**ORIGINAL ARTICLE**

# Female Sexual Dysfunction Among Malaysian Women in A Primary Care Setting: Does The Frequency of Sexual Activity Matter?

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***ABSTRAK***

Tujuan penyelidikan ini ialah untuk mengkaji tahap fungsi seksual di kalangan kaum wanita Malaysia yang rendah serta tinggi kekerapan aktiviti seks mereka, di peringkat primer. Satu kajian irisan lintang yang melibatkan 230 wanita Malaysia di peringkat primer telah dijalankan di klinik Bandar Tun Razak, Cheras. Soalselidik Indeks Fungsi Seks Wanita (Female Sexual Function Index) yang telah divalidasi ke Bahasa Melayu telah digunakan untuk menilai profil fungsi seksual wanita yang aktiviti seksnya rendah serta tinggi. Hampir setengah dari kaum wanita (44.3%) di dalam sampel kajian mengadakan hubungan seks 1 – 2 kali seminggu. Sementara hampir separuh daripada mereka (42.4%) mengadakan hubungan seks 1 – 2 kali sebulan atau kurang; dengan bilangan minoriti wanita (13.4%) mengadakan hubungan seks 3 – 4 kali seminggu.Wanita yang frekuensi seksnya rendah (SI Rendah) didapati megalami lebih banyak disfungsi seksual ($\chi^2$=28.98, $p < 0.001$) berbanding dengan golongan wanita yang suka melakukan hubungan seks (SI Tinggi). Golongan wanita yang tidak suka melakukan seks ( frekuensi hubungan seks iaitu ≤ 1 – 2 kali seminggu) didapati kurang terangsang dari segi seksual ($\chi^2$= 25.9, $p< 0.001$), kurang menikmati orgasme ($\chi^2$=19.8, $p< 0.001$), kurang mengeluarkan lendiran faraj sewaktu ghairah ($\chi^2$=11.1, $p< 0.001$), mengalami lebih kesakitan ketika melakukan seks ($\chi^2$=4.3, $p = 0.033$) dan mengalami kepuasan seks yang amat kurang ($\chi^2$=12.6, $p< 0.001$). Masalah disfungsi seksual di kalangan wanita amat memerlukan perhatian di peringkat penjagaan kesihatan primer. Penyelidik tidak pasti samada kekurangan seks atau masalah disfungsi seksual merupakan punca penyebab, tetapi hasil kajian ini amat penting untuk menggerakkan pakar perubatan melihat keperluan disfungsi seksual di kalangan wanita yang memerlukan bantuan.

*Kata Kunci:* Disfungs*i seksual wanita, aktiviti seksual*

**ABSTRACT**

The aim of the study was to compare sexual functioning among Malaysian women in a primary care setting between those with a low and high frequency sexual intercourse.

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Across-sectional study on 230 married Malaysian women in a primary-care setting was conducted at the Bandar Tun Razak Clinic, Cheras. A validated Malay version of Female Sexual Function Index questionnaire (MVFSFI) was used to assess the sexual functioning profiles among women with low and high sexual activity. The percentage of women who had sexual intercourse 3-4 times a week, 1-2 times a week and ≤ 1-2 times a month were 13.4%, 44.3 % and 42.4 % respectively. Women with a low frequency of sexual intercourse (Low SI) tended to suffer from more sexual dysfunction, ($\chi^2$=28.98, $p < 0.001$) compared to those with a high frequency of sexual intercourse (High SI) group. Women who were less sexually active (having low frequency intercourse, ie. ≤ 1 – 2 times per week) were found to be less sexually aroused ($\chi^2$= 25.9, $p< 0.001$), less orgasmic ($\chi^2$=19.8, $p< 0.001$), less lubricated during sexual activity ($\chi^2$=11.1, $p< 0.001$), complain of sexual pain ($\chi^2$=4.3, $p = 0.033$) and feels less satisfied sexually ($\chi^2$=12.6, $p< 0.001$).The problem of female sexual dysfunction (FSD) in the Malaysian primary care population with low sexual activity needs to be addressed.

