been reported previously. However, there is insufficient evidence that depression is related to sexual satisfaction or that sexual satisfaction is related to depression. This study evaluated the relationship between depression and sexual satisfaction in middle-aged women by evaluating the equation model analysis of the two models.

MATERIALS AND METHODS: This cross-sectional study was conducted on 190 middle-aged women in Isfahan, Iran, in 2021. Sexual satisfaction dimensions were evaluated using self-report women's sexual satisfaction questionnaire. Also, the depression scale of the general health questionnaire was used to measure of the depression level. Research data were analyzed using a multivariate linear regression test. Also, the fit of the model was evaluated using Amos software.

RESULTS: The results showed that depression score had an inverse relationship with sexual satisfaction in the relational concern dimension (Beta = -0.27, $P = 0.006$, CI: -0.11 to - 0.86). Model fit evaluation showed that the sexual satisfaction-depression model had a better fit than the depression-sexual satisfaction model (CMIN/DF = 1.123, $P = 0.64$).

CONCLUSION: The results showed that depression in middle-aged women is related to the relational concern. It is necessary to consider counseling programs to solve sexual relationship concerns in middle-aged women's mental health promotion programs.

Keywords:

Depression, Iran, marital relations, middle-aged women, sexual satisfaction

Introduction

Middle age, especially for women, is associated with significant physiological and psychosocial changes^[1] that can affect mental health. The higher prevalence of depression among women than men^[2] and its complications in middle-aged women, along with the increase in life expectancy, has turned the problem of depression into a public health issue.

In a study, the prevalence of depression among middle-aged women was reported to be about 24%.^[3] A population-based study

reported the prevalence of major depression in the youth as 2.85%.^[4] Additionally, depression is associated with an increase in other critical diseases, such as stroke^[5] and types of dementia.^[6]

Various physical and social problems in middle-aged women can increase the possibility of depression. Factors such as social isolation and illness,^[7] socioeconomic conditions,^[8] and menopausal symptoms^[9] have been reported as risk factors for depression in middle-aged women. In addition to these factors, middle-aged women are exposed to physical changes in the sexual organs due to the drop in sex hormones, which affects women's body image^[10] and can be associated

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How to cite this article: Khakkar M, Kazemi A. The relationship between depression and sexual satisfaction: An equation model analysis. *J Edu Health Promot* 2023;12:419.

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Received: 09-11-2022
Accepted: 26-12-2022
Published: 27-11-2023

with a decrease in sexual satisfaction of middle-aged women.^[11-13] Another study also showed that depressed middle-aged women have less sexual satisfaction than women who do not have depression.^[14]

Changes in the genital organs, such as vaginal dryness and dyspareunia, are associated with a decrease in sexual function and can disrupt sexual performance^[13]; other aspects of marital relationships also seem to play a role in sexual life satisfaction. Reyhani *et al.* had reported that feeling of the sunset of femininity and the need to restore the relationship with the spouse were the experiences of the middle-aged women.^[15] These findings show that some dimensions of sexual satisfaction may be more effective than others on the mental health of middle-aged women. Health promotion programs for middle-aged women need to understand the relationship between sexual pleasure and the mental health of middle-aged women. Therefore, the present research evaluated the relationship between sexual satisfaction and depression in middle-aged women.

Materials and Method

Study design and setting

The cross-sectional study was conducted with the approval of the Ethical Committee of Isfahan University of Medical Sciences (IR.MUI.NUREMA.REC.1400.075) in Isfahan, Iran.

Study participants and sampling

The study was done on 190 middle-aged women between 35 and 50 years old, who were undergoing health care in health care centers in Isfahan, Iran from June 2021 to November 2021. The inclusion criteria were not being single, the absence of life crises according to the Holmes Rahe criteria, and the absence of major psychological diseases. The sample size was calculated to be 190 people, with a test power of 85% and a confidence factor of 95%. Sampling was done in two step. The health centers were selected from two networks using random cluster sampling. Middle-aged women were selected using convenience sampling

Data collection tool and technique

Data gathering was done using self-report questionnaires. The depression score was measured using the depression scale of the General Health Questionnaire (GHQ).^[16] This valid questionnaire contains seven items to assess the depression score, which is compiled on a four-point Likert scale (0 to 3), including “more than usual” (0) to “much more than usual”(3).

