https://doi.org/10.37939/jrmc.v28i3.2540

Estimation of Knowledge, Attitude and Prevalence of Female Sex Dysfunction in Elderly Pakistani Women

Khola Noreen[1], Farah Ayyaz[2], Lubna Meraj[3], Tabinda Khalid[4], Javara Malik[5], Mohammad Akram[6]

Abstract

Objective: The study aimed to investigate knowledge, attitude and prevalence of FSD in middle-aged and elderly ladies of our community.

Methods: A cross-sectional survey was conducted from 15 June 2022 to 15 June 2023, using a structured questionnaire after obtaining approval from the Ethical Review Board (ERB) of Rawalpindi Medical University (RMU), Rawalpindi. Mean and standard deviation were calculated for quantitative and frequency and percentages for qualitative variables. Binary logistic regression was calculated to find an association between the level of knowledge with socio-demographic variables. Data was analysed using SPSS version 26 and a p-value less than 0.05 was taken as statistically significant.

Results: A total of 150 middle-aged and elderly women were randomly included in the study.The females reporting with some medical or gynaecological problem at the teaching hospital of RMU, willing to participate and gave informed written consent where recruited. Their mean age was 54.5± 2.5 and the overall FSD prevalence rate, estimated from the 'Yes' response to questions related to FSD symptoms, was 56.9%. Two-thirds of 110 (73%) had adequate knowledge about FSD. Around 60% knew that women take more time to get ready and the desire for matting and satisfaction also decreases after 40-50 years of age. Around 70% (106) reported that they felt depressed because of sexual problems. Results of binary logistic regression analysis showed that females aged 40-50 years were 2.2 times (p=0.007) more knowledgeable about FSD as compared to elderly women > 60 years. Regarding attitude, more than half of 99 (66%) initially felt embarrassed when asked about their sex problem. However, they mostly felt satisfied (98, 65.3%) when they realised they were being enquired about an important issue of elderly females.

Conclusions: A significant burden of FSD exists in the middle-aged and elderly women of our community and they had adequate knowledge about the problem. The study indicates that our middle-aged and elderly ladies need more attention and education so that they can get appropriate treatment for FSD, which would not only improve their quality of family life but also prevent them from going into depression.

MeSH Keywords: prevalence, knowledge, attitude, geriatric assesement.

[1] Associate Professor Community Medicine, Rawalpindi Medical University; [2] Consultant Gynaecologist, Benazir Bhutto Hospital, Rawalpindi; [3] Associate Professor Medicine, Benazir Bhutto Hospital, Rawalpindi; [4] Assistant Professor, Gynae Dept RTH, Rawalpindi; [5] Senior Registrar, Medicine RTH, Rawalpindi; [6] Professor, Rawalpindi Medical University.

Correspondence: Dr. Khola Noreen, Associate Professor, Rawalpindi Medical University. **Email:** khauladr@gmail.com

Cite this Article: Noreen K, Ayyaz F, Meraj L, Khalid T, Malik J, Randhawa MA. Estimation of Knowledge, Attitude and Prevalence of Female Sex Dysfunction in Elderly Pakistani Women. JRMC. 2024 Sep. 27;28(3).426-432. https://doi.org/10.37939/jrmc.v28i3.2540.

Received January 19, 2023; accepted July 31, 2023; published online September 26, 2024

1. Introduction

The term "Sexual Dysfunctions" used in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV) refers to a group of disorders "characterized by disturbances in sexual desire and in the psychophysiological changes that characterize the sexual response cycle and cause marked stress and interpersonal difficulty".[1]

