Predictor Factors of Female Sexual Distress in a Population-Based Sample of Iranian Women: a Path Analysis

Fatemeh Bayat[1,2], Giti Ozgoli[3]*, Zohreh Mahmoodi[4], Malihe Nasiri[5]

Purpose: To investigate the direct and indirect effects of demographic characteristics, relationship satisfaction, and psychological factors on female sexual distress (FSD) using path analysis.

Materials and Methods: This study was conducted in two stages. Initially, we obtained the FSD predictor factor's conceptual model through a literature review and expert panel. In the Second stage, a population-based cross-sectional study on 207 non-pregnant and married women (without any age restriction) in Zanjan, Iran was conducted. FSDs-R, FSFI-6, DASS-21, and GEMREL Standard questionnaires and the demographic researcher-made questionnaire were used in this study.

Results: Sexual function (SF) had the strongest relationship with FSD from the direct path (β = -.49) and overall effect (β = -.58). The highest indirect effect belonged to depression-anxiety-stress level (β = .284) mediated by SF (β = -.42) and relationships satisfaction with spouse (β = -.20). Age difference (β = -.13) and relationships satisfaction with spouse (β = -.19) had only a direct effect on FSD. Marriage Duration had only indirect effect on FSD through mediating role on SF (β = -.26) and depression-anxiety-stress level (β = -.15).

Conclusion: Among the predictor factors investigated in this study, sexual dysfunction is the most important predictor of FSD. In addition; men older than their spouses, longer marriage duration, relationship dissatisfaction with the spouse and higher rate of depression-anxiety-stress have positive correlation with SD. Therefore, we should offer a combination of the mentioned factors in providing care for women with SD.

Keywords: sexual health; sexual dysfunction; psychological factors; path analysis.

INTRODUCTION

Female sexual distress (FSD) can be defined as one's negative feelings about sex life and includes feelings of embarrassment, blame, frustration, anxiety, fear, and anger in women.[1] It is the most important predictor of marital quality of life.[2] FSD has been included in new definitions of sexual dysfunction and has been emphasized as a diagnostic criterion (The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)). Sexual dysfunction is usually characterized by a significant clinical impairment in one's ability to have sexual respond or experience sexual pleasure[3] In Iran, the prevalence rate of sexual dysfunction among reproductive-age women was estimated to be 52% (95% CI: 39-66).[4] In the United States, Shifren et al. reported that the prevalence of sexual dysfunction was 43.1% in the general female population, whereas the prevalence of FSD was only 22.2% in these women.[5] Furthermore, FSD has been reported even in healthy women without sexual dysfunction.[6] As such, knowing the differences between SF and FSD is crucially important. It also shows the significance of evaluating the predictors of FSD apart from sexual dysfunction and beside it.

FSD lowers one's overall well-being and quality of life.[7] Sexual satisfaction, emotional intimacy and self-confidence, higher self-esteem and a more positive body image have been observed in people without FSD.[8] Generally, the consideration and evaluation of FSD is crucially important for therapists as women with FSD are more likely to seek treatment and discuss these problems with a doctor. Conversely, people without FSD, despite suffering from sexual dysfunction will not try to treat their dysfunction.[9]

There is no consensus about the main cause of FSD in women. It was observed in the studies of Bancroft et

[1]Department of Midwifery, School of Nursing and Midwifery, Zanjan University of Medical Sciences, Zanjan, Iran.
[2]Student Research Committee, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
[3]Midwifery and Reproductive Health Research Center, Department of Midwifery, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
[4]Social Determinants of Health Research Center, Alborz University of Medical Sciences, Karaj, Iran.
[5]Department of Basic Sciences, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, IR Iran.
*Correspondence: Midwifery and Reproductive Health Research Center, Department of Midwifery, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
Tel/Fax: +989123223453, Email: g.ozgoli@gmail.com
Received July 2022 & Accepted January 2023

Table 1. Demographic characteristics of each group

	Variable	No. (%) Mean ± SD (max-min)
Woman's education	Illiterate	4 (1.9)
	Primary education	3 (1.4)
	Lower secondary	8 (3.9)
	Higher secondary	3 (1.4)
	Diploma	18 (8.7)
	Associate degree	15 (7.2)
	Bachelor's degree	97 (46.9)
	Master's degree	41 (19.8)
	PhD	18 (8.7)
Husband's education	Illiterate	3 (1.4)
	Primary education	4 (1.9)
	Lower secondary	10 (4.8)
	Higher secondary	4 (1.9)
	Diploma	36 (17.4)
	Associate degree	18 (8.7)
	Bachelor's degree	68 (32.9)
	Master's degree	41 (19.8)
	PhD	23 (11.1)
Woman's occupation	Employed	110 (53.1)
	Housewife	97 (46.9)
	Woman's age	37.02 ± 9.34 (20-70)
	Husband's age	41.32 ± 9.86 (25-74)
	Marriage duration	13.78 ± 11.25 (0-55)
	Stress level	7.19 ± 4.85 (0-19) 6 (3-11)*
	Anxiety level	4.32 ± 4.05 (0-18) 3 (1-7)*
	Depression level	4.27 ± 4.12 (0-17) 3 (1-7)*
	Relationship Satisfaction with spouse	28.02 ± 6.45 (5-35)
	Sexual function	19.96 ± 6.59 (1-30)
	Sexual distress	19.96 ± 6.59 (1-12)

