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# Sexual activity during pregnancy

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## Abstract

**OBJECTIVE:** Pregnancy is usually associated with significant regression in genito-genital intercourse frequency, sexual desire and satisfaction. The aim of the study was to determine women's sexual habits during the third trimester of gestation and to compare their sexual activity before the current pregnancy and during previous pregnancies in case of multiparas. **MATERIAL AND METHODS:** The study material consisted of women in the third trimester of pregnancy, recruited from the Outpatient Clinic of the 1st Department of Obstetrics and Gynecology, Medical University of Warsaw between January 2013 and February 2014, who filled out a self-prepared questionnaire. The questionnaire consisted of three parts: demographic data, sexual activity prior to current pregnancy and during gestation, including sexual positions and sources of knowledge regarding the subject. The survey involved 25 questions and was distributed among 220 patients, out of which 165 were returned and 149 properly filled out and analyzed. **RESULTS:** The average age of the respondents was 29.6±4.85 years; the majority (78.8%) were in an uncomplicated pregnancy. The decrease in sexual activity was evident in all age groups – the majority usually had sex 1 to 3 times a month in contrast to 1–2 times a week prior to conceiving. Sexual activity decreased significantly with increasing age. The main reasons for abandoning sexual activity included: decreased libido (35.5%), the doctor's suggestion (29%) and fears concerning child's health (29%). During pregnancy the frequency of vaginal intercourse significantly decreased (100% prior to vs. 86.6% during pregnancy; $p<0.001$); as did oral sex (44.3% vs. 29.5%; $p=0.043$) and anal sex (12% vs. 5.4%; $p=0.02$). 54% of the respondents declared reduced satisfaction with sexual life during pregnancy in comparison with the previous period; almost half (43.5%) felt less attractive while pregnant. The same claim was related to libido – it decreased in 58.8% of respondents. Multiparas tended to have sexual intercourses less often in consecutive pregnancies (41.2%) or with an equal frequency (35.3%). The main source of knowledge about sexual life during pregnancy listed by women included internet and other media (63.5%), while medical staff was mentioned by 30%. **CONCLUSIONS:** Sexual activity decreases during gestation, however, it often result from an increased fear for the child and lack of possibilities to confront and broaden the knowledge on this subject. The role of medical staff in consulting sexual activity problems is insufficient.

ORIGINAL ARTICLE

## INTRODUCTION

Pregnancy is characterized by changes in physical, psychological and hormonal sphere, as well as in the quality of life and sexual relationship. During this period women tighten emotional bonds, intimacy and physical affinity, which are also connected with physical pleasure and sexual needs. According to published studies it seems that women not always have systematized knowledge about intercourse during pregnancy, which is sometimes associated with unfolded apprehensions. Myths about sex during pregnancy harming fetus and leading to preterm labor or miscarriage are very strong factors releasing fear and leading to avoidance of sexual contact during gestation (Fok *et al.* 2005). Moreover, sexual behavior during pregnancy depends on sociocultural factors, demographic factors, religious rigor, the level of education, the duration of marriage, material status of the partners, gestational age, as well as the intention to have a baby. Sexuality is therefore perceived as the identity, feelings and behavior associated with sex (Wrobel & Karasek 2008).

Pregnancy is the time when women's emotional needs and psychological state differ significantly from other periods of life. It is usually associated with remarkable regression in genito-genital intercourse frequency, sexual desire, satisfaction and orgasm experience (Chang *et al.* 2011).

A remarkable decrease in sexual activity, which is associated with the decline in sexual intercourse frequency and the ability to experience orgasm occur among many women as the pregnancy progresses – especially during the third trimester (Malarewicz *et al.* 2006; Von Sydow 1999; Serati *et al.* 2010). This status is caused by and connected with upcoming delivery, apprehensions concerning health and security of the child and the mother herself, fear of labor pain and possible birth complications (Bancroft 2011; Schaffir 2006). The third trimester is also the period when the strongest emotional bond between the mother and the child is being built, time of planning the future, reorganizing life and getting used to a new role in life – being a parent.