Key words: female sexual dysfunction, FSD, sexual activity

## INTRODUCTION

Female sexual functioning is a state of ability to achieve sexual arousal, lubrication, orgasm and satisfaction and results in wellbeing and state of wellness, with good quality of life (Briana, 2001). One way to assess sexual activity among women is to determine the frequency of sexual intercourse (SI). Female sexual dysfunction (FSD) is a state of disorder in any of the above sexual domains. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association, 1994) has laid down strict criteria for FSD - it requires that the interpersonal distress must have occurred for at least six months. According to Salonia et al. (2004), both sexual functioning and FSD is a multifactorial condition with anatomical, physiological, medical, psychological and social components. Cultural and religious factors also have great impact on human sexual profiles (Lightner 2002). FSD includes some modifications to the DSM-IV system. This system classifies the following disorders: (1). Sexual Desire Disorder, which is further classified into: a. Hypoactive Sexual Desire Disorder, and b. Sexual Aversion Disorder, (2). Sexual Arousal Disorder, (3). Orgasmic Disorder and (4). Sexual Pain Disorder.

Hypoactive sexual desire disorder is a persistent or recurrent deficiency (or absence) of sexual feelings or desire for or receptivity to sexual activity, which causes personal distress (Basson et al 2000) and affects women more frequently than men (Berman et al 2001). Sexual Aversion Disorder is a persistent or recurrent phobic aversion to and avoidance of sexual contact with a sexual partner, which causes personal distress (Basson et al 2000) and it could be associated with past sexual trauma or sexual abuse (Rosen 2000). Sexual arousal disorder is a persistent and recurrent inability to attain or maintain sufficient sexual excitement, which in turn causes personal distress. Basson et al 2000 reported lack of subjective excitement, often manifested as a lack of vaginal or other somatic response with sexual stimulation. Women with problems of sexual arousal can have a purely psychological component (Schnarch 1997; Kaplan 2002) or medical problems (Kaplan 2002). Studies of the general population and sex therapy clinic populations indicate that the prevalence of female orgasmic disorder ranges from 24% to 37% (Rosen 2000). Certain drugs such

as antipsychotic and antidepressant also have negative impact on sexual function (Smith 2002; Nurnberg 2003). Dyspareunia is a recurrent or persistent genital pain associated with sexual intercourse (Basson et al 2000) and has both physical and psychological components – contributed by several health conditions (eg. diabetes mellitus and pelvic pathologies) or psychological distress and hostility (Nusbaum 2003; Schnarch 1997). Vaginismus, the motor arm of sexual pain disorder, is a recurrent and persistent involuntary spasm of the musculature of the outer third of the vagina that interferes with vaginal penetration and causes personal distress (Basson et al 2000; Spector & Carey 1990).

As sexual issues are still relatively considered a taboo in Malaysia and are not usually discussed openly in such multi-ethnic society (Hatta 2006), the understanding of sexual problems is important as it would help physicians to understand issues in everyday human life. Sexual profiles and functioning in Malaysian women can be used as a guide for clinicians to understand the magnitude of female sexual difficulties in our community, so that help can be offered to them. The objective of this study was to compare sexual functioning among Malaysian women in a primary care setting between those who had low and high frequency of sexual intercourse.

## SUBJECTS AND METHODS

This was a cross-sectional study on women attending a primary health clinic. It was conducted over a period of four months (March to June 2005) at one of the government primary health care clinics located in Bandar Tun Razak, a rather busy suburban area of Kuala Lumpur. This study used a non-probability sampling (universal sampling) method. **Inclusion criteria** included: (i) female subjects; (ii) aged between 18 and 70 years old; (iii) married and have a sexually active partner; (iv) ability to read and understand the study languages (Malay or English); (v) consent for participation in the study. **Exclusion criteria** included: (i) chronic and severe medical illness/illnesses; (ii) psychiatric illness/illnesses; (iii) pregnancy; (iv) post-partum period of two months or less. The instruments used in this study were: 1. Sociodemographic and Marital Profile Form; 2. The Malay Version of Female Sexual Function Index (MVFSFI); 3. The Mini International Neuropsychiatric Interview (MINI).