Also, the 30-item Sexual Satisfaction Scale for Women (SSS-W) was used to evaluate sexual satisfaction in five dimensions, namely, contentment,

communication, compatibility, relational concern, and personal concern.^[17] The number of questions for each dimension was six questions, which were developed on a five-point Likert scale (1–5) from “completely disagree” (1) to “agree” (5). Internal reliability and repeatability of the questionnaire was conducted in a pilot study on 15 qualified middle-aged women and was repeated after three weeks. Internal reliability and repeatability of the satisfaction questionnaire were confirmed in a study with Cronbach’s alpha coefficient of 0.86 and repeatability index of 0.78.

Data analysis

Data were analyzed using the IBM SPSS Statistics version 19 software with multivariate regression statistical method. Based on the results of the evaluation of the relationships between the variables, two conceptual models were considered and an equation model analysis of the models was performed using Amos software.

Ethical consideration

This study was conducted with the approval of the Ethical Committee of Isfahan University of Medical Sciences. Also, informed consent was obtained from all participants, and it was explained to them that their non-participation in the study would not affect their care process and that their participation in the study would be completely free.

Results

Out of 196 middle-aged women invited to participate in the research, 190 people with an average age (standard deviation) of 46.6 (4.6) years were elected to participate in the study. The background characteristics of the participants are presented in Table 1. The results showed that most of the participants were graduates and homemakers. The evaluation of the relationship between the background characteristics and dimensions

Table 1: Descriptive results of data analysis

Variables	Mean (SD) or n (%)
Age (years)	46.3 (4.7)
Education (%)	
Less than high school	16 (8.4)
High school	63 (33.2)
University degree	111 (58.4)
Occupied (%)	94 (49.4)
Menopause (%)	49 (25.8)
Hot flashes (%)	79 (41.6)
Depression scale	3.3 (2.1)
Sexual Satisfaction	
Contentment	19.4 (5.3)
Communication	20.9 (5.2)
Compatibility	21.7 (5.8)
Relational concern	23.6 (4.9)
Personal concern	19.2 (5.1)

of women’s sexual satisfaction showed that sexual compatibility was positively related to menopause and relational concern was related to hot flashes. Also, among the different dimensions of sexual satisfaction, the relational concern dimension was negatively related to the depression score [Table 2]. The results of the multivariable linear regression analysis showed that the depression score had no significant relationship with the assessed background variables, and the depression score was negatively related to the relational concern dimension of sexual satisfaction [Table 3].

The model fit evaluation of model 1 [Figure 1] showed that this model did not have a good fit (CMIN/DF = 0.088, $P = 0.912$). Because the CMIN/DF index was less than others, the regression weight of none of the variables included in the model was significant [Table 4]. The fit index of model 2 [Figure 2] indicated a better fit of this model (CMIN/DF = 1.123, $P = 0.64$). In this model, the regression weight of the relationship between hot flashes and relational concern, as well as the relationship between relational concern and depression, was significant [Table 4].

Discussion

This study was conducted to determine the relationship between the dimensions of sexual satisfaction of

middle-aged women and depression and showed that depression was related to women’s sexual satisfaction in the dimension of relational concern. A previous study reported depression of middle-aged women as one of the influencing factors of sexual satisfaction,^[18] and the present study showed that sexual satisfaction in relational concern was a significant factor in depression in middle-aged women.