Human sexual function, both in males and females, is important for the propagation of race and quality of life.[2] Sexual dysfunction can reduce the growth of the human race and impair family relations.[3] Female Sex Disorders (FSD) include persistent or recurrent disorders of sexual desire, disorders of genital arousal, orgasm disorder and pain or difficulty during intercourse.[4] The prevalence of FSD varies considerably between different populations and geographical locations and age groups, on average ranging from 24% to 63% .[5] In high-income countries like the United States of America, the prevalence of FSD is 43%.[6] In developing world such as sub-Saharan African countries prevalence ranges between 46-73%, with dyspareunia (painful intercourse) being the most common problem.[7] A recent study conducted in Pakistan has reported the prevalence rate of FSD as 64% in diabetic type-2 patients.[8]

Normal sexual function is a complex and multi-dimensional phenomenon influenced by various socioeconomic, cultural, biological and psychosocial factors.[9] Nevertheless, FSD can critically influence females' well-being and quality of life; it can have wider societal implications, thus having a significant public health impact.[10]

Despite extensive global evidence on FSD, data regarding FSD in Pakistan is scarce. There are only a

Rawalpindi Medical University under the Creative Commons Attribution (CC BY-SA 4.0) license

few studies survey-based studies, which have been carried out in hospital settings and patients having chronic deliberating illness.[11, 12] To the best of our knowledge no direct study has been conducted for the estimation of the prevalence of female sexual dysfunctions, or their management, in otherwise healthy middle-aged and elderly ladies. Peri- and post-menopausal women are more likely to suffer from FSD because of low levels of serum oestrogen. In this age group, the patient's main complaint in the gynaecological clinics is dyspareunia and vaginismus, because of vulvovaginal dryness.[6,7] The studies regarding FSD are of particular importance, especially in our socio-cultural context because sexuality is considered a very sensitive issue and females hesitate to openly discuss their sexual problems.

Keeping in consideration the background, our study aimed to assess the level of knowledge, attitude and prevalence of FSD and the influence of sociodemographic variables on the level of knowledge. This is of particular importance as a poor level of knowledge can lead to the development of complications associated with FSD. Moreover, since there is limited local evidence available for the successful treatment of female Sexual Dysfunction, there is an urgent need for more studies for the estimation of the prevalence and the development of new remedies for the treatment of FSD.

2. Materials & Methods

This cross-sectional survey-based study was conducted on middle-aged and elderly women reporting to the Medicine and Gynecology Units of Rawalpindi Medical University (RMU), Rawalpindi. Data was collected from 15 June 2022 to 15 June 2023. Non-probability convenient sampling was employed to recruit women in the age group 45 to 65 years. The sample size was calculated using the WHO sample size calculator, taking prevalence from the previous study as 64%[8], confidence interval 95%, and margin of error 5%. Women between 45-65 years complaining of symptoms of FSD reporting to the gynaecology unit and suffering from mild to moderate hypertension or other minor ailment reporting to the medical unit were recruited after taking informed written consent. Females suffering from chronic deliberating illnesses like diabetes, ischemic heart disease, heart failure, psychological and psychiatry disorders and those not willing to participate in the study were excluded.

Data collection tool

An interview-based structured questionnaire was developed after a thorough literature review of published literature on female sexual dysfunction. The questionnaire was mainly derived from a well-validated and frequently employed questionnaire, named as Female Sexual Function Index (FSFI), available at www.fsfi-questionnaire.com. FSFI measures six domains of FSD, i.e. desire, arousal, lubrication, orgasm, satisfaction and pain. A few other less commonly used questionnaires are also available in the literature such as Brief Index of Three Domains Sexual Functioning (Interest/desire, activity and satisfaction) and Short Scale of Four Domains McCoy female (Desire, arousal, orgasm and dyspareunia).[13]

The final questionnaire consisted of three parts, the first was informed written consent, the second part was a sociodemographic profile of the participants and the third one included Yes or No questions related to six domains of FSD symptoms similar to FSFI for the estimation of prevalence and Visual Analog Scales (VAS) for the determination of the severity of symptoms. Moreover, questions for the assessment of knowledge and attitude about FSD were also added.

To establish the reliability and applicability of the questionnaire, it was initially applied in a pilot study conducted on 30 middle-aged and elderly ladies and the Cronbach's alpha was found to be 0.85.