* Skewed Distribution: 50th percentile (25th percentile – 75th percentile)

al. and Garaham et al. that mental health and relationship satisfaction with the spouse/sexual partner played a more substantial role than SF in predicting FSD.[10, 11] However, in the study of Hendrickx et al. SF was the main predictor of FSD in women.[12] Some studies have also investigated the effect of demographic factors such as age, age difference with spouse, level of education, and marriage duration on female FSD.[11,13,14] Nourani et al. reported more FSD in marriages where the woman was older than her husband.[13] In addition to disagreements, variables that affect FSD, either directly or indirectly, are not fully known. Given the fact that no study examined the role of depression-anxiety-stress, SF, relationship satisfaction with the spouse, duration of marriage, and age difference between the couples in women's sexual distress through one model, this path analysis was conducted to investigate the predictors of FSD.

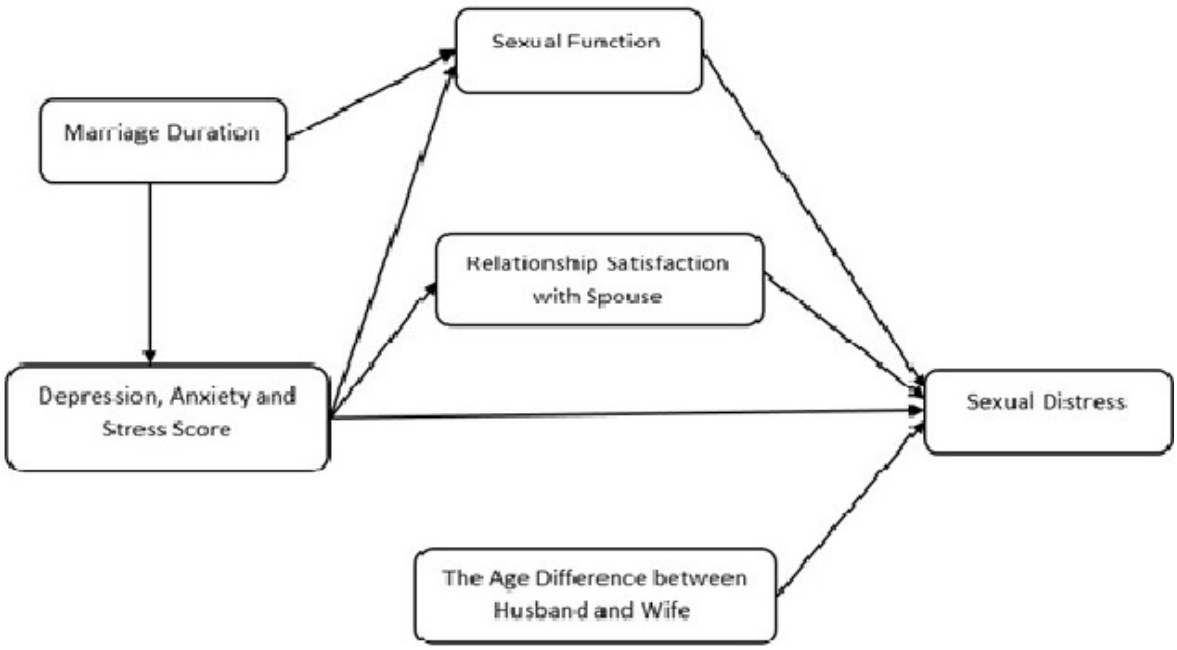

Figure 1. Conceptual model of the predictors of female sexual distress

Table 2. Correlation matrix for the variable of sexual distress, sexual function, relationship satisfaction with spouse, Depression-Anxiety-Stress levels, age difference, woman's age, husband's age, marriage duration, woman's education, husband's education

	Variable P-value	1	2	3	4	5	6	7	8	9	10
1	Sexual distress	1									
2	Sexual function	-.68 < .001	1								
3	Relationship satisfaction with spouse	-.55 < .001	.59 < .001	1							
4	Depression-Anxiety-Stress levels	.46 < .001	-.38 < .001	-.39 <.001	1						
5	Age difference	-.14 .04	.04 .53	-.04 .48	-.01 .84	1					
6	Woman's age	.46 .50	-.22 .001	-.1 .14	-.15 .02	-.13 .059	1				
7	Husband's age	-.01 .78	-.19 .004	-.11 .08	-.15 .02	.31 < .001	.89 < .001	1			
8	Marriage duration	.008 .91	-.19 .005	-.06 .36	-.15 .03	.06 .32	.88 < .001	.88 < .001	1		
9	Woman's education	.04 .54	.14 .03	.02 .78	-.01 .76	-.26 <.001	-.38 < .001	-.49 < .001	-.56 <.001	1	
10	Husband's education	-.01 .81	.20 .003	.16 .01	-.1 .12	-.18 .009	-.3 < .001	-.3 < .001	-.41 < .001	.65 < .001	1

MATERIAL AND METHODS

Study design and Population

This study conducted in two stages. In the first stage, the conceptual model of path analysis was initially obtained using a review of the literature and the sessions held with a group of experts and researchers in the field of sexual and reproductive health as well as biostatistics experts (**Figure 1**).

