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ORIGINAL RESEARCH—COUPLE'S SEXUAL DYSFUNCTIONS

Sexual Activity during Pregnancy in Taiwan: A Qualitative Study

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ABSTRACT

Background. Pregnancy is a special period in a woman's life that involves physical and mental changes. These changes are influenced by cultural, social, religious, and emotional factors among others.

Aim. The aims of this article were to gather information, to describe the changes and behavior of sexual experiences in pregnancy, and to identify the reasons why pregnant women from central Taiwan decrease coital frequency during pregnancy.

Methods. This phenomenological qualitative research was intended to respond to open-ended questions that allowed the respondents to elaborate on the individuals' experiences. We collected data from in-depth, tape-recorded, and semi-structured interviews conducted in a cross-sectional study of 62 healthy pregnant women. The investigation ended when three consecutive interviewed subjects could not offer any new activities, which indicated that the study had reached its saturation point.

Main Outcome Measures. We performed data collection and content analysis to ensure standards of rigor and reliability. Credibility was enhanced by prolonged engagement, triangulation, referential adequacy, member checking, and expert review; we categorized meaningful unit-codes in a mutually exclusive and exhaustive manner into perceptions, experiences, and practices such that common themes were grouped into categories.

Results. Three themes emerged: negative aspects of sexual experiences; stress and emotional responses; and changes in sexual practices. The majority of the women stopped engaging in coital activities during pregnancy. We determined that in most cases, the 62 participants obtained information regarding sexual activity during pregnancy from postpartum women and the Internet.

Conclusions. The current evidence-based findings encourage the provision of sexuality education to newlyweds and the discussion of sex-related issues during pregnancy. We propose developing strategies for increasing sexual knowledge and focusing on emotional support to decrease pregnant women's anxiety regarding sexuality in Taiwan.

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Key Words. Content Analysis; Pregnancy; Sexual Intercourse; Qualitative Study; Taiwan

Background

Sexuality is an important component of health and well-being in a woman's life. Sexual behavior, which is influenced by biological, psychological, and social factors, modifies as pregnancy progresses [1]. Feelings and experiences during pregnancy and their social and cultural influences should be considered in a qualitative investigation [1–3]. Systematic reviews by Von Sydow [2] and Serati et al. [3] have demonstrated that the frequency of coitus does not change or changes only

minimally during the first and second trimesters of pregnancy [1–3]. Over the years, several studies have attempted to explore sexual activities during pregnancy by concentrating on measurable sexual function and frequency [1,3–19]. For many people, a reduction in the frequency of sexual intercourse, desire, and satisfaction occurs during the third trimester compared with the period before pregnancy [4–8,20–22]. Numerous physical and psychological factors may cause this decrease in sexual activity [10,23]. Concerning physical changes, hormonal changes can increase levels of estrogen, progesterone, and prolactin, which are considered to be responsible for nausea and vomiting, breast tenderness, and weight gain; breast tenderness, in addition to fatigue and anxiety, may contribute to general malaise and difficulty in becoming aroused [1,24]. Because sexual desire and arousal influence sexual satisfaction and intercourse frequency, it is understandable that sexual activities tend to decrease during pregnancy [1,25]. Moreover, the duration of intercourse and the ability to experience orgasm decrease during the later phases of pregnancy compared with prepregnancy, and dyspareunia increases significantly throughout pregnancy [2]. However, many sexually active pregnant women and their partners are concerned that sexual intercourse will result in pregnancy complications [4–6].

The Chinese medicine has many prohibitions on sexual activities during pregnancy. The pregnancy restrictions aim to protect the child from "malign influences" and to avoid problems associated with pregnancy [26]. Chinese medicine is generally practiced in different ways in China, Hong Kong, and Taiwan. Traditional Chinese medicine (TCM) places great emphasis on dietary and behavioral restrictions to restore physical and emotional harmony [27–29]. In the 1689 Chinese medicine book, "Bible on Women," Xiau wrote about the paternal connections between generations of Chinese families: "If a woman is pregnant, her man is not allowed to have sexual intercourse with her." Anything that influences a woman's mind and behavior affects the fetus in the uterus. According to Xuan [30] and Uwapusitanon and Choobun [31], due to the restrictions, many pregnant Chinese women feel uncomfortable asking about or discussing sexual topics with their doctors of that any quantitative investigation cannot be identified.