### *1. Sociodemographic and Marital Profile Form*

This brief questionnaire was devised to obtain respondents' sociodemographic and marital information. It included the name, age, educational level, past medical history, employment status, monthly family income, menstrual history of the respondents, duration of marriage, age of the respondents' husband, number of children and frequency of sexual intercourse.

### *2. Malay Version of Female Sexual Function Index (MVFSFI)*

Sexual dissatisfaction was measured in this study using the sexual satisfaction domain of the Malay Version of the Female Sexual Functioning Index (MVFSFI). The original Female Sexual Function Index (FSFI) was developed by Dr. Raymond Rosen. It is a 19-item, multidimensional self-report measure of female sexual functioning. It covers six basic domains of female sexual functioning: *desire, arousal, lubrication, orgasm, satisfaction,* and *pain* (Rosen 2000). It is a brief, multidimensional self-report measure of sexual functioning that has been validated on a clinically diagnosed sample of women with female sexual arousal disorder (FSAD) (see table 1). Each domain has two to four questions with five to six options from which the patient chooses the one that most likely

indicates her sexual function during the four weeks prior to the day they were given the questionnaire. The FSFI was translated into Bahasa Malaysia (BM) and validated in 2005 in Malaysia with the permission of Dr. Rosen (Norni and Hatta, 2005). The reliability test for agreement using the Pearson product-moment correlation co-efficient (r), ranged from 0.767 to 0.973. Internal consistency using Cronbach's alpha ranged from 0.87 to 0.97. A total score of $\leq$ 55 was used as the cut-off point for MVFSFI to distinguish between women with sexual dysfunction and those without (with a sensitivity of 99% and specificity of 97%). The lower the scores, the higher the women would suffer from FSD (Norni and Hatta 2005). Based on the validity study of MVFSI, the cut-off score is $\leq$ 9 for sexual arousal disorder *(sensitivity 77% and specificity 95% )*, $\leq$ 10 for disorder of lubrication *(sensitivity 79% and specificity 87% )*, $\leq$ 4 for orgasmic disorder *(sensitivity 83% and specificity 85% )*, $\leq$ 11 for sexual dissatisfaction *(sensitivity 83% and specificity 85% )*, and $\leq$ 7 for sexual pain disorder *(sensitivity 86% and specificity 95% )*.

*Mini International Neuropsychiatric Interview (MINI)*

The MINI was used to exclude any respondents with psychiatric illness from this study. This is a brief structured interview for major Axis I psychiatric disorders in DSM-IV and ICD-10. The inter-rater reliability for this study was ascertained by administering the instrument on 10 cases selected randomly. This was done by two of the authors and yielded a kappa value of 1.

Approval was obtained to conduct the study from the university research ethics committee as well as from the administration authority of the particular clinic. All respondents who fulfilled the inclusion criteria were given an explanation about the study. A written consent was obtained from them. They were assured with regards to their anonymity and the confidentiality of the data obtained. A coding system was used to identify the respondents if it was necessary. After the MVFSFI was completed, each respondent was engaged in a clinical interview for diagnosing sexual dysfunction based on the DSM-IV criteria (American Psychiatric Association 1994) and administered the MINI for exclusion of the other psychiatric illnesses.

Analysis of the data was done using the computer program, Statistical Package for Social Studies (SPSS) version 11.5. The relationship between the study parameters was analysed using appropriate statistical tests. The chi-square test ($\chi^2$- test) was used to compare sexual functioning between the low and high sexual frequency groups of women.