The first finding showed that sexual satisfaction was related to two factors of being menopause and hot flashes. However, other variables such as age, employment, dyspareunia, history of infertility, and the level of education of the wife and husband did not have an independent relationship with sexual satisfaction. This study is consistent with research that showed that menopausal complications such as hot flashes were associated with sexual satisfaction.^[14]

A lack of relationship between demographic characteristics such as age and education level of the wife and husband with sexual satisfaction is contrary to the results of a systematic review study. In this study, it was reported that age and education level were factors related to sexual satisfaction in women.^[19] The age range of the participants in the current study was limited to

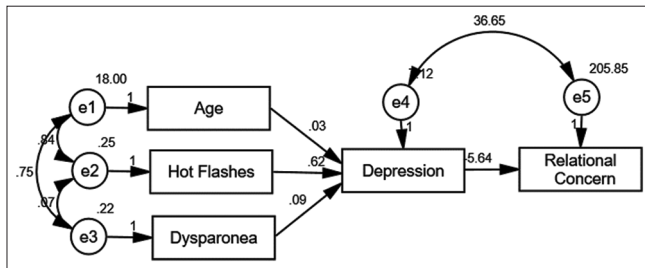


Figure 1: Conceptual model

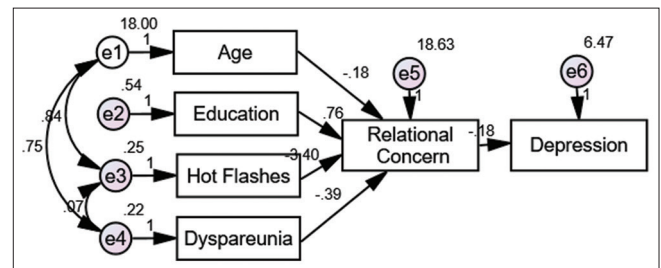


Figure 2: Conceptual model of relations between relational concern and depression

Table 2: Relations between sexual satisfaction domains and depression scale

	Contentment $\Delta R^2=0.43, F=6.9, P<0.0001$		Communication $\Delta R^2=0.17, F=2.5, P=0.01$		Compatibility $\Delta R^2=0.11, F=1.9, P=0.09$		Relational Concern $\Delta R^2=0.16, F=3.3, P=0.002$		Personal Concern $\Delta R^2=0.15, F=2.4, P=0.02$		
	Beta	95% CI Lower Upper	Beta	95% CI Lower Upper	Beta	95% CI Lower Upper	Beta	95% CI Lower Upper	Beta	95% CI Lower Upper	
Age											
Women	-0.33	-0.85 0.02	-0.32	-1.02 0.01	-0.31	-1.03 0.16	0.02	-0.67 0.27	-0.18	-0.87 0.34	
Spouse	-0.30	-0.52 0.02	-0.18	-0.46 0.17	-0.16	-0.51 0.22	0.01	-0.29 0.29	-0.31	-0.66 0.09	
Education											
Women	0.14	-0.59 2.26	0.12	-2.77 1.15	-0.05	-2.69 1.91	0.09	-1.18 2.44	-0.08	-2.99 1.70	
Spouse	0.15	-0.36 2.33	0.09	-1.02 2.14	0.06	-1.43 2.27	0.08	-0.96 1.96	0.03	-1.70 2.07	
Hot flashes	-0.12	-3.35 0.89	0.08	-1.71 3.26	-0.16	-4.82 1.02	-0.32***	-5.58 -0.96	-0.12	-4.40 1.53	
Dyspareunia	-0.01	0.99 -2.18	-0.04	0.74 -2.12	0.04	-2.48 3.49	0.01	-2.37 2.34	0.02	-2.73 3.34	
Menopause	-0.03	-3.00 2.17	0.13	-1.62 4.45	0.32*	0.43 7.56	0.02	-2.65 2.97	0.17	-1.47 5.77	
Infertility	0.02	0.84 -3.05	-0.13	0.29 -6.04	-0.11	-0.17 1.42	-0.08	-4.93 2.35	-0.15	-7.56 1.82	
Depression	-0.14	-0.61 0.07	-0.10	-0.59 0.21	-0.05	-0.57 0.37	-0.27**	-0.85 -0.11	-0.14	-0.78 0.17	