The objective of the presented study was to determine women's sexual habits during the third trimester of gestation, their knowledge about intercourse during pregnancy and to compare their sexual activity before the current pregnancy and during previous pregnancies in case of multiparas. Additionally, it was aimed to reveal changes in women's self-assessment and feeling of attractiveness during gestation.

## MATERIAL AND METHODS

The study material consisted of women in the third trimester of pregnancy, who agreed to participate and filled out a self-prepared and self-administered questionnaire. They were recruited from the Outpatient Clinic of the 1st Department of Obstetrics and Gynecology, Medical University of Warsaw between January 2013 and February 2014.

The self-administered questionnaire consisted of three parts. The first one included information about demographic data (age, place of residence and level of education), obstetric history and faith. The second part concerned sexual activity prior to current pregnancy, whereas the last one – sexual activity during pregnancy. It ended with questions regarding the sources of information about sexual activity during gestation. The questionnaire also included a board illustrating sexual positions in order to point the most frequent ones applied during the third trimester of gestation. Altogether the survey consisted of 25 questions – 19 structured and 6 open ones. Women were informed about the aim of the study, the anonymity of the project and their participation was voluntary. The respondents were selected randomly and approached at the time of outpatient appointments. During the research period 220 questionnaires were distributed and only 165 were returned. The final analysis was based on 149 properly completed questionnaires. Statistica 10.0 software was used for statistical analyses. The $p$-value of $<0.05$ was considered significant.

## RESULTS

The average age of the respondents was 29.6±4.85 years (min. 15, max. 44 years of age). The majority of them were 30 years old (16.1%). Pregnant women were mostly primiparas (54.1%), while multiparas were usually giving birth for the second time. Most of the respondents were Roman Catholics (51%) with college/university education (64.4%), residing in a city with more than 100,000 inhabitants (36.2%).

The majority of the respondents (78.8%) had no complications during pregnancy at the time of recruitment. The most frequently reported complications among the remaining group included: threatened preterm labor (14.4%), gestational diabetes (2.7%), vaginal bleeding prior to the third trimester (1.3%), intrahepatic cholestasis of pregnancy (0.7%) or hypertension (0.7%).

Sexual activity patterns were the most important part of the analysis. Before conceiving women mostly had intercourses 1–2 times during the week (53.7%). Only 1 in 4 respondents had intercourse 1 to 3 times in a month. Detailed results regarding sexual activity before current pregnancy are presented in Figure 1. The frequency of having sexual intercourses during current gestation was evaluated with regard to respondents' age. The decrease in sexual activity was evident in all age groups – the majority of women usually had sex 1 to 3 times a month in contrast to what they had declared prior to gestation. Age resulted to be a very important factor influencing sexual activity during pregnancy. Almost half (47.4%) of the women younger than 25 years of age had at least one sexual intercourse a week

in comparison to only 21.7% of respondents older than 34 years. It is worth mentioning that almost every 5th–6th woman did not have any sexual intercourse during the current pregnancy, regardless of age. The detailed results of the analysis are shown in Figure 2.

The great majority of the respondents had one sexual partner during pregnancy (94%). The main reasons for abandoning sexual activity included: decreased libido (35.5%), the doctor's suggestion (29%) and fears concerning future child's health (29%). The remaining mentioned reasons were: the lack of satisfaction (21%), decreased feeling of attractiveness (16.1%), sexual partner refusal (14.5%), the feeling of pain at the time of sexual intercourse (9.7%), logistic problems (3.2%), mood disorders (1.6%) and lack of sexual partner (1.6%).

