

Risk Factors for Sexual Dysfunction among Postpartum Women in Kuantan, Pahang

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ABSTRACT

INTRODUCTION: Sexual dysfunction after childbirth is reported to be prevalent worldwide. The risk factors for sexual dysfunction is still underexplored. Thus, this study aims to determine the possible risk factors associated with sexual dysfunction among post-partum women. **MATERIALS AND METHODS:** This cross-sectional study was conducted in nine primary care clinics in Kuantan involving 420 women within six months postpartum. The respondents were conveniently sampled and completed the data collection forms comprising of their socio-demographic data, the Malay version Female Sexual Function Index (MVFSFI) Questionnaire to measure the sexual dysfunction score. Descriptive analysis, Chi-square test, and binary logistic regression were used for data analysis. **RESULTS:** Among the women sampled, those with higher education had a 72% increased risk of developing postpartum sexual dysfunction (aOR=1.72, 95%CI=1.01,2.81). Women who practised non-hormonal contraception were a 42% lower risk of getting postpartum sexual dysfunction as compared to those who consumed hormonal contraception (OR=0.58, 95%CI=0.35,0.95). **CONCLUSION:** Education level is associated with a higher risk of developing postpartum sexual dysfunction. Non-hormonal contraceptive methods were found as a protective factor for developing postpartum sexual dysfunction. Therefore, doctors can advise those postpartum women with sexual dysfunction and on hormonal contraception to change to non-hormonal methods.

KEYWORD: Sexual dysfunction, postpartum, risk factor

INTRODUCTION

Sexual health after childbirth has been gaining popularity as a research area. It is reported that the prevalence of female sexual dysfunction (FSD) is between 40-50% worldwide.¹ Despite being prevalent worldwide, there is limited data on postpartum sexual dysfunction and its associated factors especially in Malaysia, where there were only two studies conducted

on female sexual dysfunction. One study was conducted among Malaysian women in 2007² and another one was conducted among overweight and obese women in Kelantan in 2006.³

Sexual dysfunction in women is multifactorial. It includes psychological problems such as depression, anxiety, stress, conflict within a relationship, and issues relating to physical or sexual abuse. Besides, factors like age and menopausal status, obesity, chronic medical conditions, pregnancy, childbirth, and some medications are also known to cause sexual dysfunction in women. Knowing the risk factors and determinants of FSD is important for making early diagnosis and prompt treatment to be given.

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Postpartum women are at risk of developing problems in sexual functioning because of changes in the sex hormones level, adaptation to the new role as a mother, or psychological disturbance that happens after childbirth.⁴⁵ Furthermore, the lack of professional awareness in recognizing this condition among postpartum women leaves it underexplored and possibly underreported. It is important for the healthcare professionals to recognize this problem starting at the primary care level because effective basic treatment for most female sexual dysfunction can be successfully provided by primary care physicians.⁶ Thus, this study aims to identify the risk factors associated with FSD among postpartum Malaysian women.

MATERIALS AND METHOD

This cross-sectional study was carried out in six months starting from February to August 2018 conducted in nine government health clinics in Kuantan, Pahang, Malaysia. A total of 420 women who fulfilled the selection criteria were selected using convenient sampling. The inclusion criteria were as follows: given livebirths within six weeks to six months regardless of the type of feeding methods, age 18 years and above, Malaysian, and has a sexually active partner. While those with a severe and chronic medical illness such as uncontrolled hypertension, uncontrolled diabetes mellitus, connective tissue disease, and psychiatric illness were excluded.

Study Instrument

Female sexual dysfunction is assessed by using the Malay version Female Sexual Function Index (FSFI). The original FSFI was developed by Rosen et al (2000)⁷. It is a reliable tool to differentiate different types of sexual dysfunction with Cronbach's alpha of 0.82 or more for each domain. This questionnaire had been used in many studies all around the world and had been translated into many different languages such as Persian, Turkish, Thailand, Chinese, and Japanese.

