

ORIGINAL ARTICLE

SEXUAL FUNCTION OF MALAY WOMEN WITH TYPE 2 DIABETES MELLITUS: A PRELIMINARY STUDY

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Abstract

Objective: Female sexual dysfunction is a known complication of diabetes mellitus. The aims of this study is to estimate the prevalence of sexual dysfunction and the types of sexual dysfunction experienced by Malay women with type 2 diabetes mellitus. **Methods:** Cross sectional study was conducted on married Malay women with type 2 diabetes mellitus, receiving treatment from two community clinics in Selangor, Malaysia. Female sexual function was assessed using Malay version of Female Sexual Function Index. **Results:** This study found that sexual dysfunction was present among 18.2% women. Lack of libido was the commonest symptom among these women and was observed in 40.9% of women followed by sexual dissatisfaction (36.4%). Sexual arousal disorder was observed in 22.7%, 18.2% complained of lack of lubrication, and 22.7% had vaginal discomfort. Orgasmic dysfunction was found in only 4.5% of these women. **Conclusion:** This preliminary research showed sexual desire disorder was the commonest type of sexual disorder among diabetic women. *ASEAN Journal of Psychiatry, Vol. 11(1): Jan – June 2010: XX XX.*

Keywords: Female sexual function, Diabetes Mellitus, Malay women

Introduction

Sexual dysfunction in women is common and may affect 30-70% of women leading to personal distress [1]. In Malaysia, a study found that about 29% of women may

experience one or more types of sexual dysfunction [2]. Another research by Sidi and colleague [3] found that most women in Malaysia conformed to Basson's circular model of female sexual response. These interesting findings demand further

investigation on women's sexual wellbeing in Malaysia.

Diabetes mellitus (DM) is a known cause of female sexual dysfunction which occurs in 27 – 59.6 % of women with type 1 or type 2 DM [4, 5]. Vascular disease, neuropathy and psychosocial problems [6] among diabetics are known to cause sexual dysfunctions such as reduce sexual desire, poor lubrication, decrease sexual arousal, orgasmic disorder, sexual pain disorder and lack of sexual satisfaction [7]. Hormonal imbalance [8] and reduce somatic sensation among diabetics [9] were among few suggestion of factors leading to female sexual dysfunction.

Although, vast studies had been done on female sexual dysfunction (FSD) among diabetic women, there was yet any literature stating the prevalence of such disorder among Malaysian women. Therefore, the purpose of this study was to determine the prevalence of sexual dysfunctions and factors associated with sexual function among Muslim women with type 2 diabetes mellitus in Malaysia.

Methods

A cross sectional study was conducted in May 2009 at among married Muslim women, age 20-60 years, receiving on-going treatment and follow-up for type 2 DM at

the community health clinics at Bangi and Kajang, two small town in Selangor. Women diagnosed with chronic or terminal disease (with exception to hypertension), diagnosed and receiving treatment for psychiatric disorder, pregnant or 2 months post partum were excluded from the study. This study had received ethical approval from the Institute for Health Behavioural Research (IHBR).

Informed consent was obtained from each participant after detail explanation regarding the research was given by the researcher (the main author of this article). Participants were assured of privacy and confidentiality. Demographic data such as age, occupation, duration of marriage, duration of diabetes, number of children were obtained from participants. Glycemic status was determined by the level of HbA_{1c}.

Malay version of Female Sexual Function Index (MVFSFI) was used to determine presence of sexual disorder. Female Sexual Function Index (FSFI) is a 19-item questionnaire [10] consists of six domains of sexual function: desire, arousal, lubrication, orgasm, satisfaction and pain. MVFSFI was tested and found to be reliable and valid to be used among Malaysian community [11]. It has a different scoring system compared to original questionnaire by Rosen. (Table 1).

Table 1 : Scoring system for MVFSFI

<i>Type of dysfunction</i>	<i>No. of items</i>	<i>Score</i>
Global sexual dysfunction	19 (total)	≤ 55
Sexual desire disorder	2	≤ 5
Sexual arousal disorder	4	≤ 9
Disorder of lubrication	4	≤ 10
Orgasmic disorder	3	≤ 4
Sexual dissatisfaction	3	≤ 11
Sexual pain disorder	3	≤ 7

Presence of hypertension, other illness and medication prescribed were obtained from the patients' record. Participants' height, weight and waist circumference were also measured. Body mass index were calculated using participants' height and weight.

Analyses were performed using SPSS statistical software (Version 16.0; SPSS, Chicago). Spearman rank test was used to measure association between sexual disorder and other factors such as demographic factors, HbA_{1c} and BMI. Scores were presented as mean ± SD. The level of significance used was $p < 0.05$.