Data collection

Data was collected voluntarily; those who were willing to participate and sign written informed consent were included. Moreover, participants were assured that their participation was voluntary and they had the right to withdraw at any stage. According to the estimated sample size, 200 participants were invited however, complete response was obtained from 150 participants only and incomplete questionnaires were discarded.

Study questionnaire scoring

There were eight knowledge-based questions (K1-8), for which the response was recorded as Yes or No, one score was given for true and zero for false. For the knowledge domain, an individual score of 1-5 was taken as inadequate and a score of 6-8 was graded as adequate. Prevalence was also estimated from eight questions (P1-8) with a Yes or No response. Participants were asked to grade the severity of symptoms about six domains of FSD on VAS, measuring 1-10. Mean scores were calculated to grade the severity across six domains. Attitude was assessed from three questions (A1-3) with a Yes or No response.

Data processing and statistical analysis

Data was analysed using SPSS version 26. Mean and standard deviation were calculated for quantitative variables and frequency and percentages for qualitative variables. Chi chi-square test was used to find

associations between various categorical variables. Binary logistic regression was used to find the association of sociodemographic variables with level of knowledge (Good/Poor). A p-value less than 0.05 was taken as statistically significant.

3. Results

A total of 150 middle-aged women with a mean age of 54.5± 2.5 were included in the study. Around one-third (51) were between 51 and 55 years of age. About 50% (80) were overweight. Around one third were married for more than 25 years. About two third had less than 3 children. Nearly half (68) were employed and more than half were of the low economic group, with a monthly income of Rs. 60,000 or less. The sociodemographic characteristics of study participants are shown in Table 1.

The overall FSD prevalence rate, estimated from 'Yes' responses to questions related to FSD symptoms, was 56.9%. Two-thirds 110 (73%) had adequate knowledge about FSD. Around 60% knew that women take more time to get ready and the desire for matting and satisfaction also decreases after 40-50 years of age. Around 2/3 (106, 70%) reported that they felt depressed because of sexual problems. Regarding attitude, more than half of 99 (66%) initially felt embarrassed when asked about their sex problem. However, most of them felt satisfied (98, 65.3%) by the end of the conversation. The results of the study participant's knowledge (K1-8), prevalence (P1-8) and attitude (A1-3) are given in Table 2.

Table 1: Sociodemographic variables

Variables	Categories	Frequency (n)	Percentage (%)
Age (years)	40-45	19	12.7
	46-50	28	18.7
	51-55	51	34.0
	56-60	20	13.3
	>60	32	21.3
Weight	underweight	8	5.3
	Normal weight	62	41.3
	Overweight	80	53.3
Marital status	5-15	40	26.7
	16-25	46	30.7
	More than 25	64	42.7
Number of children	1-3	99	66
	4-6	44	29.3
	>6	7	4.7
Occupation of husband	Employed	68	45.3
	Unemployed	56	37.3
	Personal business	26	17.3
Monthly income	20,000-40,000	53	35.3
	41,000-60,000	27	18
	61,000-80,000	55	36.7
	>80,000	15	10

Table 2: Study participant's knowledge, prevalence and attitude regarding female sexual dysfunction

