Clinical indicators of sexual dysfunction in pregnant women: integrative literature review

Indicadores clínicos de disfunção sexual em mulheres grávidas: revisão integrativa de literatura

Indicadores clínicos de disfunción sexual en mujeres embarazadas: revisión integradora de literatura

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How to cite this article:

ABSTRACT
Objective: to identify the nursing diagnosis clinical indicators of sexual dysfunction in pregnant women. Method: it is an integrative literature review, with research in databases using the keywords “sexual*”, “pregnan*” and “function*”. Studies included had an abstract available for analysis, referring to pregnant women over 18 years old, written in Portuguese, French, Spanish and English, with publication date between 2010 and 2014. Studies that reporting pregnant women with an associated pathology were excluded. Results: sexual dysfunction in pregnant women is consistent in the literature. Nine defining characteristics were identified and 16 related factors, some not classified in NANDA International. Conclusion: clinical indicators can be added to the nursing diagnosis to favor an accurate diagnosis and effective interventions in the surveillance of pregnancy as a period of healthy sexual experience. Key words: Sexual Behavior; Physiological Sexual Dysfunction, Psychogenic Sexual Dysfunction; Pregnant Women; Review.

RESUMO

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Objetivo: identificar los indicadores clínicos del diagnóstico de enfermería disfunción sexual en mujeres embarazadas. Método: revisión integradora de la literatura, con investigación en bases de datos, utilizando las palabras clave “sexual*”, “pregnan*” y “function*”. Forrieron incluidos estudios con resumen disponible para análisis, referentes a embarazadas con edad igual o superior a 18 años, escritos en portugués, francés, español e inglés, con fecha de publicación entre 2010 y 2014. Fueron excluidos estudios que reportasen embarazadas con patología asociada. Resultados: la disfunción sexual en la embarazada es consistente en la literatura. Fueron identificadas nueve características definidoras y 16 factores relacionados, algunos no clasificados en la NANDA Internacional. Conclusión: indicadores clínicos pueden ser agregados al diagnóstico de enfermería de modo a favorecer un diagnóstico preciso e intervenciones efectivas en la vigilancia del embarazo como un período de vivencia sexual sana. Palabras clave: Comportamiento Sexual; Disfunción Sexual Fisiológica; Disfunción Sexual Psicogénica; Gestantes; Revisión.
INTRODUCTION

The study about female sexual response remained not so studied for many centuries and in this sequence the sexual function during pregnancy has received little attention from researchers until a few years ago. Sexuality is a human biological function not limited only to the genitals, but rather to the total corporeality, assuming an unquestionable importance in the quality of life of individuals. However, the difficulty in addressing, questioning and responding naturally related remains and seems to be a widespread problem. In care practice, nurses report difficulties by addressing sexuality, an important dimension, and essential in human life that should be valued in primary health care, in hospital care, and throughout the lifecycle.

Sexual health is not merely the absence of disease and dysfunction, but it involves a permanent balance of different aspects involved in the sexual act and thus a multitude of factors, including physical, mental, emotional and social well-being for all sexual behaviors and beliefs. It can also be described as the integration and coordination of mind, emotions and body guiding the social. Any resulting disruption of balance due to dissatisfaction with sexual intercourse can result in sexual dysfunction.

Female sexual dysfunction can be understood as an important public health problem because of its frequency and several changes in the women’s quality of life. It is a multifactorial problem involving biological, psychological, and interpersonal conditions. The causes of sexual dysfunction are multiple and, among the various possibilities, there are aspects found related to the physiological state of the woman, such as pregnancy, breastfeeding, and menopause. Thus, the pregnant woman can show some sexual dysfunction, such as difficulty achieving an orgasm, dyspareunia, inhibition of desire and sexual arousal, raising problems in the experience of the couple’s sexuality.

In the International NANDA (NANDA-I), sexual dysfunction is classified as a nursing diagnosis since 1980, with its last review in 2006 and defined as the state in which the individual goes through changes in sexual function during the response phase sexual desire, arousal and/or orgasm, which is seen as unsatisfactory, not recommended or inadequate. The NANDA-I is a nursing diagnosis classification showing the clinical indicators (defining characteristics and related factors) that contribute to an accurate diagnosis and forward for planning effective interventions by nurses.

In another classification of the American Psychiatric Association, the latest version of the diagnostic manual of DSM-5 mental disorders, sexual dysfunctions are a heterogeneous group of disorders in general characterized by a clinically significant disruption in a person’s capacity to sexually respond or to experience sexual pleasure. Disorder of the female orgasm, disorder of female interest/sexual arousal and disorder of the genital and pelvic pain/penetration are part of the female sexual dysfunctions.

Sexual function has changes during pregnancy and may improve in the second quarter, but markedly decreases in the first and third quarters. The approach of sexual function during pregnancy is still surrounded by several taboos by the lack of knowledge and cultural, personal or religious prejudices. The couple’s sexuality throughout pregnancy can be conditioned by multiple factors that contribute in different ways to change sexual behavior, verifying some difficulty in evaluating this problem by the health professionals.

In the literature the topic based on different cultures seems to be the consensus the decreased frequency of sexual activity as the pregnancy progresses, as well as sexual dysfunction occurring during this period.

Pregnancy is characterized by biochemical, functional, anatomical and emotional changes that start at a very early stage and remain in its course. All these changes interfere directly or indirectly, in the sexual behavior of pregnant women, in different levels and forms. Thus, the transition to parenthood can be understood as a phase of the potential psychosocial crisis and a critical period when most couples experience changes in their usual pattern of sexual behavior. This is a favorable period for the emergence or worsening of preexisting sexual problems that can adversely affect the marital relationship.