In the second stage, this population-based cross-sectional study was conducted from December 2021 to January 2022 in Zanjan Iran. The aim of the study was to evaluate some predictors of FSD in married women without age restriction. After receiving the necessary permissions for sampling in Zanjan, the conventional sampling was conducted by the researcher. The participants were recruited online or by going to public places, Comprehensive Health Centers, or hospitals. After explaining the objectives of the research to the participants and obtaining their informed consent, the link of the electronic questionnaire designed in the Porsline Software (https://porsline.ir) was sent to them. The questionnaires were completed by self-report. For the uneducated or semi-educated participants, the researcher completed the questionnaires through interviews. The researcher completed questionnaires in a quiet environment where the privacy of the participants was kept.

Inclusion and Exclusion Criteria

Inclusion criteria were being married, monogamous and non-pregnant women who were not in their postpartum period (42 days after delivery) and had sex at least in the recent three months. There was no age restrictions. The only exclusion criterion was wrong answer to the accuracy question, this question measures your exactitude; please select the number 15: a) 25 b) 55 c) fifteen d) sixteen).

Sample Size

Path analysis method was used in this study to investigate the conceptual model of the research (**Figure 1**). In this method, the researcher uses statistical mechanisms to simultaneously examine the interaction of several variables as direct and indirect effects.[15] According to Kline (2005), if the model is complex, the sample size is suggested to be at least 200. Another criterion is the ratio of the number of free parameters to the sample size, which should be 1/20 or at least 1/10.[16] In this study, there were 5 free parameters (20×5=100) (SF, relationship satisfaction with spouse, depression-anxiety-stress levels, marriage duration and age difference between couples). However, considering the sample size of at least 200 subjects as the base, the number of eligible participants in this study was 207 subjects.

Instruments

The following tools were used in this survey:

Demographic Questionnaire: This questionnaire included age and education level of the spouses, marriage duration and occupation of the wife. We obtained the age difference by subtracting the woman's age from the man's . The result will be negative if the woman is older than the man (Age Difference = Husband Age - Wife Age).

Female Sexual Distress Scale-Revised (FSDS-R): The study was confirmed by three questions FSDS-R. Items of this scale are scored based on a 5-point Likert scale

Table 3. Indirect effects on Female Sexual Distress (FSD)

	Variable	Un-Standard β Direct Effect (95% CI)	*P*-value	Indirect Effect	Total Effect
1	Marriage duration	-	-	.023	.023
2	Age difference	-.09 (-.086 , -.094)	.007	-	-.09
3	Depression-Anxiety-Stress levels	.054 (.053 , .055)	<.001	.076	.13
4	Sexual function	-.24 (-.236 , -.244)	<.001	-.047	-.287
5	Relationship satisfaction with a Spouse	-.09 (-.086 , -094)	<.001	-	-.094

Table 4. Goodness of fit indices

	X^2	df	X^2/df	CFI	GFI	NFI	RMSEA	*P*-value
Model	4.52	5	.9	1	.99	.99	.001>	.47
Standard		X^2/df < (3),		> .9	> .9	> .9	< .08	> .05

Abbreviation: CMIN/df=Chi-square/degrees of freedom ratio, RMSEA= Root Mean Square Error of Approximation, NFI= Normed Fit Index, CFI= Comparative Fit Index, GFI= Goodness of Fit Index.

ranging from 0 (never) to 4 (always). The total score of the questionnaire, calculated by adding the score of 3 items, is between 0 and 12, and the higher the score, the more will be FSD.[1] The Persian version of this tool has an appropriate validity and reliability in the Iranian population.[17]

Female Sexual Function Index-6 Items (FSFI-6): This questionnaire has been extracted by Isidori et al. from the 19-item version of FSFI. Like the original version, this version also examines women's sexual dysfunction in the recent 4 weeks of their life. The items related to sexual desire and satisfaction are scored based on a 5-point Likert scale from 1 to 5. The items related to lubrication, arousal, orgasm and pain are scored based on a 6-point Likert scale from 0 to 5. Adding the scores of the six subscales together, the total score of the scale is obtained. The total score ranges from 2 to 30, where the higher the score, the better is the SF. The sensitivity and specificity of the test in diagnosing sexual dysfunction was optimal and the internal consistency and reliability of the test-re-test was good.[18] Psychometric evaluation of the Persian version was performed in the Iranian population and the reliability of the scale was reported to be good.[19]