Questions	Statement	Yes n (%)	No n (%)
Knowledge (Awareness about FSD)			
K1	Do you know, that after the age of 40-50 years desire for matting decreases in women?	98(65.3)	52(34.7)
K2	Do you know, that after the age of 40-50 years, females take more time to get ready?	88(58.7)	62(41.3)
K3	Do you know that after the age of 40-50 years, excitement/pleasure/satisfaction at the extreme of matting is decreased?	94(62.7)	56(37.3)
K4	Do you know that after the age of 40-50, some females get dryness of the vagina?	92(61.3)	58(38.7)
K5	Do you know after the age of 40-50 years females feel discomfort/pain while matting?	95(63.3)	55(36.7)
K6	Do you know some middle-aged females use some oil or lubricant formatting?	86(57.3)	64(42.7)
K7	Do you know females may be depressed/feel guilty when they have sex problems in old age?	106(70.7)	44(29.3)
K8	Do you know any lady who became depressed in your family or neighbour?	87(58.1)	61(41.1)
Prevalence (Symptoms of FSD)			
P1	Do you feel that your desire for matting has decreased?	98(65.3)	52(34.7)
P2	Do you feel that you take more time to get ready as compared to younger age?	88(58.7)	62(41.3)
P3	Do you feel that your excitement/pleasure/satisfaction at the extreme of mating has decreased as compared to younger age?	97(64.7)	53(35.3)
P4	Do you feel that your vaginal secretion (Lubrication) has decreased?	94(62.7)	56(37.3)
P5	Do you feel discomfort/pain while matting?	79(52.7)	71(47.3)
P6	Do you feel that you should use some -lubricant to facilitate matting?	84(56)	66(44)
P7	Do you feel that you need better lubricant/medication than you apply?	93(62)	57(38)
P8	Do you feel depressed/feel guilty when you have sex problems in old age	75(50)	75(50)
Attitude	**(Behaviour towards FSD)**		
A1	Do you think if we talk to elderly ladies about sex problems they feel unhappy?	95(63.4)	55(36.6)
A2	Did you feel embarrassed while we started asking questions about sex?	99(66)	51(34)
A3	Did you feel satisfied while we were talking about an important issue of middle-aged females?	98(65.3)	50(33.3)

Table 3: Overall frequency and mean score of VAS of six domains of FSD

Variables	Frequency n	Percentage (%)	Mean VAS	SD
Low Desire	74	49.3	4.62	2.72
Arousal Delay	84	56	4.28	2.71
Low Satisfaction	90	60	4.16	2.79
Vaginal dryness	76	50.6	4.49	2.77
Dyspareunia	91	60.6	6.50	3.61
Depression	106	70.6	4.93	3.12
Overall	55	56.9	4.55	2.75

Table 3 depicts the summary of the prevalence of FSD which was found to be 56.9%, as assessed by the overall mean of 'Yes' responses to questions regarding symptoms of FSD. Whereas, the severity of symptoms is shown by mean values of VAS for six domains of FSD, which was 4.55+ 2.75. The most prevalent symptoms were low satisfaction (In 90, 60%),
Dyspareunia (In 91, 60.6%) and depression (In 106, 70.6%). In terms of severity, again dyspareunia was most severe (6.5±3.61), followed by depression (4.93±3.12).

Table 4: Association of knowledge with sociodemographic variables (Binary Logistic Regression Analysis)

Variables	Categories	Good	Poor	COR (CI, 95%)	p-value	AOR CI,95%	p-value
Age (years)	40-50	53 (35%)	18(12%)	1.8(1.2-1.9)	0.006	2.2(1.5-2.1)	0.007
	51-60	35 (23%)	22(15%)	1.2(0.3-0.9)	0.015	1.8(2.8-3.5)	0.014
	>60	18 (12%)	12(8%)	1		1	
Weight	Underweight	12(8%)	19 (12%)	1.2(0.9-1.8)	1.135	1.5(1.6-2.1)	0.154
	Normal weight	38(26%)	42(28%)	0.8(1.2-2.8)	4.124	1.1(0.7-2.2)	0.641
	Overweight	27(18%)	24(16%)	1		1	
Marital status	5-15	19 (12%)	12(8%)	0.7(1.7-2.1)	0.015	1.0 (1.1-1.9)	0.041
	16-25	37(24%)	27(18%)	1.8(1.2-2.1)	0.002	2.5(2.1-3.4)	0.001
	More than 25	69(46%)	48(32%)	1		1	
Number of children	1-3	49(32%)	42(28%)	2.1(1.8-3.4)	0.013	3.1(1.4-2.1)	0.013
	4-6	21(14%)	8(6%	1.3(1.5-2.3)	0.056	1.8(0.3-3.9)	0.912
	>6	10(6%)	6(4%)	1		1	
Occupation of husband	Employed	69(46%)	39(26%)	1.3(0.9-2.4)	0.013	1.1 (0.9-2.1)	1.261
	Unemployed	35(23%)	25.5(17%)	0.9(2.1-3.3)	0.041	1.0(2.1-7.8)	0.097
	Personal business	(30%)	25.5(17%)	1		1	
Monthly income	20,000-40,000	30(20%	34.5(23%)	1.2(1.5-3.3)	0.121	1.0(0.8-1.9)	0.152
	41,000-60,000	41(28%)	37.5(25%)	1.6(2.1-3.3)	0..541	1.8(1.5-4.2)	0.312
	61,000-80,000	33(22%)	32(22%)	1.1(1.6-7.8)	0.065	0.9(2.2-3.1)	1.231
	>80,000	15(10%)	21(14%)	1		1	