Results

Two hundred and thirty eight contact numbers of patients were obtained from the database. However, only 22 participated in the research. Half of the telephone numbers were not contactable (due to change in numbers and change of address). Of the contactable, majority of the women were not able to participate because of work, disapproval from their husband, inability to leave home to care for their children, no transportation and ill health. Some of the women who were interested were widows and for that reason, didn't fulfill the research criteria.

Table 2: Socio-demographic Characteristics of participants

	<i>Characteristic</i>	<i>N</i>	<i>%</i>	<i>Mean (SD)</i>
Age (yr)	20 – 30	1	4.5	45.6 (8.7)
	31 – 40	4	18.2	
	41 – 50	11	50	
	51 – 60	6	27.3	
Occupation	Employed	8	36.4	
	Self-employed	2	9.1	
	Housewife	11	50.0	
	Retired	1	4.5	
Duration of marriage	1 – 5	1	4.5	22.0 (9.0)
	6 – 10	1	4.5	
	11 – 15	2	9.1	
	> 15	15	68.2	
No. of children	1 – 4	16	80.0	3 (1.7)
	>4	4	20.0	
Menopause	Yes	5	22.7	
	No	7	77.3	
Duration of DM (yr)	< 4	8	36.4	6.9 (4.8)
	5 – 10	11	50.0	
	> 10	3	13.6	
Hypertension	No	13	59.1	
	Yes	9	40.9	
No. of medication	0	1	4.5	3 (1.5)
	1 – 3	13	59.1	
	4 – 6	8	36.4	

Body mass index	Underweight	0	0	
	Normal weight	5	22.7	29.0 (3.3)
	Overweight	8	36.4	
	Obese	9	40.9	
Glycemic control	Good (< 6.4)	4	19.0	
	Satisfactory (6.5 – 7.5)	1	4.8	9.5 (2.6)
	Poor (> 7.5)	16	76.2	

The mean age of participants were 45.6 ± 8.7 years (range of 25 – 60). Majority (50.0%) of these women were housewives with duration of marriage of 22.0 ± 9.0 (ranging from 5 – 42). Only 22.7% of these women were postmenopausal. Mean duration of diabetes mellitus is 6.9 ± 4.8 years and about 40.9% of these women, also had hypertension. 76.2% had poor glycemic control with mean A_{1c} level of 9.5 ± 2.6 %. Among these women, 36.4% were overweight and 40.9% were obese with mean BMI of 29.0 ± 3.3 kg/m² (Table 2).

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Table 3 : Prevalence of dysfunction in diabetic women

<i>Sexual Dysfunction</i>	<i>N</i>	<i>%</i>	<i>Range</i>	<i>Mean score (SD)</i>
Global dysfunction (FSD)	4	18.2	4 – 89	62.8 (24.5)
Sexual desire disorder (SDD)	9	40.9	2 – 9	5.5 (1.8)
Sexual arousal disorder (SAD)	5	22.7	0 – 17	11.8 (4.1)
Disorder of lubrication (DOL)	4	18.2	0 – 20	13.6 (6.0)
Orgasmic disorder (OD)	1	4.5	0 – 16	10.6 (4.8)
Sexual dissatisfaction (SD)	8	36.4	2 – 15	11.2 (4.2)
Sexual pain disorder (SPD)	5	22.7	0 – 15	10.1 (5.1)

(SD= Standard deviation)

In this study (Table 3), we found that about 18.2% of women experience sexual dysfunction with mean score of 62.8 ± 24.5 (range from 4 – 89). The most common dysfunction suggested by this study was sexual desire disorder which occurred in 40.9% of women. Incidence of sexual

arousal disorder was 22.7%; 18.2% experience poor lubrication; 22.7% had sexual pain and 36.4% was experiencing sexual dissatisfaction. Orgasmic disorder was the least issue experienced by these women (4.5%). Further analysis was conducted using Spearman's rank test to

determine correlation between sexual function score and associated factors such as socio-demographic, duration of diabetes,

BMI and level of HbA_{1c}. Results are summarized in Table 4.