Global Measure of Relationship Satisfaction (GMREL): This scale measures a person's satisfaction with their overall relationship with their spouses in 5 items (very satisfied/very dissatisfied, very pleasant /very unpleasant, very good/very bad, very positive/very negative, very valuable/valueless) based on a 7-point Likert score ranging from 1 (lowest satisfaction) to 7 (highest satisfaction). The total score of the questionnaire is between 5 and 35, where the higher the score, the more will be one's satisfaction with the overall relationship with the spouse.[20] The convergent validity of this scale with the Marital Life Satisfaction Scale was favorable in the Iranian population.[21]

Depression, Anxiety and Stress Scale-21 Items (DASS-21): This 21-item scale includes three self-report scales of depression, anxiety and stress. Seven questions have been designed for each scale based on a 4-point Likert scale including not at all (0), low, medium, and high (3).[22] This study used the Persian version of the questionnaire which has good validity and reliability in the Iranian population.[23]

Ethical consideration

This research project was confirmed by the Ethics Committee of Shahid Beheshti University of Medical Sciences with the ethics code of IR.SBMU.PHARMACY.REC.1400.010. We explained the research objects to the participants and received informed oral and written consent.

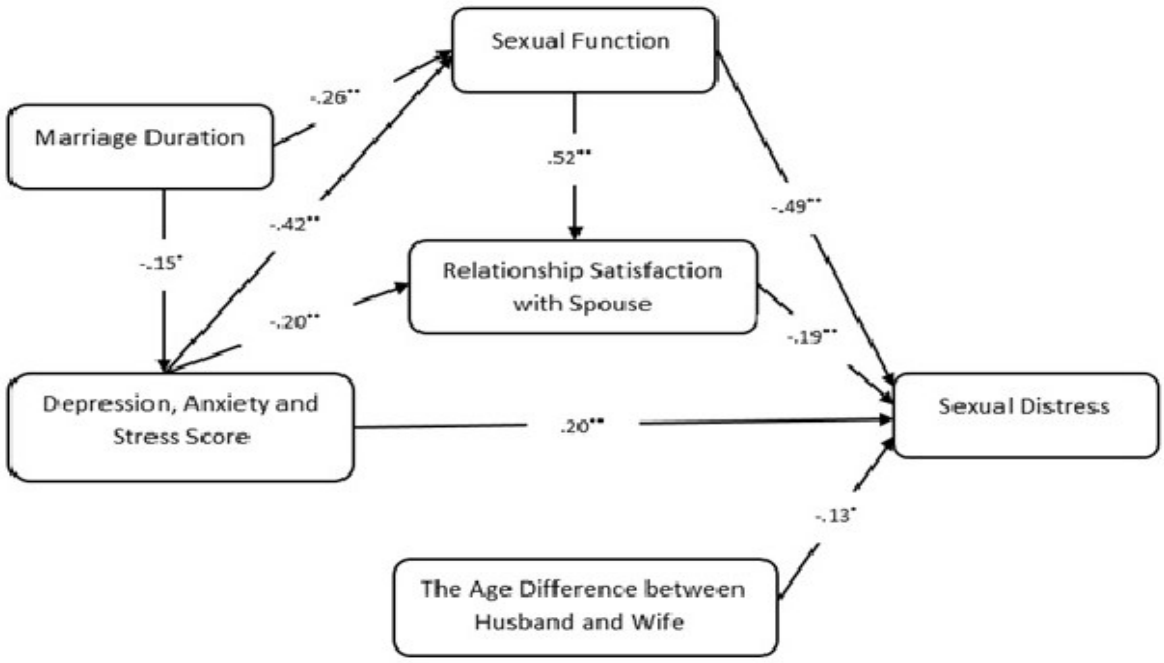

Figure 2. Path analysis (Standard β) model for the predictors of female sexual distress
*: *P*-valve <.05
**: *P*-valve <.001