The logistic regression analysis showed that females aged 40-50 years were 2.2 times (p=0.007) more knowledgeable as compared to older ones (> 60 years). Similarly, females married for 16-25 years were 2.5 (p=0.001) times more knowledgeable, and females with several children 1-3 were 3.1 times (p=0.013) more knowledgeable as compared to females having more issues. A detail of the association of knowledge with socio-demographic variables is shown in Table 4.

4. Discussion

Even though female sexual dysfunction (38%) is more common worldwide as compared to male sexual disorder (28%), women's sexual issues have received far less attention.[14] Worldwide much attention has been paid to different aspects of diagnosis and treatment of male sexual dysfunction, especially male erectile dysfunction, has been extensively studied and effective remedies are available for its treatment.[15] However, FSD is relatively less understood, because of social and ethical reasons.[10] It is considered as a taboo to openly discuss such sensitive issues in our socio-cultural context[16]. Our study reported that the prevalence of FSD in middle-aged women was 56.9%, which is quite high compared to the global prevalence of 40.9%.[17] Results of a recent systematic review also reported a prevalence of 48.3% which is also close to global estimates.[18]. Similar estimates were reported from the results of a study on Ghanaian females in which prevalence was 45.6%.[19]

Studies conducted on Turkish and Iranian women showed a prevalence of 67.9 % and 64.3 %

respectively.[20, 21] This difference can be due to variations in sociocultural characteristics of the study population. Moreover, evidence also reports that different religious factors also affect sexuality.[22] Studies from Malaysia also reported a higher prevalence of FSD (69%) among middle age ladies.[23] Significant higher prevalence in our study than global estimates is comparable to higher rates of FSD reported in Turkish, Iranian and Malaysian studies.

Female sexual dysfunction is categorized into five domains including sexual arousal, sexual desire, satisfaction, dryness, and dyspareunia.[24] The result of present cross sectional survey results showed that middle-aged females have good knowledge (68%) of all five domains of female sexual dysfunction and had enough awareness of the decline in sexual function with an increase in age. in the older age group. Moreover, they also felt a decrease in desire for sex activity, need of more time to get ready, got pain and discomfort during intercourse and were not fully satisfied. A significant number of females (70%) reported that they feel depressed because of problems associated with their sexual dysfunction. The underlying reason contributing towards depression in these middle-aged females can be dyspareunia and lack of sexual satisfaction. According to the WHO definition, sexual satisfaction implies harmony in relationships and can lead to a balanced personality, improved social relations and contribution to economic development.[25] This is also reinforced in the International Population and Development Conference, stressing that it is a basic human right to receive the highest standard of information to promote sexual health.[26]

Sexual satisfaction has a significant impact on physical and mental well-being by preventing risky behaviour and promoting social delinquency. Lack of sexual satisfaction can have a detrimental effect on overall quality of life. Unfortunately, this is the leading cause of depression and badly affects intimate relationship.[27]