The Malay version of FSFI is developed and validated by Sidi et al. (2007).⁸ The questionnaire contains 19

items that evaluate the respondent's sexual function during the past four weeks. It has high sensitivity and specificity to reliably detect female sexual dysfunction; 99% and 97% respectively with Cronbach's α ranging from 0.87 to 0.97. Similar to the original FSFI, it classifies sexual dysfunction into six domains; desire (two items), arousal (four items), lubrication (four items), orgasm (two items), satisfaction (four items), and sexual pain (three items). There are five to six options available for each item using a 5-point Likert scale. The respondent will choose the most likely answer that shows her sexual functioning in the past four weeks. The score for each question ranges from 0 to 5. The total score is 95 and the respondent who scored ≤ 55 is said to have sexual dysfunction. The cut-off point for each domain is also established in order to assess the specific types of sexual dysfunction.

Statistical analysis

Data were analysed using IBM SPSS software version 22.0.⁹ Descriptive statistics were used to describe the proportion of sexual dysfunction among participants. Mean (SD) and median (IQR) was used for continuous variables while, frequency, and percentage for categorical variables. Based on the MVFSFI score, women were classified into two categories; women at high risk of sexual dysfunction and not at high risk of sexual dysfunction. The chi-square analysis, independent t-test, and Man-Whitey U test were used to test the associations between the sociodemographic and postpartum variables with sexual dysfunction. The factors with a p-value of ≤ 0.25 ¹⁰ and clinically important from the univariate analyses were included in stepwise Binary logistic regression. The factor was said to be statistically significant if $p < 0.05$.

Ethical approval and funding

This study was approved by National Medical Research Register (NMRR), Medical Research and Ethics Committee (MREC), and IIUM Research Ethics Committee and funded by International Islamic University Malaysia (IIUM) through Research Initiative Grants (RIGS17-061-0636).

RESULTS

Sociodemographic Characteristic

The sociodemographic characteristics of respondents are shown in Table I. The mean age for the respondents was 30 (5.42). Majority of them were Malays (92.0%), have secondary education or lower (56.0%), from B40 group (68.0%), multiparous (72.0%) and have vaginal delivery (74.5%). The median parity was two (IQR 2) and the median duration of marriage was five (IQR 6). More than half breastfeed their babies exclusively (53%). The majority of them practiced postpartum contraception (89.8%) and the most popular types of contraception were hormonal contraception (55.0%).

Table I: Sociodemographic and marital characteristics of the respondents (n=372).

Variables	Characteristics	n (%)
Age (year)		30 (5.42) *
Race	Malay	342 (91.9)
	Non-Malay	30 (8.1)
Education level	Secondary or lower	209 (56.2)
	Tertiary or above	163 (43.8)
Household income	B40 and below	253 (68.0)
	M40 and above	119(32.0)
Parity		2(2) **
	Para 1	104(28.0)
	Para 2 or more	268(72.0)
Duration of marriage		5 (6) **
	< 5 years	158(42.5)
	≥ 5 years	214(57.5)
Mode of delivery	Spontaneous vaginal delivery	276 (74.2)
	Operative vaginal delivery	12 (3.2)
	Operative vaginal delivery	84 (22.6)
Feeding methods	Breastfeeding	197(53.0)
	Formula feeding	123 (33.0)
	Mixed feeding	52 (14.0)
Contraceptive methods	No	38 (10.2)
	Yes	334 (89.8)
Types of	Non-hormonal	150(45.0)

* mean (SD)** median (IQR)

Risk Factors for Postpartum Sexual Dysfunction

Risk factors associated with postpartum sexual dysfunction are shown in Table II. It was found that level of education and types of contraception used

during the postpartum period had a significant association with postpartum sexual dysfunction. Women with higher education who entered at least college for higher education, had a 72% increased risk of developing postpartum sexual dysfunction as compared to those with lower education (OR=1.72, 95%CI=1.03,2.84). In addition, women who practised non-hormonal contraception were a 42% lower risk of getting postpartum sexual dysfunction as compared to those with hormonal contraception (OR=0.58, 95%CI= 0.35,0.95).