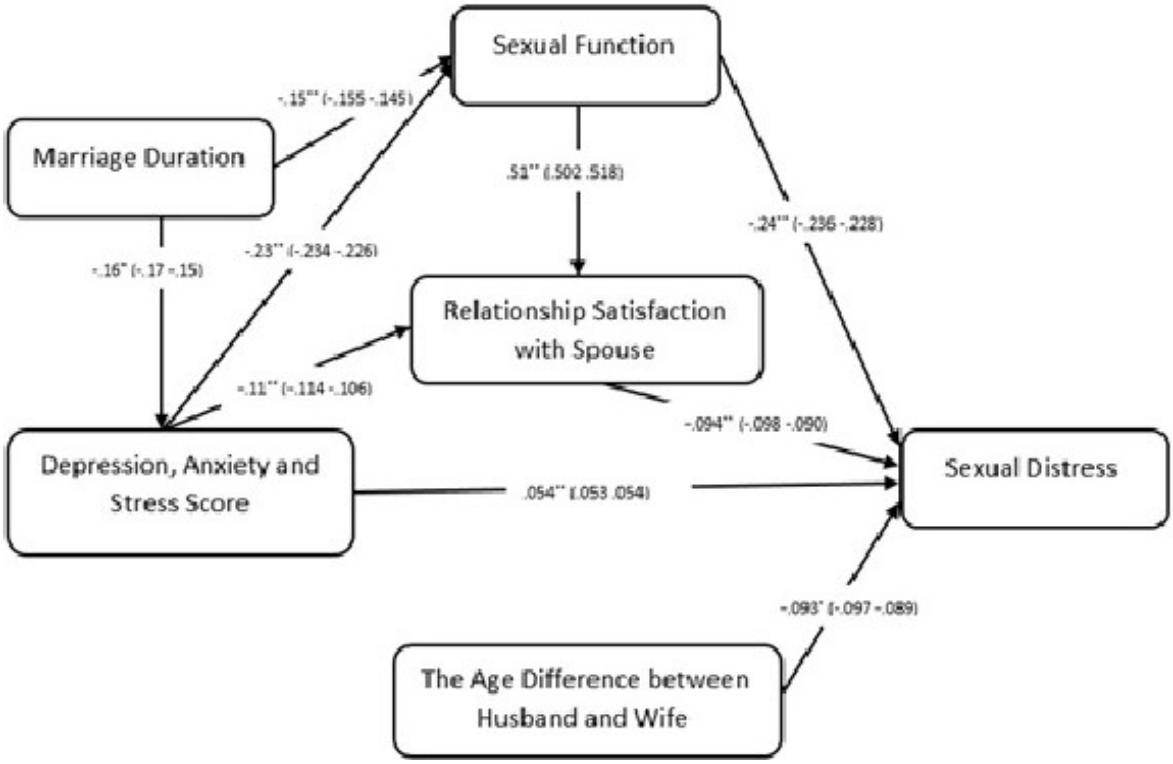

Figure 3. Path analysis, Un-Standard β (95% CI) model for the predictors of female sexual distress
*: *P*-valve < .05
**: *P*-valve < .001

Statistical Analysis

When the questionnaires were completed, the data were extracted and analyzed through appropriate statistical tests and using Statistical Package for the Social Sciences (SPSS) (version 25) and linear structural relations (LISREL) (version 8.8) software. Central tendency and dispersion were used to describe the observations, path analysis was used to identify the most important indices and the significance level (P) was considered to be < .05. Most important goodness of fit indices were used to confirm the final model (**Table 4**).

RESULTS

In this population-based research, from the 208 participants, a 59-year-old housewife with primary education, who answered the accuracy question incorrectly, was excluded from the study. All the participants were urbanites and lived in Zanjan city. The mean age of participants was 37.02 ± 9.34 years old. Demographic information and the mean of other investigated variables are shown in **Table 1**.

Table 2 shows, except marriage duration, all variables of the conceptual model are significantly correlated with FSD. Marriage duration is also significantly correlated with SF. The results of path analysis, indicating the direct, indirect, and total effect of FSD predictors, are shown in **Table 4** and **Figure 2**.

Based on the results of path analysis, SF (β = -.49) among investigated factors had the most significant and direct negative relationship with FSD. In other words, decreasing the score of SF increased the score of FSD. Marriage duration (β = .12) had the most significant positive and indirect relationship with FSD. Thus, increased duration of the marriage, by its mediating role and reducing SF (β = -.26), also reducing depression-anxiety-stress level (β = -.15), had increased FSD. SF (β = -.58) among investigated factors also had the highest total relationship with FSD. SF, in addition to the mentioned direct path, reduces FSD through indirect path (β = .52), that is, by mediating relationship satisfaction with the spouse and increasing it.

The depression-anxiety-stress levels (β = .20) had a significant positive and direct relationship with FSD; so that increased levels of one's depression-anxiety-stress, increased their FSD. In terms of the indirect path, the level of stress-anxiety-depression increased FSD through the mediating role of SF and relationship satisfaction with the spouse, and reducing these two variables. Relationship satisfaction with the spouse (β = -.19) and age difference (β = -.13) had a significant relationship with FSD in one path; so that the higher the score of relationship satisfaction with the spouse, the more was the level of FSD. Moreover, the older the man (positive age difference), the lower was the level of FSD.

The results of the model's goodness of fit indices are indicative of the desirability, goodness of fit and the rationality of the relationships of the adjusted variables based on the conceptual model. Accordingly, the fitted model is not significantly different from the conceptual model (**Table 4**).