With regards to predictors of level of knowledge, our results showed that the younger females were comparatively more knowledgeable as compared to older ones, particularly between the ages of 40 and 50 years. It is believed that sexual dysfunction in females mostly occurs with increasing age owning to the onset of menopause and hormonal changes associated with it. Previous evidence has also supported this assumption.[28] In our study, the knowledge of female sexual dysfunction was 1.8 times higher in the younger female group as compared to old age (> 60 years). The reason can be that younger women are sexually active and more concerned about their relationships.[29] In most cultures issues of sexual problems emerging with increasing age are considered as naturally occurring phenomena and it is anticipated that older women should embrace this shift as a normal manifestation.[30]

In our study, females with 1-3 children were three times more knowledgeable as they remained sexually active as compared to women with more than 3 issues. Our study also revealed that women married for 16-25 years were more knowledgeable, a possible underlying reason can be marriage bonding and intimacy develops with due course of time. Previous research also mentioned that sexual relationship is influenced by women's preferences and relationships with partners.[31]

5. Conclusion

There is a significant burden of FSD in our community. Middle-aged women have a good level of knowledge and had perception that their sexuality has declined with increasing age. Determinants found to influence the level of knowledge were age, parity, and duration of marriage. The evidence gained through this study will help to devise effective preventive strategies and treatment modalities to deal with problems associated with FSD.

INSTITUTIONAL REVIEW BOARD

270/IREF/RMU/2022 Dated 20-08-2022

CONFLICTS OF INTEREST- None

Financial support: None to report.
Potential competing interests: None to report

Contributions:

K.N, L.M, J.M, M.A - Conception of study
- Experimentation/Study Conduction
F.A, T.K - Analysis/Interpretation/Discussion
K.N, F.A, T.K - Manuscript Writing
L.M, J.M, M.A - Critical Review

All authors approved the final version to be published & agreed to be accountable for all aspects of the work.

References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 4th ed. Washington DC: American Psychiatric Association; 1994. https://doi.org/10.1176/appi.books.9780890425787