DISCUSSION

The findings of this study highlighted that there was no significant association between postpartum sexual dysfunction with age, race, parity, duration of the marriage, and socioeconomic status. These findings are similar to other studies on postpartum sexuality.¹¹⁻¹³ This is further confirmed by a metaanalysis study of 59 papers regarding sexuality during pregnancy and postpartum reported that most data on correlations between sociodemographic variables and postpartum sexual variables revealed no significant associations or conflicting results.¹⁴

Nevertheless, our study found a significant association between education level and sexual dysfunction ($p=0.04$). Those with higher education (tertiary education or higher) had 72% increased risk of developing postpartum sexual dysfunction (aOR=1.72, 95% CI=1.036,2.8). These findings are similar to a study in Japan and a previous study in Malaysia.¹⁵

On the contrary, Australia and Thailand showed no association between educational status and the risk of sexual dysfunction.¹⁵ This suggests that higher educational status may lead to increase awareness of women's sexual needs thus they are more open in expressing their sexual difficulties.¹⁵ Women with higher education levels may be more aware of sexual health and are more likely to find information from other resources such as the internet.¹⁵

This study proved that there was no significant association between different modes of delivery and postpartum sexual dysfunction. The findings of the

Table II: Risk factors of sexual dysfunction among post-partum women in primary care clinics in Kuantan, Pahang.

Risk factors	FSD		Non FSD		aOR	95% CI	
	n	%	n	%		lower	upper
Age (year)	132	29.9 (5.28) [#]	240	30.4 (5.50) [#]	0.996	0.944	1.050
Race							
Malay	120	35.1	222	64.9	1.000		
Non-Malay	12	40.0	18	60.0	1.633	0.719	3.711
Education level							
Secondary or lower	64	30.6	145	69.4	1.000		
Tertiary or above	68	41.7	95	58.3	1.717	1.036	2.84[#]
Household income							
B40 and below	88	34.8	165	65.2	1.000		
	44	37.0	75	63.0	0.921	0.533	1.592
Parity							
Para 1	43	41.3	61	58.7	1.000		
Para 2 or more	89	33.2	179	66.8	0.776	0.406	1.486
Duration of marriage							
< 5 years	60	38.0	98	62.0	1.000		
≥ 5 years	72	33.6	142	66.4	1.079	0.575	2.026
Mode of delivery							
SVD	98	35.5	178	64.5	1.000		
Instrumental vaginal delivery	5	41.7	7	58.3	1.438	0.409	5.055
Caesarean section	29	34.5	55	65.5	1.032	0.591	1.801
Feeding methods							
Breastfeeding	74	37.6	123	62.4	1.000		
Formula feeding	45	36.6	78	63.4	0.915	0.565	1.483
Mixed feeding	13	25.0	39	75.0	0.560	0.270	1.160
Contraceptive methods							
Hormonal	71	38.6	113	61.4	1.000		
Non-hormonal	42	28	108	72	0.582	0.355	0.954[#]
Not on contraception	19	50	19	50	1.480	0.716	3.058

[#]mean (SD), *p<0.05, aOR= adjusted odd ratio, SVD=spontaneous vaginal delivery

current study corroborate the findings of the previous works on this area in Japan, Australia, and Egypt.^{11-13,16}

Besides that, other studies show a significant association between mode of delivery and sexual dysfunction.¹⁷⁻²⁰ However, this should be interpreted with caution as many of these studies focus specifically on dyspareunia and primiparous women. For instance, Signorelli et al. published a paper that demonstrated that a higher degree of perineal laceration is associated with a higher chance of developing dyspareunia and difficulty to reach orgasm. This publication bias tends to reflect more of high-risk women and may not be generalized to the general population. In addition to that, duration of postpartum, study design, and use of different study tools; validated versus no validated questionnaires also contribute to this conflicting result.