Aims

This report describes a qualitative study of sexual activities during pregnancy. The aims of this article were to gather information, to describe the changes and sexual behavior in pregnancy, and to identify the reasons why pregnant women from central Taiwan tend to decrease coital frequency during pregnancy.

Methods

The relevant literature considered physical and psychological factors to be the primary contributing factors during the perinatal period. Based on the literature review, we hypothesized that the reasons for decreasing and avoiding sexual activities were the fear of harming the fetus [3–5,8,10,11] and the discomfort during intercourse [2,4,8,10,12]. The objectives of this study were to use a phenomenological method to determine the impact that pregnant women's sexual activities have during pregnancy, to identify the reasons why Taiwanese women tend to decrease the frequency of coitus as their pregnancy advances and to identify the ways in which pregnant women meet their sexual needs with their spouses. In the current qualitative investigation, to confirm the coitus phenomenon during pregnancy, we performed a statistical analysis only in the three trimesters in the no coitus group vs. the coitus group in categories. We found a statistical significance in the no coitus group vs. other categories. The statistics are presented in the footnote of Table 1 and confirm a decreased frequency

Table 1 Frequency of vaginal intercourse during pregnancy for each trimester (N = 62)

Group	1st trimester n (%, SE)	2nd trimester n (%, SE)	3rd trimester n (%, SE)
No coitus	31 (50.00%, 0.50)*	20 (32.26%, 0.48)*	40 (64.52%, 0.48)*
No change	6 (9.68%, 018)	10 (16.13%, 0.37)	6 (9.68%, 0.30)
Decreased	23 (37.10%, 0.48)	31 (50.00%, 0.50)	14 (22.58%, 0.42)
Not reported	2 (3.23%, 0.18)	1 (1.61%, 0.13)	2 (3.23%, 0.18)
total	62 (100%)	62 (100%)	62 (100%)

None of the women reported an increase in the frequency of coitus in any of the three trimesters.
All the four groups are significantly different among the three trimesters the 4 by 3 table with $P = 0.02$.
*No coitus group vs. the coitus group, the sum of the other three groups is significant with $P = 0.002$.
SE = standard error

of coitus. Finally, we integrated the underlying meanings into clusters and formulated them, based on our conceptual model, into the following three domains: (i) stress and fear of harming the fetus; (ii) discomfort during sexual intercourse; and (iii) changes in sexual practices. We hypothesized that each of these domains individually affects sexual activities and changes intimate relationships during pregnancy.

Subjects

The subjects were pregnant Taiwanese women recruited between March 2006 and July 2007. The participants were approached individually without a third party present; their spouses were absent when they were asked to participate in the study interview. The participants were screened based on the inclusion and exclusion criteria. The inclusion criteria required the participants to be at least 20 years old, between 25 and 38 weeks pregnant, and living with their spouses. Individuals were excluded from the study if their physicians had placed restrictions on their sexual activities, a history of premature membrane rupture, and risk factors for premature birth. We excluded six participants because they did not live with their spouses, and we excluded two because they had been diagnosed with placenta previa. None of the women provided incomplete responses to any questions.

Methodology

The study design used the naturalistic paradigm of qualitative content analysis, which involves counting and comparing collected data to explore live experiences related to sexual activity during pregnancy. We obtained approval for this study from the Institutional Review Board before data collection. All of the participants were recruited in a hospital clinic waiting room. After agreeing to participate in the study, all participants were interviewed individually. With the participant's permission, we adopted an open conversational format, taking an unstructured flexible approach to the face-to-face discussion. The in-depth and semi-structured interviews were audiotaped and transcribed verbatim by the first author. Units of meaning, referred to as codes, are words, sentences, or paragraphs that are related to each other in content and context [32–35]. A category is a group of content codes that share a commonality; moreover, the categories must be exhaustive and mutually exclusive [35]. The tentative categories were repeatedly discussed by the authors and subsequently revised. Reflection and discussion resulted in agreement about how to group the codes; disagreements were discussed until all discrepancies were resolved [34]. We consulted three professional experts to confirm that the categories were internally homogeneous and externally heterogeneous [34], which indicated that no data related to sexual activity were excluded due to the lack of a suitable category and that no data fell between two categories or fit into more than one category [32]. In general, this concept was used to categorize meaningful unit-codes in a mutually exclusive and exhaustive manner into perceptions, experiences, and practices so that common themes were grouped into categories. The goal of qualitative research is to identify major themes and consistent response patterns [36]. The only questionnaire used was focused exclusively on sociodemographic variables and the frequency of sexual activity.