The main interest of our study was the analysis of different kinds of sexual activities chosen by pregnant women. Before conceiving all respondents obviously had vaginal intercourses. The other types of sexual activities included oral (44.3%), anal intercourses (12.1%) and masturbation (17.4%). During pregnancy the frequency of vaginal intercourse significantly decreased (86.6%; $p<0.001$ in comparison to previous period). The similar observation regarded oral sex (29.5% of women vs. 44.3%; $p=0.043$). Anal intercourses were practiced by 5.4% pregnant women ($p=0.02$ in comparison to the period before conceiving). Only the rate of masturbating respondents did not change significantly during pregnancy (14.1% vs. 17.4%; $p=0.21$). The questionnaire filled out by women included drawings with sexual positions which could be applied. The respondents were asked to mark the most frequently used positions during current pregnancy. The results of their answers are shown in Figure 3. The most preferred sexual position used by respondents is when a woman is lying on her side with a man behind her (79.5%). The second most frequently applied one is when a partner is lying on his back while a woman is sitting on him and facing him (51.5%).

The following part of the study was the assessment of satisfaction from sexual activity and feeling of attractiveness. 64.2% of respondents were satisfied with their sexual life before conceiving and only 0.7% of them were dissatisfied. During pregnancy the most frequently chosen answer was "rather satisfied"(44.7%). Dissatisfaction with sexual life increased from 0.7 to 9.9% ($p<0.0005$). 54% of the respondents declared reduced satisfaction with sexual life during pregnancy in comparison with the previous period. Only 3.6% of women were more satisfied during gestation. Almost half of the studied population (43.5%) felt less attractive while pregnant. The same claim was related to libido – up to 58.8% of respondents had lower libido during pregnancy than before, while in 17.6% of the group libido increased.

Additionally, we aimed to compare changes in sexual activity among multiparas in current and previous pregnancy/pregnancies. Multiparas tended to have sexual intercourses less often in consecutive pregnancies (41.2%) or with an equal frequency (35.3%). The majority of multiparas (93.2%) had vaginal intercourse, 25.7% had oral, 5.4% had anal intercourse, 10.8% were masturbating and 6.8% were sexually inactive in prior pregnancy.

We also attempted to evaluate the impact of religion on the type of sexual activity in pregnancy. According to given answers there were 76 Roman Catholics among respondents and 73 women who did not practice any religion. There were no differences between these groups in vaginal and oral intercourses. However, there were less anal intercourses (8.2% vs. 2.6%) and masturbations (19.2% vs. 9.2%) in Roman Catholic subgroup. Due to the small sample sizes these results were not statistically significant.