Breastfeeding is one of the recognized factors for postpartum sexual dysfunction that can cause low sexual desire and dyspareunia. We found no association between breastfeeding and postpartum sexual dysfunction. The finding is supported

by several other studies of postpartum sexuality worldwide.^{11,12,16,21,22} The finding between these studies are comparable in view of more than 70% of women involved breastfed their babies. In addition to that, the duration of our study (six months) also could be the reason for this finding since most studies mentioned that dyspareunia was more commonly reported in breastfeeding women at six months and above.^{17,18,21,23}

In our study population, 72% (n=268) of the respondents are multiparous women. Parity has an adjustment effect on breastfeeding; multiparous women who have more breastfeeding experience-reported fewer problems in sexual desire and sexual intercourse compared to those who are new to breastfeeding.²⁴ Besides that, some women reported increase erotism during breastfeeding due to increased sensitivity of nipples and larger breasts.^{24,25} The other possible explanation for this observation could be the presence of other factors that contribute to sexual dysfunction during this period apart from breastfeeding.

The findings in our study found that women who used non-hormonal contraception such as male condoms, intrauterine device system (IUCDs), and bilateral tubal ligation had 42% more protection from developing sexual dysfunction compared with women who used hormonal contraception. Other similar epidemiological studies in Australia, Japan, and Egypt did not report a significant association between types of contraception and postpartum sexual dysfunction.^{12,13} The reason could be due to the small sample size in the Egyptian study and the small number of respondents using contraception (20%) in the Australian study. However, our finding was consistent with other research that identified poorer sexual function and behaviour in women with hormonal contraception.²⁶⁻²⁸

The most commonly reported sexual domains affected by hormonal contraception were desire, arousal, orgasmic disorder.²⁶⁻²⁸ Although the effects of hormonal contraception on postpartum sexual dysfunction are not well studied, the findings of the above research are acceptable and comparable to our study because most women involved in these studies are relatively young. Most studies mentioned combined contraceptives (pills, vaginal ring, and patches) had a higher prevalence of causing sexual dysfunction than

other forms of contraception.^{29,30} However, it is important to note that antiandrogenic effects due to hormonal contraception is not universal and depends on women susceptibility; some women may not report any mood or sexual side effect despite clinically low testosterone level.^{27,30,31}

Limitation of the Study

Our study is limited by the lack of generalizability to the Malaysian population due to convenient sampling. Hence some selection bias may be present, and the results should be interpreted with caution. The results may not be extrapolated to caregivers residing in other regions of Malaysia. Although our study identified risk factors associated with FSD among postpartum women, further evidence is needed.

CONCLUSIONS

The result of the current study indicates that use of the non-hormonal contraception has 42% less risk than hormonal contraception in hindering the women from developing postpartum sexual dysfunction as compared to the use of hormonal contraception. This finding does not mean to discourage the use of hormonal contraception among eligible postpartum women but to ensure women are fully informed about this possible sexual side effect. The healthcare professionals should also highlight the overall sexual side effects of hormonal contraception is generally minimal and depends largely on individual response to low testosterone level. However, if any undesirable sexual side effect occurs, the healthcare professional should facilitate switching to other forms of effective contraception with less sexual side effects such as Implanon, depot medroxyprogesterone, and IUCD.

In order to establish a stronger causal-effect relationship between the factors and the outcome, case-control studies may be conducted and adding other variables such as sexual behaviour in women and their partners. The most studied sexual behaviour is time to penis-vaginal intercourse (PVI), frequency of sexual intercourse, and types of sexual activities.¹⁹ It would be interesting to explore whether sexual dysfunction affects sexual behaviour in our local setting. In addition to that, we would like to investigate the relation of postpartum

sexual dysfunction and behaviour to the psychological factors such as stress, level of energy, partner support that appear to be important determinants of postpartum sexuality apart from birth-related factors in the current study.^{22,32} Many studies have shown that perception of a partner's sexual desire and relationship satisfaction greatly influenced women sexual functioning after childbirth.^{13,14,22,32}

CONFLICT OF INTEREST

No conflict of interest.

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