Table 1. Domain Scoring

| Domain | Item number | Score range | Minimum score | Maximum score |
|---|---|---|---|---|
| Desire | 1,2 | 1-5 | 2 | 10 |
| Arousal | 3,4,5,6 | 0-5 | 0 | 20 |
| Lubrication | 7,8,9,10 | 0-5 | 0 | 20 |
| Orgasm | 11,12 | 0-5 | 0 | 10 |
| Satisfaction | 13,14,15,16 | 0/1-5* | 2 | 20 |
| Pain | 17,18,19 | 0-5 | 0 | 15 |
| Total | 1-19 | | 4 | 95 |

* Range for item 14 = 0–5; range for items 15 and 16 = 1–5

## RESULTS

Two hundred and forty eight patients who attended the Bandar Tun Razak primary care clinic, Cheras, Kuala Lumpur were invited to participate in the study. However, 18 patients were unable to complete the study because they were unable to make time (6 patients), did not feel comfortable with the questions (7 patients) and did not bring their reading glasses to the clinic (5 patients). The response rate was 93% (230 subjects). Two patients who were screened and diagnosed to have anxiety disorder and major depressive disorder respectively by MINI were excluded. The demographic data of the respondents involved in this study are shown in table 2.

Table 2: Socio-demographic and marital characteristics of the respondent

| | Characteristics | *Total sample, n =230 (%)* | *Mean (SD)* |
|---|---|---|---|
| **Age** | < 30 years old | 50 (21.7) | 39.2 (10.5) years old |
| | 30-39 years old | 82 (35.7) | |
| | 40-49 years old | 56 (24.3) | |
| | ≥ 50 years old | 42 (18.3) | |
| **Race** | Malay | 175 (76.1) | |
| | Chinese | 32 (13.9) | |
| | Indian | 20 (8.7) | |
| | Others | 3 (1.3) | |
| **Education level** | None | 2 (0.9) | |
| | Primary | 53 (23.0) | |
| | Secondary | 142 (61.7) | |
| | Tertiary | 33 (14.3) | |
| **Monthly family income** | < RM1000 | 30 (13.0) | RM 2164.9 |
| | RM 1000-1999 | 92 (40.0) | (1551.9)/month |
| | RM 2000-2999 | 67 (29.1) | |
| | ≥ RM3000 | 41 (17.8) | |
| **Frequency of sexual intercourse** | < once a month | 23 (10.0) | 2.6 (0.89) times/week |
| | 1-2 times a month | 74 (32.2) | |
| | 1-2 times a week | 102 (44.3) | |
| | 3-4 times a week | 26 (11.3) | |
| | > 4 times a week | 5 (2.2) | |
| **Menopause** | Yes | 33 (14.3) | |
| | No | 197 (85.7) | |
| **Number of children** | <2 | 92 (40.0) | 3 (2) children |
| | 2-5 | 100 (43.5) | |
| | >5 | 38 (16.5) | |
| **Husband's age** | < 30 years old | 38 (16.5) | 42.7 (11.3) years old |
| | 30-39 years old | 62 (27.0) | |
| | 40-49 years old | 63 (27.4) | |
| | ≥ 50 years old | 67 (29.1) | |
| **Duration of marriage** | <14 years | 124 (53.9) | 15.5 (11.3) years |
| | ≥ 14 years | 106 (46.1) | |