2. Tey YY, Ching SM, Mari KM. Prevalence and factors associated with sexual dysfunction among middle-aged women in a multi-ethnic country: A cross-sectional study in Malaysia. Malays Fam Physician. 2022;17(2):56-63. https://doi.org/10.51866/oa.86
3. Dąbrowska-Galas M, Dąbrowska J, Michalski B. Sexual Dysfunction in Menopausal Women. Sex Med. 2019;7(4):472-479. doi:10.1016/j. esxm.2019.06.010
4. McCool-Myers M, Theurich M, Zuelke A, Knuettel H, Apfelbacher C. Predictors of female sexual dysfunction: a systematic review and qualitative analysis through gender inequality paradigms. BMC Womens Health. 2018;18(1):108. Published 2018 Jun 22. doi:10.1186/s12905-018-0602-4
5. CW Wallwiener, L-M Wallwiener, H Seeger, et al.Sexual function, contraception, relationship, and lifestyle in female medical students. J Women Health, 26 (2017), pp. 169-177. https://doi.org/10.1089/jwh.2015.5731
6. Laumann EO, Paik A, Rosen RC. Sexual dysfunction in the United States: prevalence and predictors. Jama. 1999 Feb 10;281(6):537-44. https://doi.org/10.1001/jama.281.6.537
7. Afrane BA, Kretchy IA, Imbeah EP, Sarkodie JA, Debrah P, Acheampong F, Oppong S, Amoateng P. Prevalence and self-manage-ment of female sexual dysfunction among women in six regions of Ghana: A cross-sectional study. World J Pharm Res. 2016 Jan 8;5:241-54. https://doi.org/10.4172/2325-9795.1000212
8. Gul, R., Gul, S., Khan, M. A., & Satti, R. R. U. H. (2021). Sexual dysfunction: Prevalence and relationship with depression and other socio-demographic factors among the type 2 diabetic women of Pakistan. JPMA. The Journal of the Pakistan Medical Association, 71(11), 2515–2518. https://doi.org/10.47391/JPMA.607
9. Dhillon HS, Yadav B, Bhat PS, Dhillon GK, Sasidharan S. Association of sociodemographic factors with various domains of alcohol-induced sexual dysfunction - An Indian perspective. Ind Psychiatry J. 2020 Jul-Dec;29(2):272-278. doi: 10.4103/ipj.ipj_112_20. Epub 2021 Mar 15. PMID: 34158712; PMCID: PMC8188919.
10. Halle-Ekane GE, Timti LF, Tanue EA, Ekukole CM MD, Yenshu EV. Prevalence and Associated Factors of Female Sexual Dysfunction Among Sexually Active Students of the University of Buea. Sex Med. 2021 Oct;9(5):100402. doi: 10.1016/j.esxm.2021.100402. Epub 2021 Aug 6. PMID: 34371387; PMCID: PMC8498963.
11. Gul, R., Gul, S., Khan, M. A., & Satti, R. R. U. H. (2021). Sexual dysfunction: Prevalence and relationship with depression and other socio-demographic factors among the type 2 diabetic women of Pakistan. JPMA. The Journal of the Pakistan Medical Association, 71(11), 2515–2518. https://doi.org/10.47391/JPMA.607
12. Hussain, M. Z., Fakhr, A., Mumtaz, N., Cheema, A. A., Maqsood, S. U., & Sajid, Y. (2021). Sexual dysfunction among female patients of rheumatoid arthritis: an under addressed phenomenon. Pakistan Armed Forces Medical Journal, 71(3), 947–50. https://doi.org/10.51253/pafmj.v71i3.4376
13. Tsai TF, Yeh CH, Hwang TIS. Female Sexual Dysfunction: Physiology, Epidemiology, Classification, Evaluation and Treatment. Urol Sci 2011;22(1):7−13. https://doi.org/ 10.1016/ S1879-5226(11)60002-X.
14. Nicolosi A, Laumann EO, Glasser DB. Sexual behavior and sexual dysfunctions after age 40: The global study of sexual attitudes and behaviors. Urology. 2004;64:991–997. https://doi.org/10.1016/j.urology.2004.06.055
15. Basson R. (2008). Women's sexual function and dysfunction: current uncertainties, future directions. International journal of impotence research, 20(5), 466–478. https://doi.org/10.1038/ijir.2008.23
16. Brotto , Bitzer J, Laan E, Leiblum S, Luria M. Women's sexual desire and arousal disorders. J Sex Med. 2010 Jan; 7(1 Pt 2): 586-614. doi: 10.1111/j.1743-6109.2009.01630
17. McCool M.E., Zuelke A., Theurich M.A., Knuettel H., Ricci C., and Apfelbacher C., Prevalence of Female Sexual Dysfunction Among Premenopausal Women: A Systematic Review and Meta-Analysis of Observational Studies. Sex Med Rev, 2016. 4(3): p. 197–212. pmid:27871953. https://doi.org/10.1016/j.sxmr.2016.03.002
18. .Anto-Ocrah M, Sefakor Ametepe L, OkereM, Ibine B (2020) "I did not know it was a medicalcondition": Predictors, severity and help seekingbehaviors of women with female sexualdysfunction in the Volta region of Ghana. PLoSONE 15(1): e022640 https://doi.org/10.1371/journal.pone.0228696
19. Emelia P, Afrane Barima A, Kretchy Irene A, Sarkodie Joseph A, Acheampong Franklin, Oppong Samuel and Amoateng Patrick, Prevalence and Self-Management of Female Sexual Dysfunction among Women in Six Regions of Ghana: A Cross-Sectional Study. J Womens Health Issues Care, 2015. 4(6). https://doi.org/10.4172/2325-9795.1000212
20. Oksuz, E., & Malhan, S. (2006). Prevalence and risk factors for female sexual dysfunction in Turkish women. The Journal of urology, 175(2), 654–658. https://doi.org/10.1016/S0022-5347(05)00149-7
21. Omani-Samani R, Amini P, Navid B, Sepidarkish M, Maroufizadeh S, Almasi-Hashiani A. Prevalence of Sexual Dysfunction among Infertile Women in Iran: A Systematic Review and Meta-analysis. Int J Fertil Steril. 2019 Jan;12(4):278-283. doi: 10.22074/ijfs.2019.5395. Epub 2018 Oct 2. PMID: 30291686; PMCID: PMC6186283
22. Halle-Ekane GE, Timti LF, Tanue EA, Ekukole CM MD, Yenshu EV. Prevalence and Associated Factors of Female Sexual Dysfunction Among Sexually Active Students of the University of Buea. Sex Med. 2021 Oct;9(5):100402. doi: 10.1016/j.esxm.2021.100402. Epub 2021 Aug 6. PMID: 34371387; PMCID: PMC8498963
23. Tey, Y. Y., Ching, S. M., Maharajan, M. K., Lee, K. W., Chow, Z. Y., Chua, P. W., Tan, C. X., Lim, S. N., Tan, C. H., Thew, H. Z., Ramachandran, V., & Hoo, F. K. (2022). Prevalence and factors associated with sexual dysfunction among middle-aged women in a multi-ethnic country: A cross sectional study in Malaysia. Malaysian family physician : the official journal of the Academy of Family Physicians of Malaysia, 17(2), 56–63. https://doi.org/10.51866/oa.86
24. Jaafarpour M, Khani A, Khajavikhan J, Suhrabi Z. Female sexual dysfunction: prevalence and risk factors. J Clin Diagn Res. 2013;7(12):2877- 2880. doi:10.7860/JCDR/2013/6813.3822