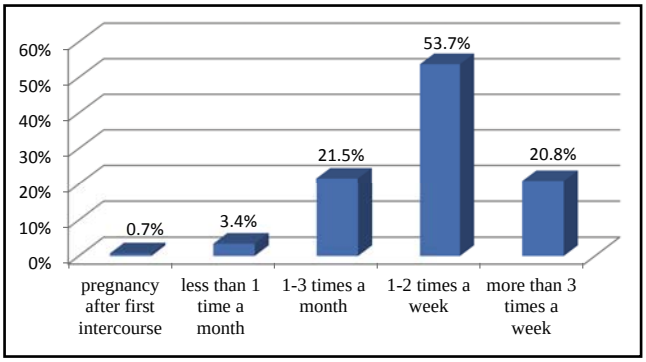


**Fig. 1.** Respondents' sexual activity before current pregnancy.

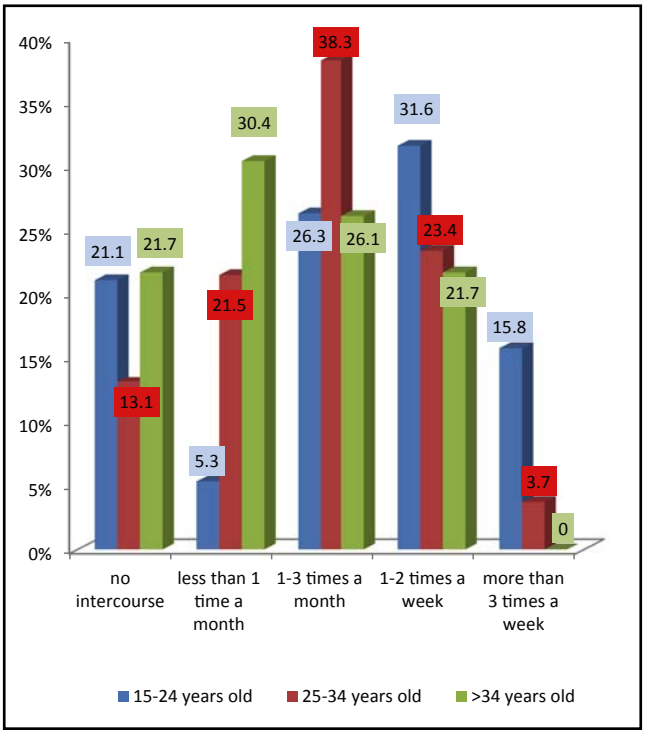


**Fig. 2.** The frequency of having sexual intercourse during pregnancy and its relation to respondents' age.

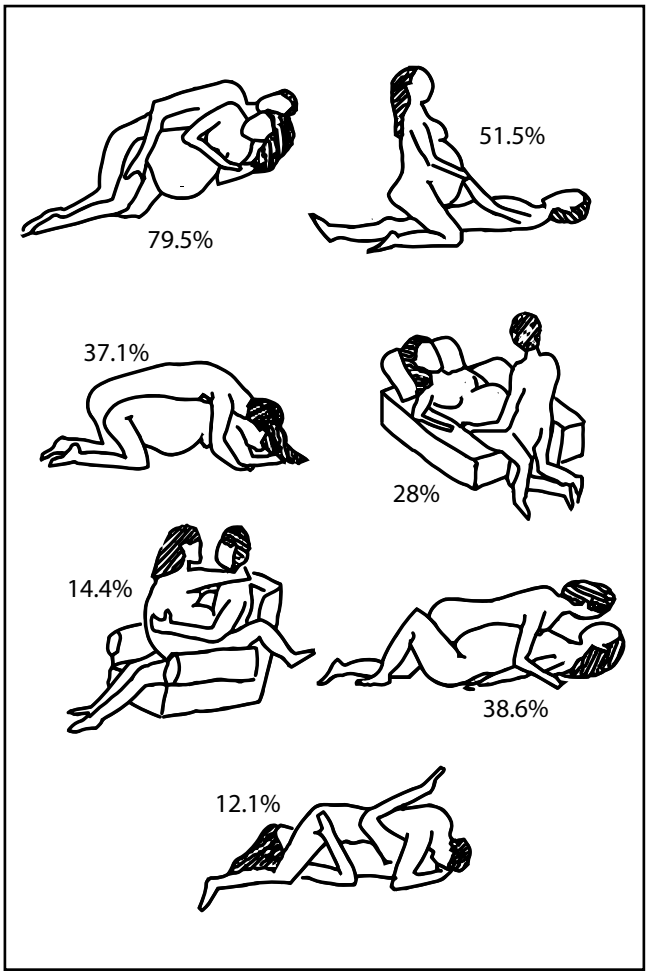


**Fig. 3.** The most frequent sexual positions chosen by surveyed pregnant patients.

The main sources of knowledge about sexual life during pregnancy listed by women included internet and other media (63.5%), books and magazines (57.4%) and conversation with partner (43.2%). Less respondents mentioned consultation with medical staff (30.4%), conversation with a friend (20.3%) or with a mother (6.1%), while 8.8% were not interested in this subject.