Table 4: Correlation between domains of sexual function and associated factors

	<i>Sexual Function</i>	<i>Desire</i>	<i>Arousal</i>	<i>Lubrication</i>	<i>Orgasm</i>	<i>Satisfaction</i>	<i>Sexual Pain</i>
Age	-0.49*	-0.45*	-0.51*	-0.52*	-0.58**	-0.24	-0.43*
Duration of marriage	-0.46	-0.40	-0.43	-0.45	0.57*	-0.12	-0.35
Number of children	-0.04	-0.03	-0.04	-0.03	-0.14	0.52	0.12
Duration of diabetes	-0.43*	-0.36	-0.19	-0.48*	0.52*	-0.30	-0.36
No. of medication	-0.45*	-0.37	-0.33	-0.47*	-0.51*	-0.27	-0.43*
BMI	0.01	0.01	-0.03	0.09	0.92	-0.27	-0.23
HbA _{1c} level	-0.40	-0.40	-0.35	0.48*	-0.39	-0.44*	0.36

(BMI= Body Mass Index, HbA_{1c} = Glycated Haemoglobin; ** p < 0.01, * p < 0.05)

This study suggests that increase in age as a significant factor moderately associated with decrease of sexual function in all domains except for sexual satisfaction. Increase level of HbA_{1c} in the blood was a significant factor that moderate correlated with reduce sexual satisfaction but not in other sexual domains. On the other hand, BMI and number of children were not significantly correlated with all domains of sexual function.

Increase numbers of medication were found to have a moderate association with reduction of function in lubrication, orgasm and sexual pain. In addition, duration of diabetes also was moderately correlated with lubrication and orgasmic disorder but not sexual pain. Duration of marriage was found to be significantly associated with decrease of orgasmic function.

Discussion

Previous studies have shown prevalence of sexual dysfunction ranging from 20% - 60%. In this study, prevalence of sexual dysfunction is only found in 18.2%, which is lower compared to previous studies. This is probably due to the small number of respondent participating in this research. Erol et al. (2002) found that 51.3% of diabetic women had one or more types of sexual dysfunction. Nevertheless, similar to this study, Erol et al. (2002) and Ali et al (2008) found that lack of libido is the commonest type of dysfunction among diabetic women.

Sexual desire disorder is defined by DSM IV as persistently or recurrently deficient (or absent) sexual fantasies and desire for sexual activity leading to personal distress or interpersonal difficulty. According to Sidi

and colleague (2008), majority Malaysia women endorse the Basson's circular model of sexual response. Basson argues that sexual desire is greatly influenced by external stimuli which subsequently influences the flow of sexual response in women [12]. Basson redefines hypoactive sexual desire disorder as persistent or recurrent deficiency (or absence) of sexual fantasies, thoughts, desire for sexual activity (alone or with partner), and inability to respond to sexual cues that would be expected to trigger responsive sexual desire. These symptoms need to cause personal distress in order to be defined as sexual desire disorder. Level of personal distress among participants who experience poor libido is not measured in this study. One may query whether participants who experienced poor sexual drive were due to absent of external stimuli or other factors that influenced marital relationship.

Among this small number of participants, only one respondent experienced orgasmic disorder. This unexpected discovery supports study by Sidi and colleagues (2008) which found that orgasmic disorder occurs lowest among Malay women in comparison to women from other ethnic background. Furthermore, similar to study by Sidi et al, this study also shows that duration of marriage influences women's sexual orgasm [13]. For that reason, we would like to suggest that orgasm may not be related to physiological changes in the body alone but may also be associated with psychosocial factors. Clearly more studies should be conducted to find out factors influencing female sexual orgasm.

In determining factors associated with reduce of sexual function, this study found that aging as a factor associated with reduce of function in all sexual domain except for sexual dissatisfaction [14]. Aging changes

the physiological and psychological wellbeing of women. As women aged, they will undergo menopausal stage which is a whole new life for most women. Physically women will experience physiological changes such as hot flushes, vaginal dryness and night sweats, which may disrupt sexual relationships. Reduce elasticity of vaginal wall and painful uterine contraction lead to refusal to engage in sexual activity which eventually precipitates problems in relationship. Aging can also give a negative effect toward the psychological wellbeing of women. They feel sexually unattractive, have low self-esteem and may experience emotional instability.

Like many other previous study, this study found that HbA_{1c} level is not associated with diabetic women's sexual function [4, 15, 16]. The association between glycemic control and sexual function is still unknown.

There are many limitations to our study. Firstly, this study was a preliminary study representing a small group of diabetic women. Topic on sexual health is still a taboo in Malaysia and this may contribute to poor response from the community. Additionally, control group was unavailable as a comparison. Many other factors were not considered in this study such as frequency of sexual activity and health status and sexual function of spouse. Respondents' psychological status we not included in this current study. Psychosexual problem is a known main factor associated with sexual dysfunction in diabetic women [17, 18].

Conclusion

In conclusion, sexual desire disorder was the most common sexual dysfunction experienced by diabetic women and orgasmic disorder was the least common

complaint. Increase in age was found to be significantly associated with reduce of sexual function in women and therefore, may represent as a profound confounding factor in study on sexual problem in diabetic women.

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Received: 14 November 2009

Accepted: 22 January 2010