DISCUSSION

Path analysis was used in this study to investigate some predictor factors of FSD in the general population of

non-pregnant women without age restrictions. As a limited number of studies have investigated FSD in Iran, the present study was the first path analysis which evaluates the predictors of FSD in the general population of Iranian women. It was revealed in this study that the variables of age difference and relationship satisfaction with the spouse directly and the variables of marriage duration indirectly predicted SD through the mediating role of SF. However, SF and depression-anxiety-stress variables have both direct and indirect effects.

The variable of SF, through its direct and indirect effects, was the strongest predictor of FSD among investigated factors in this study. In line with our study, Hendrickx et al. also showed that all types and severities of sexual dysfunction predict FSD.[12] In the study of Bancroft et al. mental health and relationship satisfaction with the spouse were more powerful variables than SF in predicting FSD in older women.[10] Unlike our study whose participants were non-clinical and with young mean age (20-70 years), elderly clinical subjects with impaired SF were investigated in the study of Bancroft et al. Therefore, it can be said that in the general and young population, SF is a stronger variable than mental health and relationship satisfaction in explaining FSD. It was observed in this path analysis that the level of depression-anxiety-stress not only mediated the variables of SF and relationship satisfaction with the spouse, but also had a direct and positive effect on FSD. Thus, the higher the level of depression-anxiety-stress, the more was the level of FSD. The relationship between FSD and mental health problems (depression-anxiety-stress) has been demonstrated in various studies.[11,24] In the study of Forbes and Baillie, a common and latent factor was the cause of mental disorders and sexual problems.[24] Pascol et al. indicated that factors such as stress, anxiety, and depression might cause SD by creating emotional distress in the relationship of couples.[25] According to evidence, depression and mental health problems lead to FSD not the other way around.[10] Psychological stressors can also interfere with SF through psychological and physiological mechanisms. According to Hamilton et al., stress and depression were strongly associated with sexual dysfunction in women.[26] In addition to the sexual dysfunction related depression, anxiety also leads to FSD in women.[27] In the study Burri et al. there was a strong genetic component between anxiety and SF and a relatively weaker genetic component between anxiety sensitivity and FSD. Moreover, anxiety sensitivity can probably affect women's SF by regulating their emotional experiences. Consequently, women with no anxiety problems are more likely than anxious women to adapt to their emotional and sexual relationships and use coping strategies.[28,29]

As shown in the path analysis model, marriage duration increased FSD by reducing SF and the level of depression-anxiety-stress. The marital adjustment increases with the marriage duration, so the decrease in depression-anxiety-stress may be due to this.[30] Although improving mental health status reduces sexual distress, the increase in sexual dysfunction resulting from the increase in the duration of marriage has more effect on FSD. Similar to our study, Alidost et al. observed that increased duration of marriage could reduce SF.[31] In the study of Witting et al. the duration of the relationship increased both FSD and sexual dysfunction. This might be due to the increased knowledge of women of their sexual preferences, feelings of comfort, acceptance and their sexual desires.[14]

In this study, the variable of relationship satisfaction with the spouse had a direct effect on FSD; it also played the role of a mediating variable for SF and the level of depression-anxiety-stress in predicting FSD. As such, high levels of SF reduced FSD through increasing the score of relationship satisfaction with the spouse. Conversely, high level of depression-anxiety-stress increased FSD by decreasing the score of relationship satisfaction with the spouse. In line with the present study, in the study of Alizadeh and Farnam in Iran, emotional intimacy was significantly higher in people without distress than those with FSD.[8] Hendrickx et al. observed that sexual dysfunction caused interpersonal distress by affecting the relationship satisfaction with the sexual partner.[12] In the study of Graham et al. lower levels of FSD were observed in women with sexual dysfunction who had enjoyed better emotional-sexual intimacy.[11] This is maybe due to the fact that those with better relationship satisfaction use it as a defense mechanism against sexual problems, thereby demonstrating less FSD and anxiety.[32] Additionally, women who have a good relationship with their sexual partner express their sexual needs more easily and are less likely to suffer from FSD.[33]

In this study, women's age had a significant positive correlation with SF but not with FSD. Similar to our study, Graham et al. indicated that despite the increase of sexual dysfunction in older women, FSD did not increase in them or increased so mildly.[11] In the study of Rosen et al. also there was a U-shaped relationship between age and FSD. Although there is a low prevalence of sexual dysfunction in young women, they experience more distress. By contrast, older women and postmenopausal women do not feel distressed and are less worried about their dysfunction.[34] Getting older, women consider sexual dysfunction a biological and ordinary issue and, thus, express less anxiety and distress than younger women, and adapt more easily to this problem.[35] Given the nature of the present study, which examined the linear relationship between variables, no significant relationship was observed between the age of women and FSD.

The age difference between the woman and her husband in this study was from -9 to +21 years, which was significantly correlated with FSD ($r = -.14$, $P = .03$). According to the results of path analysis, age difference directly predicted FSD. As such, the more the age difference between the couples (when man is older), the less was FSD in women. Inverse age difference in the qualitative study of Noorani et al. which was conducted in Iran, caused FSD and anxiety. This is because women are worried that they will grow old sooner than their husbands and will gradually lose their physical attractiveness.[13] Another study was conducted in Iran where the highest sexual satisfaction was observed in the group of no age difference. However, this study did not examine the marriages in which women were older.[36] Thus, the difference may be because of this.