## DISCUSSION

Psychological aspects and physiological changes in pregnant women strongly correlate with sexual function during that specific period. It is believed that sexual function diminishes over the course of pregnancy. There seem to be different problems throughout subsequent trimesters. During the first trimester of gestation emotional lability, anxiety, nausea, sore breasts and somnolence affect sexuality negatively and libido decreases (Murtagh 2010; Erol *et al.* 2007; von Sydow 1999). Early pregnancy is usually the time for accommodation to new circumstances. The maintenance of intimacy in this period and enhancing the couple's mutual engagement is very important for the relationship. Many women declare significant decrease in sexual satisfaction and desire in this period, while men do not report similar changes. Pauleta *et al.* reported that in a group of 199 pregnant women in the first trimester of pregnancy 27.7% emphasized a decrease in sexual satisfaction and 32.5% in sexual desire. Nearly 45% of women were willing to have sexual intercourse in the first trimester. In the second trimester that rate dropped to 36%, while in the third trimester the willingness decreased the most (Pauleta *et al.* 2010). Provided the course of pregnancy is uncomplicated, sexual intercourse in the first trimester allows for a full freedom as far as sexual positions are concerned. During that time women require partners to focus also on other forms of sexual intimacy, such as caresses, because it is very relaxing and may ease pregnancy-related concerns. Pauleta *et al.* determined that fear of sexual intercourse in the first trimester was pointed out by 23.4% of 199 respondents (Pauleta *et al.* 2010).

The situation may be different in the second trimester. It is usually the time of emotional stability, symptoms typical for the first trimester are gone and the woman is more energetic as she does not yet feel physically limited. As physical discomfort subsides, libido may increase. Women may be more eager to engage in sexual activity, because an increased vaginal lubrication and genital blood flow favor orgasm and make it easier (Malarewicz *et al.* 2006). However, sexual activity can show variable patterns during that period of gestation (Von Sydow 1999). The second trimester usually allows for all modifications of positions during sexual intercourse, unless there are medical contraindications and, above all, the abdomen is pressed. Nevertheless, sexual contacts may be problematic for men due to a type of feeling that accompanies them – men often mention a feeling of "the third person" in a sexual contact. In addition, a sensation of fetal movements in the second trimester has an impact on the quality of sexual contacts and the choice of sexual positions (Makara-Studzinska *et al.* 2011).

The situation changes again in the most challenging third trimester. Traditional sexual acts become more difficult and less frequent because of physical aches and obstacles, such as decreased desire, lubrication and sexual satisfaction. The level of emotional stress and anxiety related to the possible complications increases as the time of delivery approaches (Galazka *et al.* 2015; Corbacioglu *et al.* 2013, Serati *et al.* 2010). The woman feels less attractive as a sexual partner because of increasing fatigue, dyspnea, edema, contractions and general physical exhaustion (Fok *et al.* 2005; Chang *et al.* 2011; Liu *et al.* 2013; Hanafy *et al.* 2014). The lack of willingness often results in insufficient sexual arousal, which is connected with vaginal lubrication, decrease in satisfaction and the lack of orgasm. Therefore, there is a group of women who abandon sexual activity in pregnancy due to pain during a genital-to-genital contact. It

was also confirmed in the study published by Hanafy *et al.* (Hanafy *et al.* 2014) and Chang *et al.* (Chang *et al.* 2011). The third trimester is also the period in which the strongest emotional bond is built between the mother and the unborn child. Planning and reorganizing the current life to adapt to the new situation and being a parent are time consuming.

According to the presented study the most preferred, safest and most proper position during that part of gestation is when a woman is lying on her side with a man behind her. This position, apart from intense sexual satisfaction, gives a great sense of comfort and allows both partners to be active. If there are no contraindications, the position may be used until delivery. The second most preferred sexual position among women in the third trimester is when a partner is lying on his back while a woman is sitting on him facing him. The least popular and practiced sexual positions among women in this time are the so called "love chair" and the "sixty-nine". In both cases careful attention should be paid not to press the abdomen, as there is a tendency to do so. In the "love chair" position too deep penetration should be avoided (Makara-Studzinska *et al.* 2011).