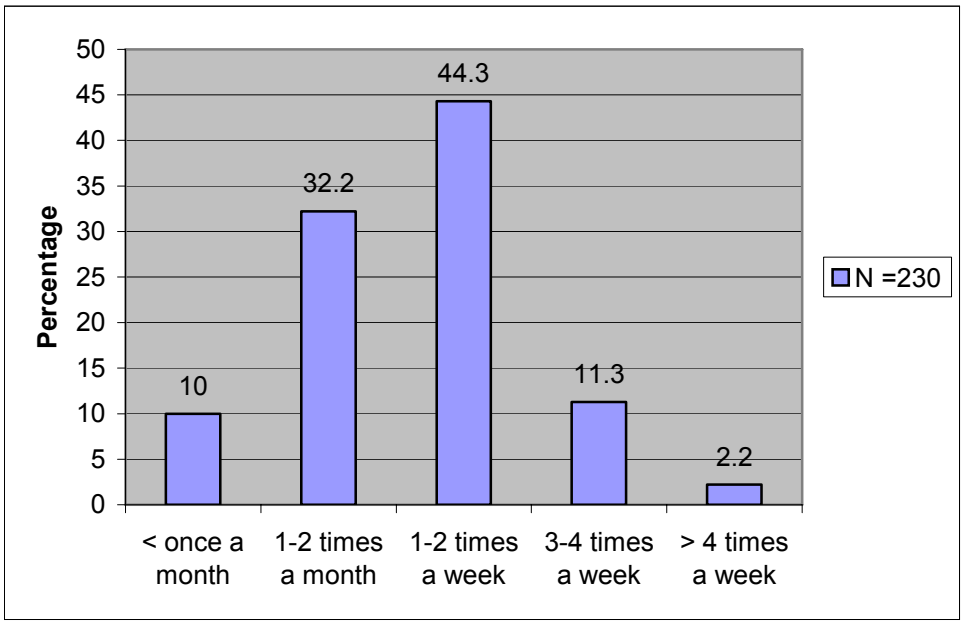


Figure 1: Frequency of sexual intercourse

Table 3: Frequency of sexual intercourse among women with FSD

| Frequency of SI | Normal (n = 162) | FSD (n= 68) | $X^2$ | p |
|---|---|---|---|---|
| *Sexual intercourse* | | | | |
| < 1 per month | 10(6.2%) | 13 (19.1%) | 28.98 | < 0.001 |
| < 1 – 2x a week | 41(25.3%) | 33 (48.5%) | | |
| 1 – 2x a week | 82(50.6%) | 20(29.4%) | | |
| 3 – 4x a week | 24(14.8%) | 2(2.9%) | | |
| > 4x a week | 5 (3.1%) | 0(0.0%) | | |
| *Age* | | | | |
| ≤ 45 years old | 124 (77.0%) | 37 (23.0%) | 11.1 | 0.001 |
| > 45 years old | 38 (55.1%) | 31 (44.9%) | | |
| *Husband's age* | | | | |
| Age ≤ 42 years old | 100(81.3%) | 23(18.7%) | 14.90 | < 0.001 |
| Age >42 years or more | 62(57.9%) | 45(42.1%) | | |

Almost half of the women (44.3%) in the sample studied had sex 1 - 2 times a week (figure 1). Another 42.4% had sex 1 - 2 times a month or less, and 13.5% had sex 3 - 4 times or more a week. Women who had SI 3 - 4 times a week or more was arbitrarily considered as having a high frequency of sexual intercourse (High SI) and women who had SI 1-2 times a week as having low frequency of sexual intercouse (Low SI).

Women above 45 years of age, married to an older husband and with a low frequency of sexual intercourse (Low SI), were more likely to suffer from sexual dysfunction, (FSD) compared to those with younger age, married to a younger husband and with a high frequency of

Table 4: Domains of sexual functioning among groups of women with low and high frequency of SI

| Sexual functioning profile | Frequency of intercourse among women | | $\chi^2$ | p |
|---|---|---|---|---|
| | *Low SI* | *High SI* | | |
| **Sexual arousal domain** | | | | |
| Women with low arousal | 134 (95.7%) | 6 (4.3%) | 25.9 | < 0.001 |
| Women with high arousal | 65 (72.2%) | 25(27.8%) | | |
| **Lubrication domain** | | | | |
| Women with inadequate lubrication | 109 (94.0%) | 7 (6.0%) | 11.1 | < 0.001 |
| Women with adequate lubrication | 90 (74.5%) | 24(25.5%) | | |
| **Orgasmic domain** | | | | |
| Women without orgasm | 129 (94.9%) | 7 (5.1%) | 19.8 | < 0.001 |
| Women with orgasm | 70 (74.5%) | 24(25.5%) | | |
| **Sexual pain domain** | | | | |
| Women with sexual pain | 140 (89.7%) | 16 (10.3%) | 4.3 | 0.033 |
| Women with no pain | 59 (79.7%) | 15(20.3%) | | |
| **Sexual satisfaction domain** | | | | |
| Women without satisfaction | 113 (94.2%) | 7 (5.8%) | 12.6 | < 0.001 |
| Women with satisfaction | 86(78.2%) | 31(13.5%) | | |

sexual intercourse (High SI).