The most important strength of this study is that it goes beyond the mere investigation of SF and addresses FSD as an important diagnostic feature of these disorders. It answers the question of whether FSD can be better explained through the combination of communicational, psychological, sexual, and demographic factors. Ac-

cording to the results, FSD is related not only to sexual dysfunction, that plays an important role in explaining it, but also to psychological, communication and demographic variables. Moreover, examining the demographic and underlying factors, this study identified the population that was at risk of FSD. Self-selection bias and sample size were among the limitations of this pilot study. Although illiterate and semi-literate women also participated in the study, most of them were highly educated and all of them were urbanite. Accordingly, the results of the study should be interpreted more cautiously.

CONCLUSIONS

Among the investigated factors in this study, sexual dysfunction is the most important predictor of FSD. The high level of depression-anxiety-stress and marriage duration are predictors of FSD through mediating role of sexual functioning. Sexual dysfunction and high level of depression-anxiety-stress can also predict FSD through mediating role of reducing the relationship satisfaction with the spouse. Moreover, psychological factors have direct and positive effects on FSD. In this study, we observed the low or inverse age difference between a woman and her husband is one of the main predictors of FSD, indicating the role of cultural and social factors in causing FSD in Iranian women. This study provided a more complete understanding of the current situation of FSD predictors. This cross-sectional study, only investigated some predicting factors of FSD and further studies, enable us gain more compressive understanding of other predicting factors as well. Since longer marriage duration, lower age difference and sometimes, reverse age difference may increase FSD, prevention and intervention programs should be considered more in women who are at risk.

ACKNOWLEDGEMENT

We would like to express our gratitude to the "Research and Technology Chancellor" of Shahid Beheshti University of Medical Sciences that approved this project, Zanjan University of Medical Sciences, which provided the sampling conditions, and the women who participated in this research.

CONFLICT OF INTEREST

The authors report no conflict of interest.

REFERENCES

1. DeRogatis L, Clayton A, Lewis-D'Agostino D, Wunderlich G, Fu Y. Validation of the female sexual distress scale-revised for assessing distress in women with hypoactive sexual desire disorder. JSM. 2008;5:357-64.
2. Blumenstock SM, Papp LM. Sexual distress and marital quality of newlyweds: An investigation of sociodemographic moderators. Fam Relat . 2017;66:794-808.
3. Edition F. Diagnostic and statistical manual of mental disorders. Am Psychiatric Assoc. 2013;21:591-643.
4. Ghiasi A, Keramat A. Prevalence of sexual dysfunction among reproductive-age women in Iran: a systematic review and meta-analysis. JMRH . 2018;6:1390-8.
5. Shifren JL, Monz BU, Russo PA, Segreti A, Johannes CB. Sexual problems and distress in United States women: prevalence and correlates. OBGYN. 2008;112:970-8.
6. Burri A, Rahman Q, Spector T. Genetic and environmental risk factors for sexual distress and its association with female sexual dysfunction. Psychol Med. 2011;41:2435-45.
7. Khorshidi M, Alimoradi Z, Bahrami N, Griffiths MD. Predictors of women's sexual quality of life during the COVID-19 pandemic: An Iranian cross-sectional study. Sex Relatsh Ther. 2022;37:1-14
8. Alizadeh A, Farnam F. Coping with dyspareunia, the importance of inter and intrapersonal context on women's sexual distress: a population-based study. Reprod Health. 2021;18:1-11.
9. Evangelia N, Kirana P-S, Chiu G, Link C, Rosen R, Hatzichristou D. Level of Bother and Treatment-Seeking Predictors Among Male and Female in-Patients with Sexual Problems: A Hospital-Based Study. Arch Sex Behav. 2010;7:700-11.
10. Bancroft J, Loftus J, Long JS. Distress about sex: A national survey of women in heterosexual relationships. Archives of sexual behavior. 2003;32:193-208.
11. Graham CA, Štulhofer A, Lange T, Hald GM, Carvalheira AA, Enzlin P, et al. Prevalence and predictors of sexual difficulties and associated distress among partnered, sexually active older women in Norway, Denmark, Belgium, and Portugal. Arch Sex Behav. 2020;49:2951-61.
12. Hendrickx L, Gijs L, Janssen E, Enzlin P. Predictors of Sexual Distress in Women With Desire and Arousal Difficulties: Distinguishing Between Personal, Partner, and Interpersonal Distress. JSM. 2016;13:1662-75.
13. noorani m, Jazayeri R, Fatehizadeh M. Discovering the factors of dissatisfaction in older women-younger men marriages. Psychol Sci. 2021;20:1331-44.
14. Witting K, Santtila P, Varjonen M, Jern P, Johansson A, Von Der Pahlen B, et al. ORIGINAL RESEARCH—COUPLES' SEXUAL DYSFUNCTIONS: Female Sexual Dysfunction, Sexual Distress, and Compatibility with Partner. JSM. 2008;5:2587-99.
15. Wooldredge J. Path Analysis. The Encyclopedia of Research Methods in Criminology and Criminal Justice. 2021;2:515-22.
16. Kline R. Principles and practice of structural equation modeling Second edition New York. New York: Guilford Press; 2005.
17. Azimi Nekoo E, Burri A, Ashrafti F, Fridlund B, Koenig HG, Derogatis LR, et al. Psychometric Properties of the Iranian Version of the Female Sexual Distress Scale-Revised in Women. JSM. 2014;11:995-1004.
18. Isidori AM, Pozza C, Esposito K, Giugliano D, Morano S, Vignozzi L, et al. Outcomes assessment: Development and validation of a 6-item version of the Female Sexual Function