Results

Participant Characteristics

A total of 62 pregnant women completed this study. The mean participant age was 28.59 years, and the range was 20–40 years. Thirty-eight (61.29%) participants reported that they were primiparous, and 24 (38.71%) reported that they were multiparous. The majority (85.47%) of the participants had full-time jobs, and 79.03% had more than 12 years of education.

Coital Frequency during Pregnancy

Table 1 lists the frequency of sexual activity in each trimester. None of the patients reported an increase in coital frequency after pregnancy. For the participants, the mean number of coital experiences per month was 9.02 before pregnancy, 1.71 during the first trimester, 1.59 during the second trimester, and 0.39 during the third trimester. The data indicated that 14 (22.58%) participants decreased coital activity, six (9.68%) participants reported no change, and 40 (64.52%) participants ceased coital activity during the third trimester.

Advice to Stop Coitus

Of the 62 women interviewed, 65.0% made the decision to stop coitus themselves, 15.0% made this decision after discussing it with their spouses, 13.3% were advised by their spouses to do so, 3.3% were advised by their mothers-in-law to do so, and 3.3% were advised by their mothers to do so.

Table 2 Sources of information regarding coitus during pregnancy (N = 62)

Source	n (Den %)
Internet	24 (38.7)
Friends	22 (35.5)
Postpartum service center	1 (1.6)
Books	25 (40.3)
Newspapers	11 (17.7)
Discussion with postpartum women	26 (41.9)
Listening to a speech	3 (4.8)
Pregnancy manual	22 (35.5)
Female relatives	8 (12.9)
Sisters	4 (6.5)
Teachers	1 (1.6)
Classmates	7 (11.3)
Physicians	10 (16.1)

Den = denominator

Information about Coitus

Of the women in the study, 38.7% used the Internet to obtain information about coitus during pregnancy. Other information regarding this topic came from traditional sources, such as friends and books, rather than from newspapers or physicians. Other resources included nurses, healthcare providers, pregnancy manuals and discussions with postpartum women. The percentage of women who used these resources ranged from 35% to approximately 50% (Table 2).

Clustering Categories into Three Themes

Throughout the analysis, three themes emerged: Theme 1, negative aspects of sexual experiences; Theme 2, stress and emotional responses; and Theme 3, changes in sexual practices. The condensed units of meaning units were compared based on their differences and similarities using the naturalistic paradigm of summative qualitative content analysis, and they were sorted into 27 codes that are labeled in Table 3–5.

Negative Aspects of Sexual Experiences

The five categories within this theme were as follows: 1) dyspareunia, including (a) pain during coitus and (b) painful genital skin; 2) uterine discomfort, including (c) gravid uterus and (d) uterine contractions; 3) vaginal discomfort because of (e) dry vaginal mucosa; 4) physical discomfort, including (f) soreness or pain in the pelvis and (g) feeling too heavy to turn the body; and 5) fatigue, i.e., (h) tiredness (Table 3). Most of the women experienced physical discomfort or pain during intercourse.

Stress and Emotional Responses

There were two categories within the theme of emotional responses: 1) anxiety, including (i) a preference for sacrificing satisfaction in the short-term rather than hurting the baby, (j) the belief that coitus was dangerous, (k) worry that the coital posture was incorrect, and (l) a fear of harming the fetus; and 2) fear, including (m) fear of early birth, (n) fear of miscarriage, (o) fear of bleeding, (p) fear of vaginal infection, (q) fear that the spouse would refuse coitus, and (r) fear that coitus would cause premature birth (Table 4). This theme was closely related to self-perceptions and attitudes toward sexual behavior during pregnancy.

