RISK FACTORS ASSOCIATED WITH FEMALE SEXUAL DYSFUNCTION IN MARRIED WOMEN WORKING IN HEALTH CARE SYSTEM

[1]Fanny Riana Ridwan, [2]Zulfikar Ali, [2]Kemala Gautami Hidayah, [2]Nazlah Faradila Utari, [2]Ulfa Innayah.

[1] Department of Urology, Faculty of Medicine/Universitas Indonesia, Cipto Mangunkusumo Hospital, Jakarta.
[2] Department of Urology, Kardinah Hospital, Tegal.

ABSTRACT

Objective: *In this study, we want to evaluate the risk factors associated with sexual dysfunction in married women working in health care system.* ***Material & Methods:*** *The sexual function was assessed in the questionnaire using Female Sexual Function Index (FSFI). The analysis was conducted using chi-square test or Fisher Exact Test.* ***Results:*** *All participants who were overweight/obese had highest pain problem (p-value 0.034). Women with diabetes mellitus had higher satisfaction problems (p=0.002, OR 13.13, CI 1.73-99.91). The females who used contraception had significantly lower orgasm problems (p<0.004, OR 0.33, CI 0.15-0.72. Participants who worked as medical staff such as nurse/midwife, pharmacist, radiographer had higher pain problems (71.43%) compared to medical staff (administration staff) (OR 27.47, CI 3.73-202).* ***Conclusion:*** *The BMI (overweight/obesity), diabetes mellitus, the use of contraception, and the medical occupation were the significant risk factors to sexual dysfunction problem in women working in the hospital.*

Keywords: *Female sexual dysfunction, working women, hospital.*

ABSTRAK

Tujuan: *Pada penelitian ini, peneliti ingin mengetahui faktor risiko yang berhubungan dengan gangguan seksual pada wanita menikah yang bekerja pada bidang pelayanan kesehatan.* ***Bahan & Cara:*** *Fungsi seksual dinilai dengan kuesioner Female Sexual Function Index (FSFI). Analisis data dilakukan dengan chi-square test or Fisher Exact Test.* ***Hasil:*** *Semua subjek yang mengalami overweight atau obesitas memiliki masalah nyeri terbanyak (p value 0.034). Wanita dengan diabetes mellitus memiliki masalah kepuasan yang lebih tinggi (p=0.002, OR 13.13, CI 1.73-99.91). Wanita yang menggunakan kontrasepsi memiliki masalah orgasme yang lebih rendah dibandingkan wanita yang tidak menggunakannya (p<0.004, OR 0.33, CI 0.15-0.72). Subjek yang bekerja sebagai staf medis seperti perawat/bidan, farmasi, radiografer memiliki masalah nyeri yang lebih tinggi (71.43%) dibandingkan dengan staf non medis (petugas administrasi) (OR 27.47, CI 3.73-202).* ***Simpulan:*** *IMT yang berlebih (overweight/obesitas), diabetes mellitus, penggunaan kontrasepsi, dan tenaga kesehatan adalah faktor risiko yang signifikan yang mempengaruhi munculnya gangguan seksual pada wanita yang bekerja di rumah sakit.*

Kata kunci: *female sexual dysfunction, wanita pekerja, rumah sakit.*

Correspondence: Fanny Riana Ridwan; c/o: Department of Urology, Faculty of Medicine/Universitas Indonesia, Cipto Mangunkusumo Hospital, Jalan Diponegoro No. 71, Jakarta 10320, Indonesia. Email: fannyriana@gmail.com. Mobile Phone: 082221955973.

INTRODUCTION

Sexual dysfunction was a common problem in sexually active women. It can affect self esteem and interpersonal relationship in women. However, it was still not diagnosed and managed adequately.

OBJECTIVE

In this study, we want to evaluate the risk factors associated with sexual dysfunction in married women working in health care system.