Women who were less sexually active (SI ≤ 1 – 2 times per week) were found to be less sexually aroused ($\chi^2$= 25.9, p< 0.001), less orgasmic ($\chi^2$=19.8, p< 0.001), less lubricated during sexual activity ($\chi^2$=11.1, p< 0.001), experienced sexual pain ($\chi^2$=4.3, p = 0.033) and were less satisfied sexually ($\chi^2$=12.6, p< 0.001).

## DISCUSSION

Satisfactory sexual activity is an important element for human well-being, for better quality of life and motivation (Schnarch 1997). Sexual activity, such as the frequency of sexual intercourse can be a barometer to assess sexual functioning profiles (Hatta 2006). This study was an attempt to compare sexual functioning profiles between women with low and high frequency of SI and the risk of FSD. Before this, the issue of FSD was only disclosed to the traditional healers or between spouses in the bedroom, neglected and remained untreated (Hatta 2006).

Malaysian women in our primary care setting population were relatively young with a high level of educational background. Their monthly family income was fair (40% had incomes ranging from RM 1,000 to RM 1,999) with more than half of the women being married for more than 10 years. Nearly half of them were very active sexually, having SI $\geq$ 1 – 2 times per week, slightly more than half were from the pre-menopausal age group. The prevalence of FSD among the local urban Malaysian population in this primary care setting was 29.6%. Research carried out in the west found that low sexual activity was associated with more sexual dysfunction (Laumann et al 1999). This was also shown in multi-centre studies in Asia (Nicolosi et al 2005). However, in the Nicolosi study, the mean age of their population was slightly older, hence the subjects were more likely to suffer from medical and gynaecological problems compared with the present study. The average range of sexual activity, as reflected by frequency of SI 1 – 2 times per week in the majority of our population is

almost similar with other studies in Western population (Nicolosi et al, 2005). Although sexual activity can be reflected by other behaviour like kissing, holding hands and sexual fantasy, the frequency of SI is considered one of the ways to determine their sexual performance.

Based on this research, Malaysian women with a low frequency of SI reported more sexual dysfunction. Their sexual function in all domains of arousal, lubrication, pain, orgasm and satisfaction were affected. The use of a validated questionnaire is an important effort to look at the magnitude of sexual problems (Meston 2003) in women with a low and high frequency of SI. However, we are not sure whether this association is causative or consecutive, but these findings are alarming enough to mobilise clinicians to address FSD in these group of women. It appears that sexual dysfunction in this study has affected those women who were older and who were logically married to older husbands. A woman's sexual functioning may be affected by psychological and biological factors (Bachmann et al 2002; Berman et al 2001) and women with lack of sexual activity may have FSD due to negative perception on sex (Kaplan 2002). Sexual dysfunctions in older women may also be contributed by the factors in their husbands who are presumably also older and in whom sexual dysfunctions are more common which may be partly due to age-related medical problems.

In many situations, addressing female sexual functioning and FSD is more difficult than male sexual dysfunction (Nicolosi et al 2005), partly because sexual function in women is more complex and does not follow the linear male sexual response cycle (Whipple 2002). Dr Whipple highlighted the difficulty in studying FSD, where so many non-anatomic and non-physiological factors come into play. Male sexual dysfunction can be more objectively defined and diagnosed, and interventions can be more objectively ranked with regards efficacy compared to FSD (Baumeister et al 2001). Furthermore, SI frequency, a measure used for male sexual function, cannot be used as an accurate marker of female sexual function because women may still be able to remain sexually active with their partner while experiencing FSD (McHorney 2004). Female sexual function may also be more dynamic than male sexual function. Although there are significant anatomic and embryologic parallels between men and women, the complex nature of FSD is clearly distinct from that of the male.