Changes in Sexual Practices

There were four categories within the theme of sexual practices (Table 5): 1) manual sex, including (s) the spouse giving the subject a massage, (t)

Table 3 Negative aspects of sexual experiences, percentage of all subjects affected (N = 62)

Category	Code	n (%)
Dyspareunia	(a) Pain during coitus "*During sexual intercourse, I feel a lot of discomfort and pain. It's an awful experience.*"	4 (6.5)
	(b) Painful genital skin "*After sexual intercourse, I went to urinate. My perineum hurt because of a crack in the skin.*"	4 (6.5)
Uterine discomfort	(c) Gravid uterus "*After sexual intercourse, I feel that my fetus is falling.*"	33 (4.8)
	(d) Uterine contractions "*This makes the fetus press very hard on my lower abdomen.*"	18 (29.0)
Vaginal discomfort	(e) Dry vaginal mucosa "*My vagina is dry and not lubricated.*"	4 (6.5)
Physical discomfort	(f) Felt soreness/pain in the pelvis "*I felt sore and experienced pain around my pelvis, just like I feel in my joints. I'm not able to turn around.*"	5 (8.1)
	(g) Too heavy to move the body "*I feel my body is too heavy to move and can only open my legs.*"	5 (8.1)
Fatigue	(h) Tired "*Pregnancy makes me so tired and leaves me with no libido.*"	22 (35.5)

Table 4 Stress and emotional responses, percentage of all subjects affected (N = 62)

Category	Code	n (%)
Anxiety	(i) Preferred not to be satisfied in the short-term rather than hurt the baby	47 (75.8)
	"*My husband said that he didn't want to be happy for a while if it meant hurting the baby forever and that was why he didn't want to have sexual intercourse.*"	
	(j) Believed coitus was dangerous	43 (69.4)
	"*I think everyone's situation is different. If there is any risk of causing a problem, I will not have sexual intercourse.*"	
	(k) Worried that the coital position was incorrect	44 (71.0)
	"*We were worried that the position was not right and might harm the fetus.*"	
	(l) Feared harming the fetus	54 (86.9)
	"*We are very careful during pregnancy and have absolutely no sexual intercourse.*"	
Fear	(m) Fear of early birth	16 (25.8)
	"*We were very worried that the penis would press on the fetus when it was inserted into the vagina, you know . . . will cause early birth.*"	
	(n) Fear of miscarriage	18 (29.0)
	"*It is said that in the first trimester of pregnancy, sexual intercourse will induce abortion and preterm labor.*"	
	(o) Fear of bleeding	7 (11.3)
	"*I am very worried that sexual intercourse might cause bleeding and harm my fetus.*"	
	(p) Fear of vaginal infection	7 (11.3)
	"*The penis might cause vaginal infection during sexual intercourse.*"	
	(q) Spouse refuses coitus	4 (6.5)
	"*I asked him several times to insert his penis into my vagina, but he refused for the safety of our fetus.*"	
	(r) Fear that coitus will cause premature birth	36 (58.1)
	"*It is said that in the third trimester of pregnancy, sexual intercourse will induce abortion and preterm labor.*"	

giving the spouse a body massage, (u) using one's hands to touch and massage the spouse's thighs, and (v) using one's hands to help the spouse masturbate; 2) masturbation, i.e., (w) the spouse engaging in sexual activity alone when the spouse is libidinous; 3) anal sex, i.e., (x) anal intercourse; and 4) coital adjustments, including (y) performing coitus more gently, (z) not inserting the penis as deeply and (aa) the spouse showing consideration for the subject. The findings indicated that pregnant women accepted variations in sexual activity.

Discussion

Sexual Activity during Pregnancy

The present study found no one increase in coital frequency during pregnancy and a substantial decrease in frequency (37.10%, 50.00%, and 22.58% in the first, second, and third trimesters, respectively) that was much higher than previously reported in the literature [1–12]. Huang [37] reported that 13.9% of couples cease coitus during pregnancy in Taiwan. The most important aspect of

Table 5 Changes in sexual practices, percentage of all subjects affected (N = 62)