MATERIAL & METHODS

There were 216 married women working as nurses/midwives, radiographer, and administration staff in Kardinah Hospital participating in the study. The data was collected in 2022. The participants were asked to fill the questionnaire sent by Google Form. The sexual function was assessed using Female Sexual Function Index (FSFI) questionnaire. We analyze the association between risk factors and prevalence of problems in the participants using the chi-square test.

RESULTS

A total of 216 females were included in this study. The most prevalent sexual problems were pain (97.69%) and lubrication (64.35%). There were 37.96% of participants with desire problems and 28.70% of participants with arousal problems. The least prevalent problems were orgasm (16.20%) and satisfaction (7.87%). The baseline characteristics of the patients can be seen in Table 1. The data was analyzed using Chi-square.

All the participants who were overweight/obese had a statistically significant pain problem (p=0.034). The participants who had diabetes mellitus had more prevalent desire problems (p=0.635), arousal problems (p=0.325), lubrication problem (p=0.299), orgasm problem (p=0.124), satisfaction problem (p=0.032), and pain problems (p=1.000) compared to the participants with no history of diabetes mellitus.

The use of contraception were associated with less female sexual dysfunction prevalences in all domain, such as desire problem (p=0.567), arousal problem (p=0.110), lubrication problem (p=0.185), orgasm problem (p=0.004), satisfaction problem (p=0.280), and pain problem (p=0.775).

The participants who worked as administration staff had the lowest prevalence of lubrication problems (p=0.573), orgasm problems (p=0.117). satisfaction problem (p=0.804), and pain problem (p=0.000). The prevalence of lubrication problems was significantly lower (p=0.032) compared to the participants who worked in a high pressure workplace.

We analyze the odd ratio for the risk factors and domains that show statistical significance (p<0.05).

Table 1. Baseline Characteristics of the Participants.

Variable	Value (%)	Sexual Problem (%)	Normal (%)	P value	CI 95%
Age					
18 -44 (reproductive)	193 (89.35)	69 (35.75)	124 (64.25)	0.242	0.241 -1.441
>44 (menopausal)	23 (10.65)	13 (56.52)	10 (43.48)		0.178 -1.027
BMI					
<18.5 (underweight)	7 (3.24)	3 (42.86)	4 (57.14)	0.033	0.516 - 1.606
18.5 - <25 (normal)	127 (58.80)	49 (38.58)	78 (61.42)		0.420 -1.091
>25.1 (overweight/obese)	82 (37.96)	30 (36.59)	52 (63.41)		0.516 -1.606
Menopause					
Yes	12 (5.56)	6 (50)	6 (50)	0.300	0.185 -1.905
No	204 (94.44)	76 (37.25)	128 (62.75)		
Education					
Associate or lower	141 (65.28)	52 (36.88)	89 (63.12)	0.221	0.733 -3.750
Bachelor or higher	75 (34.72)	30 (40.00)	45 (60.00)		0.051 - 4.217
Job					
Nurse/midwife	205 (94.91)	76 (37.07)	129 (62.93)	0.000	0.177 -3.715
Pharmacist	3 (1.39)	2 (66.67)	1 (33.33)		0.190 -5.332
Radiographer	1 (0.46)	1 (100)	0 (00.00)		0.541 -11.400
Administration staff	7 (3.24)	3 (42.86)	4 (57.14)		0.136 -9.994

Table 2. Factors associated with FSD.