Compared with the pre-pregnancy period, sexuality significantly changes during pregnancy. Nevertheless, women still maintain all types of sexual activity. Our studies show that genital-to-genital contacts are the most common, women far less strive for oral stimulation by their partners and perform autoerotism as often as before pregnancy. A very marginal group of women in the third trimester of pregnancy has anal contacts. Similarly, Pauleta *et al.* determined that in a group of pregnant women 98.3% preferred genital-to-genital contacts, 38.1% oral ones, 20.4% masturbation and the least number had anal sex – 6.6% (Pauleta *et al.* 2010). It seems that the choice of sexual activity type is connected with religion, as results from the presented research. The majority of believing and practicing women accept only genital-to-genital contacts during pregnancy, rarely applying oral stimulation or masturbation and hardly ever anal contacts. Pregnant women with liberal approach to the rules of the Catholic Church have significantly different attitude - such future mothers undertake sexual contacts more often in general and are characterised by greater freedom of choice of positions and types of sexual stimulation. The frequency of sexual intercourse during current pregnancy changes in relation to other pregnancies/pregnancy. The presented results were similar to the study conducted by Liu *et al.* – the frequency of sexual contacts decreases in consecutive pregnancies (Liu *et al.* 2013).

During the last weeks of pregnancy sexual intercourse is thought to cause infection and rupture of membranes. A possible risk connected with preterm delivery may occur due to uterine contractions caused by sexual activity with vaginal ejaculation. Self-consciousness and knowledge of these limitations and threats influence the decision regarding undertaking or abandoning sexual activity during gestation. Concerns about the possible adverse outcome of pregnancy caused by sexual activity were also observed by Serati *et al.* (Serati *et al.* 2010). Bartellas *et al.* reported that 49% of women worried that sexual activity could possibly harm their pregnancy. Concerns usually regarded premature delivery or preterm premature rupture of membranes (Bartellas *et al.* 2000). According to our research, pregnant women aged 25–34 years are sexually active on average once to thrice a month, while younger women (15–24 years old) have sexual intercourse several times a week. It most probably is related to the awareness of dangers which may occur during pregnancy, but it also reflects the overall decreased sexual activity of older women. The most common reason for the abandonment of sexual activities during gestation is the hypoactive sexual desire disorder, i.e. the lack or absence of sexual needs. A strong argument supporting the decision on abandonment of sexual activity is also a doctor's suggestion in case of certain pregnancy complications. Liu *et al.* reported similar reasons for abandoning sexual activity by pregnant women: fear for child's health, awareness of risks and suggestions of medical personnel (Liu *et al.* 2013). It shall be remembered that in the third trimester the feeling of pleasure and sexual satisfaction changes for a woman. It decreases significantly and, as a consequence, may lead to complete abandonment of sexual contacts. Similar conclusions were drawn by other authors (Kucharska *et al.* 2013; Malarewicz *et al.* 2006; Bartellas *et al.* 2000).

Psychological factors and changes in a woman's body strongly correlate with sexual functions during gestation. Each pregnancy is a source of stress and concerns hence, it is important for a woman to have sufficient support and professional care. Many concerns and doubts related to sexual life during pregnancy may be resolved at the stage of education of a future mother. The leading source of information on sexual intercourse during pregnancy is the internet, also mentioned by Liu *et al.* (Liu *et al.* 2013). Other sources included media, books and magazines. Another partner's experience and knowledge could be equally significant source of information – for example child's father, medical personnel or experienced friend. Only every third respondent in our study discussed the problems of sexuality during pregnancy with medical staff. The same result was reported by Bartellas *et al.* – 29% of women consulted sexual activity with their doctor, 34% felt uncomfortable with that subject and the majority felt it should have been discussed (Bartellas *et al.* 2000). The role of medical staff is therefore insufficient – couples should be informed about possible problems with sexual activity and changes in sexuality that may be encountered by pregnant women (Aslan *et al.* 2005; Malarewicz *et al.* 2006).