Category	Code	n (%)
Manual sex	(s) Spouse gives the subject a massage, which is enough	20 (32.3)
	"*He gives me a full-body massage with lotion. I am very satisfied with this feeling.*"	
	(t) Give spouse a body massage	20 (32.3)
	"*I give my husband a body massage, and so I use my hands to help him.*"	
	(u) Used hands to touch and massage spouse's thighs	20 (32.3)
	"*I touch and massage his thigh and hold his penis until he ejaculates.*"	
	(v) Used hands to help spouse masturbate	24 (38.7)
	"*Sometimes I use my hands to help him masturbate. My hands get tired, because it takes a long time for him to ejaculate.*"	
Masturbation	(w) When the spouse is libidinous, he resolves it alone	16 (25.8)
	"*When he is aroused, he watches erotic movies and masturbates.*"	
Anal sex	(x) Anal intercourse	2 (3.2)
	"*We perform all kinds of sexual activities, even anal intercourse, except for vaginal intercourse.*"	
Coitus adjustment	(y) Coitus more gentle	13 (21.0)
	"*We kiss when we are aroused. He touches me very tenderly, very carefully during intercourse.*"	
	(z) Penis not inserted deeply	27 (43.5)
	"*During sexual intercourse, I knew his penis was not inserted as deeply as before.*"	
	(aa) Spouse shows consideration for the subject	7 (11.3)
	"*He shows consideration for me.*"	

the qualitative findings was that pregnant Taiwanese women were engaging in coitus but choosing to stop vaginal intercourse (50.00%, 32.26%, and 64.52% in the first, second, and third trimesters, respectively). The results indicated that pregnant women accepted variations in sexual activity, such as manual sex, anal intercourse, and coital adjustments. The women in this study had a great deal of support from their mothers-in-law and mothers who had advised them to cease engaging in vaginal intercourse. Therefore, researchers cannot discard the social, cultural, and religious influences in this analysis according to Pauleta et al. [1]. This finding could reflect the transmission of cultural norms across generations. Our findings demonstrated that many pregnant Taiwanese women believe it is better not to engage in vaginal intercourse; they typically conceptualize to restrict sexual behavior to maintain physical and emotional harmony during pregnancy. These findings that TCM balance still influence the Taiwanese family unit and childbearing. Taiwanese pregnant women prefer to seek support from family members in times of stress supporting what have seen [38–40].

This study found that sexual information was obtained from the postpartum women (41.9%), books (40.3%), friends (35.5%), and the Internet (38.7%). Furthermore, doctors and nurses should be aware that pregnant women consult the Internet and mass media for information and that the large amount of information circulating in the public media may be too abundant or too complex for pregnant woman to absorb easily. Educational materials should include information regarding the symptoms of miscarriage and preterm labor.

Reasons to Decrease Vaginal Intercourse

The research findings indicate that several factors contribute to the decision to refrain from vaginal intercourse, suggesting the need for input from healthcare providers. The most important finding was that the women in this study were anxious: more than half of the women believed that coitus could be dangerous, and they feared harming the fetus. These findings are consistent with previous studies demonstrating similar emotional responses, such as "fear of inducing a miscarriage" [5,10,11,41], "fear of preterm labor" [3,10,11], "fear of the onset of labor" [4,8], "fear of bleeding" [4,5,8,10], and "fear of an infection" [3,4,8,10,41].

Previous studies have revealed that pregnant women have unpleasant experiences during sexual intercourse, including fatigue [10,41], dyspareunia [2,4,8,10,12,42], changes in vaginal lubrication [4], abdominal cramping [4,8], urinary incontinence [4,8], lack of attraction to their spouse's odor [10], and positioning difficulties [2]. The present study supports the findings of previous studies by providing a more detailed examination of women's sexual experiences. The findings in the current literature can assist health practitioners in recommending masturbation, the use of lubricant jelly, and alternative coital positions, such as the female on top, rear entry, spooning, the use of several pillows, a side-by-side position or the scissors position [2,6].

Notably, in this study, several participants indicated that they maintained an intimate relationship through sexual activity because the pregnant women used manual sex or helped their spouses masturbate in other ways. Pregnancy may affect the sexual behavior and feelings of men. The few studies that have been conducted on this subject reported the following spouse-related reasons for discontinuing or decreasing the frequency of coitus during pregnancy: "spouse avoids coitus," [10] "spouse worries during coitus," [42] and "spouse worries about sexual satisfaction" [2]. The findings of the present study could help clinicians and health professionals offer practical recommendations concerning sexuality during pregnancy. Technical advice regarding the range of sexual options during pregnancy, including noncoital sexual activities, such as manual and oral partner stimulation, could also be helpful [43].