Variable	N (%)											
	Desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain	
	Problem	Normal	Problem	Normal	Problem	Normal	Problem	Normal	Problem	Normal	Problem	Normal
Age												
reproductive	69 (35.75)	124 (64.25)	53 (27.46)	140 (72.54)	122 (63.21)	71 (36.79)	32 (16.58)	161 (83.96)	16 (8.29)	177 (91.71)	189 (97.93)	4 (2.07)
menopausal	13 (56.52)	10 (43.48)	9 (39.19)	14 (60.87)	17 (73.91)	6 (26.09)	3 (13.04)	20 (86.96)	1 (4.35)	22 (95.65)	22 (95.65)	1 (4.35)
p value	0.052		0.242		0.311		0.663		0.507		0.813	
BMI												
underweight	3 (42.86)	4 (57.14)	3 (42.86)	4 (57.14)	6 (85.71)	1 (14.29)	1 (14.29)	6 (85.71)	1 (14.29)	6 (85.71)	6 (85.71)	1 (14.29)
normal	49 (38.58)	78 (61.42)	37 (29.13)	90 (70.87)	84 (66.14)	43 (33.86)	25 (19.69)	102 (80.31)	11 (8.66)	116 (91.34)	123 (96.85)	4 (3.15)
overweight/obese	30 (36.59)	52 (63.41)	22 (26.83)	60 (73.17)	49 (59.76)	33 (40.24)	9 (10.98)	73 (89.02)	5 (6.1)	77 (93.90)	82 (100)	0 (0)
p value	0.924		0.658		0.313		0.246		0.650		**0.034**	
Menopause												
Yes	6 (50)	6 (50)	5 (42.67)	7 (58.33)	8 (66.67)	4 (33.33)	2 (16.67)	10 (83.33)	1 (8.33)	11 (91.67)	11 (91.67)	1 (4.35)
No	76 (37.25)	128 (62.75)	57 (27.94)	147 (72.06)	131 (64.22)	73 (35.78)	33 (16.18)	171 (83.82)	16 (7.84)	188 (92.16)	200 (98.04)	4 (2.07)
p value	0.378		0.332		1.000		1.000		1.000		0.599	
Diabetes mellitus												
Yes	2 (50)	2 (50)	2 (50)	2 (50)	4 (100)	0 (0)	2 (50)	2 (50)	2 (50)	2 (50)	4 (100)	0 (0)
No	80 (37.74)	132 (62.26)	60 (28.30)	152 (71.70)	135 (63.68)	77 (36.32)	33 (15.57)	179 (84.43)	15 (7.08)	197 (92.92)	207 (97.64)	5 (2.36)
p value	0.635		0.325		0.299		0.124		**0.032**		1.000	
Smoking												
Yes	2 (66.67)	1 (33.33)	1 (33.33)	2 (66.67)	3 (100)	0 (0)	1 (33.33)	2 (66.67)	1 (33.33)	2 (66.67)	3 (100)	0 (0)
No	80 (37.56)	133 (62.44)	61 (28.64)	152 (71.36)	136 (63.85)	77 (36.15)	34 (15.96)	179 (84.04)	16 (7.51)	197 (92.49)	208 (97.65)	5 (2.35)
p value	0.559		1.000		0.554		0.417		0.219		1.000	
Exercise												
<1x/month	28 (38.36)	45 (61.64)	23 (31.51)	50 (68.49)	53 (72.60)	20 (27.40)	15 (20.55)	58 (79.45)	9 (12.33)	64 (87.67)	70 (95.89)	3 (5.11)
<1x/week	14 (45.16)	17 (54.84)	11 (35.48)	20 (64.52)	17 (54.84)	14 (45.16)	31 (100)	27 (87.10)	3 (9.68)	28 (90.32)	29 (93.55)	2 (6.45)
1x/week	26 (34.21)	50 (65.79)	19 (25.00)	57 (75)	45 (59.21)	31 (40.79)	13 (17.11)	63 (82.89)	4 (5.26)	72 (94.74)	76 (100)	0 (0)
2x/week	14 (38.89)	22 (61.11)	9 (25.00)	27 (75)	24 (66.67)	12 (33.33)	3 (8.33)	33 (91.67)	1 (2.78)	35 (97.22)	36 (93.55)	0 (0)
p value	0.764		0.631		0.226		0.399		0.247		0.110	