* $P=0.03$; ** $P=0.01$; $P=0.006$; *** $P=0.006$

Table 3: Regression weights (Model 1)

Dependent variables	Independent variables	Standardized Regression Weights	Direct Effects		
			Estimate	Critical Ratio	Sig.
Depression	<--- Age	0.055	0.035	1.023	0.306
Depression	<--- Hot flashes	0.114	0.620	1.289	0.197
Depression	<--- Dyspareunia	0.015	0.086	0.412	0.681
Relational concern	<--- Depression	-3.094	-5.640	-1.415	0.157

Table 4: Regression weights (Model 2)

Dependent variables	Independent variables	Standardized Regression Weights	Direct Effects		
			Estimate	Critical Ratio	Sig.
Relational concern	<--- Dyspareunia	-0.038	-0.385	-0.342	0.732
Relational concern	<--- Age	-0.154	-0.177	-1.347	0.178
Relational concern	<--- Education	0.115	0.764	1.146	0.252
Relational concern	<--- Hot flashes	-0.346	-3.401	-3.114	0.002
Depression	<--- Relational concern	-0.331	-0.183	-3.098	0.002

middle age, which explains this difference in the research findings of other studies.

Also, the participants in the current study were selected from middle-aged women who were referred to the center to receive health services. Therefore, the results of the current study cannot be generalized to all middle-aged women in society.

Another finding of the research showed that unlike other dimensions of sexual satisfaction, the relational concern dimension was related to depression level. Several studies have reported on the relationship between depression and sexual satisfaction.^[18,20] In these reports, depression has been introduced as an influential factor in sexual satisfaction, whereas the results of the evaluation of the fitness of the two default models showed that the relational concern predicts the depression level in middle-aged women.

A previous study reported the relationship between body image and sexual satisfaction in middle-aged women.^[20] Hong *et al.*^[10] reported that sexual function mediated the relationship between body image and depression in middle-aged women. Changes in body shape in middle age following a drop in hormones, such as changes in the sexual organs, are followed by a decreasing in the feeling of sexual attractiveness in women,^[17] which can affect their sexual satisfaction. In a study by Thomas *et al.*,^[21] a decrease in sexual satisfaction was followed by a decrease in the feeling of sexual attractiveness from the experiences of middle-aged women.

Although women’s perception of sexual attractiveness has not been evaluated in this research, the feeling of reduced attractiveness is one of the factors that can lead to concerns about the satisfaction of the spouse with regards to their sexual relationship and may be

followed by increasing depression levels in women. The relationship between the sexual performance in women and the partner’s sexual satisfaction was reported in a review. Also, this study showed that the sexual dysfunction of one can lead to problems in sexual performance and sexual satisfaction for the other.^[19]

The absence of a relationship between the contentment, communication, compatibility, and personal concern levels, and depression level were opposite with other studies that reported the importance relationships between all sexual satisfaction dimensions and depression women.^[13,18,20]

Limitation and recommendation

Since sexual relations are a shared experience between couples, the lack of evaluation of the spouses’ sexual satisfaction and sexual function, as well as the mental health of spouses in this research, is one of the most important limitations of this study and needs to be considered in future research.

Conclusion

This study showed that the level of depression in middle-aged women was related to their sexual satisfaction in the aspect of relational concern; therefore, according to the results, it is suggested that the quality of middle-aged women’s sexual relationships should be considered in the mental health promotion programs. Especially by conducting counseling programs, the middle-aged women’s concerns about sexual relations need to be identified.

Acknowledgments

This research was done with the financial support of Isfahan University of Medical Sciences (Grant number: 3400169), and the authors express their gratitude.

Financial support and sponsorship

The study was financially supported by the Isfahan University of Medical Sciences (Grant number: 3400169)

Conflicts of interest

There are no conflicts of interest.

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