Our study was unique because a validated Malay psychometric instrument to assess female sexual function was used whereas other studies (eg. Nicolosi et al 2005) did not use validated questionnaires. However, there were a few limitations of this study. Firstly, our samples were drawn from a primary care population and did not reflect the true community population. Secondly, we did not analyse the sexual functioning of the husbands of the women in our study. Female sexual dysfunction was associated with male sexual dysfunction, especially erectile dysfunction, ED (Selahi et al 2004). The research was conducted in an urban government primary care clinic which was busy and over crowded. Patients may be reluctant to ask questions during evaluation, despite a high prevalence rate of FSD. A study by Nusbaum et al (2000), demonstrated the prevalence of sexual concerns in women seeking routine gynecologic care. Stevenson (2003) commented, this might be due to the perception or the actuality that the physician is too busy, or he or she is not approachable. Similarly, most health care providers fail to address sexual history as a part of the medical history (Stevenson 2003). In terms of respondents, this study only included married women with a sexually functioning partner. Those who were not married (single, divorced or widowed) were excluded from this study because in Malaysia, the society at large is unable to accept extramarital sexual relationships. However, many unmarried

Malaysian women are sexually active (Personal communication: Ismail Thambi 2005).

## REFERENCES


American Psychiatric Association Guidelines. 1994. Diagnostic and statistical manual of mental disorders (4th ed) (DSM IV). Washington, DC: Author

Basson R., Berman J., Burnet A., Derogatis L., David F., et al. Report of the International Consensus Development Conference on Female Sexual Dysfunction: Definitions and Classifications. *The Journal of Urology 2000;* 163(3): 888

Basson R. Female sexual response : the role of drugs in the management of sexual dysfunction. *Obstetric & Gynaecology Journal* 2001; 98(3): 522

Bachmann G., Bancroft J., Braunstein G. et al. Female androgen insufficiency: the Princeton consensus statement on definition, classification and assessment. *Fertil Steril*. 2002; 77: 660-665

Bachmann G. Evaluation and Management of Female Sexual Dysfunction. *The Endocrinologist. 2004;* 14(6): 337-345

Baumeister R.F., Catanese K.R. & Vohs K.D. Is there a gender difference in strength of sex drive? Theoretical views, conceptual distinctions, and a review of relevant evidence. *Pers Soc Psychol Rev. 2001;* 1(5): 242-273

Bermann J.R. & Goldstein I. Female sexual dysfunction. *Urol Clin North America. 2001;* 1(28): 405-416

Boulet M.J., Oddens B.J. & Lehert P. Climacteric and menopause in seven South-east Asian countries. *Maturitas. 1994;* 19:157-76

Briana Walton & Trashawn Thorton. Female Sexual Dysfunction. *Current Women's Health Report. 2003;* 3: 319-326

Brock G., Laumann E., Glasser D.B., et al. Prevalence of sexual dysfunction among mature men and women in USA, Canada, Australia and New Zealand. *Journal of Urology. 2003;* 163: 888-893.

Cayan Selahi et al. The assessment of sexual function in women with male partners complaining of erectile dysfunction: Does treatment of male sexual dysfunction improve female partner's sexual function? *Journal of Sex and Marital Therapy. 2004;* 30(5): 333-341

Clayton A.H. Sexual Function and Dysfunction in Women. *Psychiatric clinics of North America. 2003;* 26: 673-682

Hatta S, Hatta SM, Ramli H. 2006. *Seksualiti Manusia: Keharmonian Jalinan Antara Jantina*. Dewan Bahasa dan Pustaka.