Duration of marriage												
0-10 years	48 (35.82)	86 (64.18)	33 (24.63)	101 (75.37)	89 (66.42)	45 (33.58)	18 (13.43)	116 (86.57)	9 (6.72)	125 (93.28)	132 (98.51)	2 (1.49)
>10 years	34 (41.46)	48 (58.54)	29 (35.37)	53 (64.63)	50 (60.98)	32 (39.02)	17 (20.73)	65 (79.27)	8 (9.76)	74 (90.24)	79 (96.34)	3 (3.66)
p value	0.407		0.090		0.418		0.158		0.421		0.400	
Contraception												
Yes	42 (26.21)	74 (63.79)	28 (24.14)	88 (75.86)	70 (60.34)	46 (39.66)	11 (9.48)	105 (90.52)	7 (6.03)	109 (93.97)	113 (97.41)	3 (2.59)
No	40 (40.00)	60 (60.00)	34 (34.00)	66 (66.00)	69 (69.00)	31 (31.00)	24 (24.00)	76 (76.00)	10 (10.00)	90 (90.00)	98 (98.00)	2 (2.00)
p value	0.567		0.110		0.185		**0.004**		0.280		1.003	
History of pregnancy	6 (40.00)	9 (60.00)	3 (20.00)	12 (80.00)	12 (80.00)	3 (20.00)	3 (20.00)	12 (80.00)	2 (13.33)	13 (86.67)	15 (100)	0 (0.00)
Nullipara	28 (40.00)	42 (60.00)	17 (24.29)	53 (75.71)	41 (58.57)	45 (34.35)	13 (18.57)	57 (81.43)	3 (4.29)	67 (95.71)	70 (100)	0 (0.00)
Primipara	48 (36.64)	83 (63.36)	42 (32.06)	89 (67.94)	86 (65.65)	29 (41.43)	19 (14.50)	112 (85.50)	12 (9.16)	119 (92.13)	126 (96.18)	5 (3.82)
Multipara	0.884		0.378		0.257		0.695		0.340		0.190	
p value												
Education												
Associate or lower	52 (36.88)	89 (63.12)	38 (26.95)	103 (73.05)	89 (63.12)	52 (36.88)	26 (18.44)	115 (81.56)	13 (9.22)	128 (90.78)	137 (97.16)	4 (2.84)
Bachelor or higher	30 (40.00)	45 (60.00)	24 (32.00)	51 (68.00)	50 (66.69)	25 (33.33)	9 (12.00)	66 (88.00)	4 (5.33)	71 (94.67)	74 (98.67)	1 (1.33)
p value	0.653		0.435		0.604		0.221		0.313		0.661	
Job												
Nurse/midwife	76 (37.07)	129 (62.93)	59 (28.78)	146 (71.22)	133 (64.88)	72 (35.12)	32 (15.61)	173 (84.39)	17 (8.29)	188 (91.71)	202 (98.54)	3 (1.46)
Pharmacist	2 (66.67)	1 (33.33)	1 (33.33)	2 (66.67)	2 (66.67)	1 (33.33)	1 (33.33)	2 (66.67)	0 (0)	3 (100.00)	3 (100)	0 (0.00)
Radiographer	1 (100)	0 (00.00)	0 (0)	1 (100.00)	1 (100)	0 (0.00)	1 (100)	0 (00.00)	0 (0)	1 (100.00)	1 (100)	0 (0.00)
Administration staff	3 (42.86)	4 (57.14)	2 (28.57)	5 (71.43)	3 (42.86)	4 (57.14)	1 (14.29)	6 (85.71)	0 (0)	7 (100.00)	5 (71.43)	2 (28.57)
p value	0.420		0.933		0.573		0.117		0.804		0.000	
Workplace												
High pressure	20 (38.46)	32 (51.54)	15 (28.85)	37 (71.15)	27 (51.92)	25 (48.08)	8 (15.38)	44 (84.62)	5 (9.62)	47 (90.38)	52 (100)	0 (0.00)
Low pressure	62 (37.8)	102 (62.20	47 (28.66)	117 (71.34)	112 (68.29)	52 (31.71)	27 (16.46)	137 (83.80)	12 (7.32)	152 (92.68)	159 (96.95)	5 (9.62)
p value	0.932		0.979		0.032		0.854		0.565		0.340	