Limitations

One limitation of this study is that it was conducted using women from only one population of Chinese culture without cross-cultural comparison; thus, the results may not be generalizable. The interviews with pregnant women were not conducted using a validated questionnaire to identify the characteristics of their sexual activities. However, it is difficult to gain a comprehensive understanding of sexual activities during pregnancy when the activities are measured by a questionnaire. Therefore, the observations in this study should be used as hypotheses for future quantitative longitudinal studies that assess sexual activity during pregnancy using questionnaires.

Conclusions

The current evidence-based findings encourage the provision of sexuality education to newlyweds and the discussion of sex-related issues during pregnancy. We aimed to develop strategies for

increasing sexual knowledge and focusing on emotional support to decrease the pregnant women's anxiety regarding sexuality in Taiwan. Obstetricians or nurse practitioners are in an ideal position to provide long-term sexuality education to pregnant women. Moreover, future research should include a longitudinal study that assesses both pregnant women and their spouses separately using hypotheses based on the present study's findings. Ultimately, healthcare providers should devote time to provide appropriate information to couples to reduce their anxiety and improve their quality of life during pregnancy.

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References

1 Pauleta JR, Pereire NM, Graca LM. Sexuality during pregnancy. J Sex Med 2010;7:136–42.
2 Von Sydow KV. Sexuality during pregnancy and after children: A meta-content analysis of 59 studies. J Psychosom Res 1999;47:27–9.
3 Serati M, Salvatore S, Siesto G, Cattoni E, Zanirato M, Khullar V, Cromi A, Ghezzi F, Bolis P. Female sexual function during pregnancy and after childbirth. J Sex Med 2010;7:2782–90.
4 Bartellas E, Crane JM, Daley M, Bennett KA, Hutchens D. Sexuality and sexual activity in pregnancy. BJOG 2000;107:964–8.
5 Senkumwong N, Chaovisitsaree S, Rugpao S, Chandrawongse W, Yanunto S. The changes of sexuality in Thai women during pregnancy. J Med Assoc Thai 2006;89(4 suppl):S124–9.
6 Gokyildiz S, Beji NK. The effects of pregnancy on sexual life. J Sex Marital Ther 2005;31:201–15.
7 Aslan G, Aslan D, Kizilyar A, Ispahi C, Esen A. A prospective analysis of sexual functions during pregnancy. Int J Impot Res 2005;17:154–7.
8 Fok WY, Chan LY, Yuen PM. Sexual behavior and activity in Chinese pregnant women. Acta Obstet Gynecol Scand 2005;84:934–8.
9 Robson KM, Brant HA, Kumar R. Maternal sexuality during first pregnancy and after childbirth. BJOG 1981;88:882–9.
10 Eryilmaz G, Ege E, Zincir H. Factors affecting sexual life during pregnancy in eastern Turkey. Gynecol Obstet Invest 2004;57:103–8.
11 Naim M, Bhutto E. Sexuality during pregnancy in Pakistani women. J Pak Med Assoc 2000;50:38–44.
12 Pauls RN, Occhino JA, Dryfhout VL. Effects of pregnancy on female sexual function and body image: A prospective study. J Sex Med 2008;5:1915–22.
13 Adinma JI. Sexuality in Nigerian pregnant women: Perceptions and practice. Aust N Z J Obstet Gynaecol 1995;3:290–3.
14 DeJudicibus MA, McCabe MP. Psycological factors and the sexuality of pregnant and postpartum women. J Sex Res 2002;39:94–103.
15 Erol B, Sanli O, Korkmaz D, Seyhan A, Akman T, Kadioglu A. A cross-sectional study of female sexual function and dysfunction during pregnancy. J Sex Med 2007;4:1381–7.
16 Leite A, Campos A, Cardoso Diaz AR, Amed AM, De Souza E. Prevalence of sexual dysfunction during pregnancy. Rev Assoc Med Bras 2009;55:563–8.