Kaplan M. J. Approaching Sexual Issue in Primary Care. Women's Mental Heath. 2002; 29(1)

Laumann, Edward O, Paik, Anthony M.A, Rosen, Raymond C. Sexual Dysfunction in the United States: Prevalence and Predictors. 1999; *JAMA* 281(6): 537-544

Lightner Derobah J. Female sexual Dysfunction. *Mayo Clinic Proceeding. 2002* 77(7): 698-702

McHorney C., Rust J., Golombok S., Davis S., Bouchard C., Brown C., Basson R., Sarti C. D., Kuznicki J., Rodenberg C., Derogatis L. Profile of Female Sexual Function: a patient based, international, psychometric instrument for the assessment of hypoactive sexual desire in oophorectomized women. *The Journal of American Menopause. 2004;* 11(4): 474-483

Merkatz RB. Female Sexual Dysfunction. *Journal of Women's Health and Gender-Based Medicine. 2002;* 11: 4

Meston C.M. The psychological Assessment of Female Sexual Function. *Journal of Sexual Education and Therapy. 2002;* 25:1

Meston C.M. Validation of the Female Sexual Function Index (FSFI) in Women with Female Orgasmic Disorder and in Women with Hypoactive Sexual Desire Disorder. *Journal of Sex & Marital Therapy. 2003;* 29: 39-46

Nancy A. Philips. Female sexual dysfunction: Evaluation and treatment. *Am. Fam. Physician. 2000;* 62: 127-136

Nusbaum MR, Hamilton C. & Lenahan P. Chronic Ilness and Sexual Funtion. *American Family Physicians. 2003;* 67(2): 347-354

Nicolosi A, Dale B. Glasser, Sae C. Kim, Ken Marumo & Edward O. Laumann. Sexual behaviour and dysfunction and help-seeking patterns in adult age 40-80 years in the urban population of Asian countries. *British Journal of Urology International. 2005;* 95: 609-614

Norni and Hatta.2005. The Validation of Malay Version of Female Sexual Functiong Index (MVFSFI). Thesis project (as requirement for Master of Medicine in Psychiatry research work). Faculty of Medicine, National University of Malaysia.

Nurnberg H.G., Hensley P.L., Gelenberg A.J., Fava M., Lauriello J. & Paine S. Treatment of antidepressant-associated sexual dysfunction with Sildenafil: a randomized controlled trial. *JAMA.* 2003; 289(1): 56-64

Nusbaum M.R., Gamble G., Skinner B. & Heiman J. The high prevalence of sexual concerns among women seeking routine gynaecological care. *Journal of American Family Physician. 200;* 49(3): 229-232

Rosen R., Taylor J., Leiblum S. & Bachmann G. 1993. Prevalance of Sexual dysfunction in women: Result of a survey of 329 women in an outpatient gynaecological clinic. *Journal of Sex and Marital Therapy. 2000;* 19(3): 171-188

Rosen, R., Brown, C., Heiman, J., Leiblum, S.,

Meston, C. M., Shabsigh, R., Ferguson, D., D'Agostino & R. Jr. The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex & Marital Therapy. 2000;* 26: 191–208.

Rosen R. Female Sexual Dysfunction: Industry Creation or Under-Recognized Problem? *British Journal of Urology International. 2003;* 92(1): 3

Salonia A., Munarriz R. & Naspro R. 2004. Women's sexual dysfunction : A pathophysiological review. *British Journal of Urology* 93(8): 1156-1164

Smith S.M., O'Keane V. & Murray R. Sexual dysfunction in patients taking conventional antipsychotic medication. *The British Journal of Psychiatry. 2002;* 181: 49-55.

Schnarch D. 1997. *Passionate Marriage: Keeping Love & Intimacy Alive in Committed Relationship*. 1997. Owl Books, New York.

Spector I.P. & Carey M.P. Incidence and prevalence of the sexual dysfunction : a critical review of the empirical literature. *Arch Sex Behav. 1990;* 19: 389-408

Stevenson R. Why Psychiatrists Must Talk to Their Patients About Sex. *Sexual Medicine. 2003; Review Paper* September.

Wipple B. Women's Sexual Pleasure and Satisfaction: A New View of Female Sexual Function. *Scand. J. Sexol*. 2002;4(4): 191-197