The data was analyzed using chi square (for expectant value>5) or Fisher Exact (for expectant value<5).

Table 3. Odd ratio for significant risk factors of female sexual dysfunction.

Risk Factor	Problem	OR	p value	95% Confidence Interval
Overweight/obese BMI	Pain	∞	0.128	∞
DM type 2	Satisfaction	13.13	0.103	1.73-99.91
The use of contraception	Orgasm	0.33	0.59	0.15-0.72
Medical associate job	Pain	27.47	0.47	3.73-202
Low pressure workplace	Lubrication	1.99	0.64	1.06-3.77

The data was analyzed using logistic regression.

DISCUSSION

In this study, people with overweight /obesity BMI had statistically significant higher pain problems. In a study conducted by Eshafani et al, BMI and sexual quality of life had significant negative correlation ($p<0.001$).[1] In a study conducted by Pichlerova in 120 women, there was significant lower sexual function in obese women compared to non obese women in all domain

including pain ($p<0.01$). More than 50% obese women had met the cutoff of FSD compared to only 15% in non obese women.[2]

The pain in sexual activities might be the result of psychological pressures and relationship issues.[3] Obese women usually had low self-esteem and bad self-acceptance of their body image. They also often experience interpersonal relationships. Obesity is also a risk factor of several health problems such as metabolic disease, hypertension, and diabetes mellitus that might affect sexual function.

In a study conducted by Yang et al., the prevalence of FSD in diabetes mellitus participants was significantly higher compared to non diabetes mellitus participants in pre-menopausal age ($p>0.001$). The logistic regression analysis showed that diabetes was an independent risk factor of FSD.[4] In a research conducted by Caruso et al., there was a decrease in clitoral blood flow because of the damage of autonomic nervous and vascular system, and also the change in nitric oxide production and function. It also changes the expression of progesterone and androgen receptors that cause disturbances in clitoral and vaginal engorgement.[5] Depression is common in diabetic women.[6]

In this study, the women who used contraception had significantly lower orgasm problems compared to the women who did not use contraception. Based on another study, hormonal contraception can reduce anxiety in women who did not desire a child. A study also found that using intrauterine device (IUD) in women who previously had unwanted pregnancy increased satisfaction in sexual activity.[7]

The pain problems in sexual activity were significantly lower in participants who worked as administration staff compared to nurses, midwives, radiographers, and pharmacists ($p<0.000$). However, the confidence interval in this study was quite large so it might not be suitable to implement in a larger population. It can be caused by higher variability in the sample (the amount of nurses were much higher than any other occupation). A study conducted by Satyawan et al., showed that healthcare worker had higher risk to sexual dysfunction compared to non-medical worker. The job stressors such as long work hours and low work experiences affected sexual function.[8]

There were some limitations to this study. Because of the cultural barrier, unmarried or divorced women were not included in the study. It was considered inappropriate when unmarried /divorced women talked about sexual life because of the religion value. However, divorced women might have higher prevalence of FSD that might lead to divorce. Some research showed that marriage could negatively affect sexual function. Therefore unmarried women might have statistically lower sexual problems. These might change the result if they were included in this study.

This study used questionnaires to obtain data. This could result in measurement because some participants might not carefully answer the questions or understand the questions well. The participants also had some homogeneous risk factors (education and job) so the result might be inconclusive.

CONCLUSION

The BMI (overweight/obesity), diabetes mellitus, the use of contraception, and the medical occupation were the significant risk factors to sexual dysfunction problem in women working in the hospital. Further study was needed in other hospitals to obtain more data about sexual dysfunction among these women.

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