17 Kennedy CM, Turcea AM, Bradley CS. Prevalence of vulvar and vaginal symptoms during pregnancy and puerperium. Int J Gynecol Obstet 2009;105:236–9.
18 Chang SR, Chang TC, Chen KH, Lin HH. Developing and validating a Taiwan version of the Female Sexual Function Index for pregnant women. J Sex Med 2009;6:1609–16.
19 Johnson C. Sexual health during pregnancy and the postpartum. J Sex Med 2011;8:1267–84.
20 Bogren LY. Changes in sexuality in women and men during pregnancy. Arch Sex Behav 1991;20:35–45.
21 Robson KM, Brant HA, Kumar R. Maternal sexuality during first pregnancy and after childbirth. Br J Obstet Gynaecol 1981;88:882–9.
22 Alder EM. Sexual behaviour in pregnancy, after childbirth and during breast-feeding. Baillieres Clin Obstet Gynaecol 1989;3:805–21.
23 Stuckey BGA. Female sexual function and dysfunction in the reproductive years: The influence of endogenous and exogenous sex hormones. J Sex Med 2008;5:2282–90.
24 Basson R. Women sexual dysfunctions: Revised and expanded definitions. Can Med Assoc J 2005;172:1327–33.
25 Basson R. Human sex-response cycles. J Sex Marital Ther 2001;27:33–43.
26 Ip, WY. Childbirth among Hong Kong Chinese. In: Selin H, ed. Childbirth across cultures: Ideas and practices of pregnancy, childbirth and the postpartum. New York: Springer; 2009:71–6.
27 Roemer AT. Medical acupuncture in pregnancy: A textbook. New York: Thieme; 2005.
28 Kong YC, Liang S. The cultural fabric of Chinese medicine: How to know your body through Chinese medicine. Hong Kong: The Commerical Press; 2005.
29 Yeh HY, Chen YC, Chen FP, Chou LF, Chen TJ, Hwang SJ. Using of traditional Chinese medicine among pregnant women in Taiwan. Int J Gynecol Obstet 2009;107:147–50.
30 Xuan W. Traditional Chinese medicine. In: Yuan CS, Bieber EJ, Bauer BA, eds. Textbook of complementary and alternative medicine. 2nd edition. London: Informa Healthcare; 2006:211–24.
31 Uwapusitanon W, Choobun T. Sexuality and sexual activity in pregnancy. J Med Assoc Thai 2004;87(3 suppl):S45–9.
32 Graneheim UH, Lundman B. Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today 2004;24:105–12.
33 Hsieh H, Shannon SE. Three approaches to qualitative content analysis. Qual Health Res 2005;15:1277–88.
34 Denzin NK, Lincoln YS. Sage handbook of qualitative research. 4th edition. Thousand Oaks, CA: Sage Publications; 2011.
35 Krippendorff K. Content analysis. An introduction to its methodology. The Sage Commtext Series: London, UK: Sage Publications Ltd; 1980.
36 Ulin PR, Robinson ET, Tolley EE, McNeill ET. Qualitative methods: A field guide for applied research in sexual and reproductive health. Research Triangle Park, NC: Family Health International; 2002.
37 Huang YC. A comparison of sexual satisfaction and post-natal depression in the UK and Taiwan. Int Nurs Rev 2006;53:197–204.
38 Freeberg AL, Stein CH. Felt obligation towards parents in Mexican-American and Anglo-American young adults. J Soc Pers Relat 1996;13:457–71.

39 Lau Y, Wong DF. The role of social support in helping Chinese women with perinatal depressive symptoms cope with family conflict. J Obstet Gynecol Neonatal Nurs 2008;37: 556–71.
40 Nierop A, Wirtz PH, Bratsikas A, Zimmermann R, Ehlert U. Stress buffering effects of psychosocial resources on physiological and psychological stress response in pregnant women. Biol Psychol 2008;78:261–8.
41 Orji EO, Ogunlola IO, Fasubaa OB. Sexuality among pregnant women in South West Nigeria. J Obstet Gynaecol 2002; 22:166–8.
42 Trutnovsky G, Haas J, Lang U, Petru E. Women's perception of sexuality during pregnancy and after birth. Aust N Z J Obstet Gynaecol 2006;46:282–7.
43 Contratto SW. Maternal sexuality and asexual motherhood. Signs 1980;5:766–82.