Index (FSFI) as a diagnostic tool for female sexual dysfunction. JSM. 2010;7:1139-46.
19. Ghassami m, Shairi MR, Asghari Moghadam MA, Rahmati N. The Study of The Psychometric Properties of The 6-Item Version of The Female Sexual Function Index (Fsfi-6) Amongest Iranian Women. Nursing and Midwifery Journal. 2014;12:532-43.
20. Lawrance K-a, Byers ES. Development of the interpersonal exchange model of sexual satisfaction in long term relationships. CJHS. 1992;1:123-8.
21. Pascoal PM, Oliveira LB, Raposo CF. Evidências de validade da Global Measure of Relationship Satisfaction (GMREL) em três amostras da população portuguesa. Psicol: Reflex Crit. 2015;28:41-8.
22. Lovibond PF, Lovibond SH. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. Behav Res Ther. 1995;33:335-43.
23. Kiani Z, Simbar M, Dolatian M, Zayeri F. Correlation between social determinants of health and women's empowerment in reproductive decision-making among Iranian women. Glob J Health Sci. 2016;8:312.
24. Forbes MK, Baillie AJ, Schniering CA. A structural equation modeling analysis of the relationships between depression, anxiety, and sexual problems over time. JSR. 2016;53:942-54.
25. Pascoal PM, Raposo CF, Roberto MS. A Transdiagnostic Approach to Sexual Distress and Sexual Pleasure: A Preliminary Mediation Study with Repetitive Negative Thinking. IJERPH. 2020;17:7864.
26. Hamilton LD, Julian AM. The relationship between daily hassles and sexual function in men and women. J Sex Marital Ther. 2014;40:379-95.
27. Pâquet M, Rosen NO, Steben M, Mayrand M-H, Santerre-Baillargeon M, Bergeron S. Daily Anxiety and Depressive Symptoms in Couples Coping With Vulvodynia: Associations With Women's Pain, Women's Sexual Function, and Both Partners' Sexual Distress. J Pain Res. 2018;19:552-61.
28. Burri A, Spector T, Rahman Q. The etiological relationship between anxiety sensitivity, sexual distress, and female sexual dysfunction is partly genetically moderated. JSM. 2012;9:1887-96.
29. Tutelman PR, Dawson SJ, Schwenck GC, Rosen NO. A longitudinal examination of common dyadic coping and sexual distress in new parent couples during the transition to parenthood. Fam Process. 2022;61:278-93.
30. Abbas J, Aqeel M, Abbas J, Shaher B, Jaffar A, Sundas J, et al. The moderating role of social support for marital adjustment, depression, anxiety, and stress: Evidence from Pakistani working and nonworking women. J Affect Disord. 2019;244:231-238.
31. Alidost F, Pakzad R, Dolatian M, Abdi F. Sexual dysfunction among women of reproductive age: A systematic review and meta-analysis. Int J Reprod BioMed. 2021;19:421.
32. Erens B, Mitchell KR, Gibson L, Datta J, Lewis R, Field N, et al. Health status, sexual activity and satisfaction among older people in Britain: A mixed methods study. PLoS One. 2019;14:e0213835.
33. Hayes RD, Dennerstein L, Bennett CM, Sidat M, Gurrin LC, Fairley CK. Risk factors for female sexual dysfunction in the general population: Exploring factors associated with low sexual function and sexual distress. JSM. 2008;5:1681-93.
34. Rosen RC, Shifren JL, Monz BU, Odom DM, Russo PA, Johannes CB. Epidemiology: Correlates of sexually related personal distress in women with low sexual desire. JSM. 2009;6:1549-60.
35. Howard J, O'Neill S, Travers C. Factors affecting sexuality in older Australian women: sexual interest, sexual arousal, relationships and sexual distress in older Australian women. Climacteric. 2006;9:355-67.
36. Shahvary Z, Gholizade L, Hoseiny SM. Determination of some related factors on women sexual satisfaction Gachsaran (South-West of Iran). GOUMS. 2010;11:51-109.