In conclusion, sexual life changes during gestation often result from an increased fear for the child and lack of possibilities to confront and broaden the knowledge

on this subject. It seems necessary that medical personnel, especially obstetricians and midwifes taking care of pregnant women, should engage more in the process of education regarding sexual life during gestation.

***Disclosure:*** *The authors declare no conflict of interest.*

REFERENCES


1 Aslan G, Aslan D, Kizilyar A, Ispahi C, Esen A (2005). A prospective analysis of sexual functions during pregnancy. Int. J. Impot. Res. **17**(2): 154–7.
2 Bancroft J. (2011) [Human sexuality. Sexual aspects of fertility and infertility] Wroclaw. Elsevier Urban & Partner: 457–483. [In Polish; book chapter].
3 Bartellas E, Crane JM, Daley M, Bennett KA, Hutchens D (2000). Sexuality and sexual activity In pregnancy. BJOG. **107**: 964–8.
4 Chang SR, Chen KH, Lin HH, Yu HJ (2011). Comparison of overall sexual function, sexual intercourse/activity, sexual satisfaction, and sexual desire during the three trimesters of pregnancy and assessment of their determinants. J Sex Med. **8**(10): 2859–67.
5 Corbacioglu Esmer A, Akca A, Akbayir O, Goksedef BP, Bakir VL (2013). Female sexual function and associated factors during pregnancy. J Obstet Gynaecol Res. **39**(6): 1165–72.
6 Erol B, Sanli O, Korkmaz D, Seyhan A, Akman T, Kadioglu A (2007). A cross-sectional study of female sexual function and dysfunction during pregnancy. J Sex Med. **4**(5): 1381–7.
7 Fok WY, Chan LY, Yuen PM (2005). Sexual behavior and activity in Chinese pregnant women. Acta Obstet Gynecol Scand. **84**(10): 934–8.
8 Galazka I, Drosdzol-Cop A, Naworska B, Czajkowska M, Skrzypulec-Plinta V (2015). Changes in the sexual function during pregnancy. J Sex Med. **12**(2): 445–54.
9 Hanafy S, Srour NE, Mostafa T (2014). Female sexual dysfunction across the three pregnancy trimesters: an Egyptian study. Sex Health. **11**(3): 240–3
10 Kucharska M, Kossakowska K, Janicka K (2013). [Czy jest nadzieja na seks przy nadziei? Seksualnosc a ciaza w opinii kobiet]. Seksuologia Polska. **11**(2): 17–23. [Article in Polish].
11 Liu HL, Hsu P, Chen KH (2013). Sexual activity during pregnancy in Taiwan: A Qualitative Study. Sex Med. **1**(2): 54–61.
12 Makara-Studzinska M, Wdowiak A, Plewnik I, Krys KM (2011). [Sexuality of pregnant women]. Seksuologia Polska. **9**(2): 85–90 [In Polish with an English abstract].
13 Malarewicz A, Szymkiewicz J, Rogala J (2006). [Sexuality of pregnant women]. Ginekol. Pol. **77**(7): 736–737 [In Polish with an English abstract].
14 Murtagh J (2010). Female sexual function, dysfunction and pregnancy: implications for practice. J Midwifery Womens Health. **55**(5): 438–446.
15 Pauleta JR, Pereire NM, Graca LM (2010). Sexuality during pregnancy. J Sex Med. **7**: 136–42.
16 Serati M, Salvatore S, Siesto G, Cattoni E, Zanirato M, Khullar V, *et al.* (2010). Female sexual function during pregnancy and after chilbird. J Sex Med. **7**: 2782–90.
17 Shaffir J (2006). Sexual intercourse at term and onset of labor. Obstet. Gynecol. **107**: 1310.
18 Von Sydow KV (1999). Sexuality during pregnancy and after children: A meta-content analysis of 59 studies. J. Psychosom. Res. **47**: 27–9.
19 Wrobel B, Karasek M (2008). Human sexuality and sex steroids. Neuro Endocrinol Lett. **29**(1): 3–10.