25. International Conference on Population and Development Programme of Action. UNFPA - United Nations Population Fund. http://www.unfpa.org/publications/international-conference-population-anddevelopment-programme-action. Accessed August 25, 2015.
26. Reddy RM, Saravanan RA, Praharaj SK, Thirunavukarasu M. Sexual Dysfunction in Women with Depression: A Hospital-Based Cross-sectional Comparative Study. Indian J Psychol Med. 2020 Jan 6;42(1):46-51. doi: 10.4103/IJPSYM.IJPSYM_321_19. PMID: 31997865; PMCID: PMC6970310.
27. Nappi R.E., Cucinella L, Martella S, Rossi M, Tiranini L, Martini E. Female sexual dysfunction (1FSD): Prevalence and impact on quality of life (QoL). Maturitas, 2016. 94: p. 87–91. pmid:27823751
28. Coelho G, Frange C, Siegler M, Andersen ML, Tufik S, Hachul H, Menopause Transition Symptom Clusters: Sleep Disturbances and Sexual Dysfunction. J Womens Health (Larchmt), 2015. 24(11): p. 958–9
29. Remez, L. Multiple Factors, Including Genetic and Environmental Components, Influence When Menopause Begins. 8/9/2016; https://www.guttmacher.org/about/journals/psrh/2001/09/multiple-factors-including-genetic-and-environmental-compone
30. Khalaf ZF, Low WY, Merghati-Khoei E, Ghorbani B. Sexuality education in Malaysia: perceived issues and barriers by professionals. Asia Pac J Public Health. 2014;26(4):358-366. doi:10.1177/1010539513517258
31. Tey, Y. Y., Ching, S. M., Maharajan, M. K., Lee, K. W., Chow, Z. Y., Chua, P. W., Tan, C. X., Lim, S. N., Tan, C. H., Thew, H. Z., Ramachandran, V., & Hoo, F. K. (2022). Prevalence and factors associated with sexual dysfunction among middle-aged women in a multi-ethnic country: A cross sectional study in Malaysia. Malaysian family physician : the official journal of the Academy of Family Physicians of Malaysia, 17(2), 56–63. https://doi.org/10.51866/oa.86