This review aims to identify the clinical indicators of sexual dysfunction (defining characteristics and related factors) in the literature over the last five years, and systematize knowledge about the characterization of sexual dysfunction during pregnancy, so that in practice care, nurses and other health professionals integrate this subject in the care they provide, clarifying pregnant women and their partners during pregnancy surveillance. Thus, they will certainly be contributing to a healthy and harmonious living of sexuality during this phase of life, also promoting their well-being and their quality of life.

This is an important issue in the care practice of nurses, particularly in specialized care to pregnant women because the scientific evidence is not profitable. This study may be useful in raising awareness among professionals of the importance of the topic and for the integration of this phenomenon in practice, offering clinical indicators for accurate nursing diagnosis to promote effective interventions to pregnant women and the couple.

METHOD

An integrative literature review was held that aimed to gather and synthesize the results of research on a particular topic or issue in a systematic and organized way, contributing to the deepening of problems. It consists of a broad methodological approach that includes different types of studies, experimental and observational, theoretical and empirical, and allows an overall understanding of the phenomenon investigated. This research method includes six phases: identification of the topic or guiding question; sampling or searching the literature; categorization of studies; assessment of included studies; interpretation of results and synthesis of knowledge evidenced in the analyzed articles also called for the presentation of the review.

The review started with the question: What are the clinical indicators (defining characteristics and related factors) of female sexual dysfunction in pregnant women? Faced with the question nature, the Cochrane PEOS was used to define the inclusion criteria and selection studies: Population - Pregnant women aged over 18 years old without an associated
pathology; Exposure - sexual dysfunction; Outcomes - defining characteristics and related factors; and Study type - all studies with available abstracts, published between 2010 and 2014, in Portuguese, French, Spanish and English. The research was conducted in the databases of EBSCOhost (CINAHL, MEDLINE, Nursing & Allied Health Collection: Comprehensive Edition, Cochrane Plus Collection Database of Abstracts of Reviews of Effects, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, Medicatina), Scopus, ISI WEB SCIENCE, Wiley Online Library and RCAAP (Scientific Open Access Repository of Portugal). A research conducted in September 2014, with the research strategy “sexual” (title) AND “pregnancy” (title) AND “function” (in the field all text). For platforms in Portuguese, as RCAAP, the research terms were “sexual” (title) AND “gravida” (title). The PRISMA guidelines were followed to the identification, evaluation, selection and inclusion of the studies in the review.

By being an integrative review, additional research was conducted in the references of articles previously selected and all the results were integrated to have a more comprehensive review. The inclusion of studies was carried out by the agreement of two researchers independently. Data from the studies were analyzed after completion of a data collection instrument with data about the study identification and objectives (title, author, country, year and journal data), methodological characteristics (a type of study, instruments, and sample) and analysis results (clinical indicators and related factors).

RESULTS

A total of 671 results for the databases were identified. After selection by the inclusion criteria relating to the time limit (2010-2014), there were 266 studies. After reading the titles, there were 141 studies (Figure 1) distributed by databases as follows: EBSCO (35); SCOPUS (47); ISI WEB SCIENCE (39); Wiley Online Library (15), RCAAP (5). The analysis of the title, the junction of articles and removal of all those that were in duplicate was held. There were 68 studies, of which 7 were removed because they did not meet the inclusion criteria related to language and three studies that were not directly related to the topic. After reading the abstracts, the final sample consisted of 58 studies. Of these, it was possible to obtain 47 studies with full text (81%) and the remaining were analyzed only from the abstracts as they were part of minute’s events.

In a temporal evaluation of the initial research, and without any time limit, there were 671 articles identified that when delimited to the last five years there were 266 articles. This fact shows the relevance of the topic since about 40% of the production on this topic was published in the last five years. The distribution of studies in this period was 24.1% published in 2012, followed by 2014 with 22.4%, 2011 and 2013 with 19% and 15.5% of the publications in 2010.

Regarding the geographical distribution, no country was specifically highlighted, but there is a higher production in Brazil with approximately 20% of the studies, Turkey with 17.1%, Iran with 12.1%, Thailand with 10.3%, Portugal with 9%, the United States with 5.1%, and Spain and Israel with 3.5%. Studies from countries such as Canada, Poland, Australia, Croatia, Malaysia, Germany, Egypt, Saudi Arabia and Tunisia were also identified.

In the methodological analysis, it was observed that 43 studies (74.1%) have a quantitative approach, six (10.3%) have a qualitative approach, five (8.6%) have a literature review, two (3.5%) have opinion articles, and two (3.5%) have editorials. We highlight that 45 studies (77.5%) are original, one (1.7%) was a scale validation study, one (1.7%) was a dissertation, and two (3.5%) were monographs in nursing degree. It was found that 56% of the studies used the quantitative approach of female sexual function index (FSFI), demonstrating a very well applied measurement instrument of this phenomenon. There were also 11 studies (19%) referring to a definition of female sexual dysfunction. Among the attributes identified in the definition of concepts, the consistency that this is a change in the cycle of female sexual response was highlighted, although there are authors that mentioned changes only in some phases (Table 1).

It is possible to notice a greater relevance in changes in sexual desire as sexual dysfunction indicator in 78% of studies, but 47% highlighted the decrease in sexual desire during pregnancy. The changes in sexual satisfaction is also one of the most significant characteristics in 64% of the studies, then the changes of desire, followed by changes in orgasm (59%), pain during sexual intercourse (57%), changes in frequency of sexual activity (54%) and changes in sexual arousal, in approximately half of study. Slightly less relevant, there were the specific changes in vaginal lubrication (43%) and changes in sexual interest (21%) (Table 1). The comparative analysis of the clinical indicators already in NANDA-I, I find that five defining characteristics are already classified (change in sexual activity, change in sexual arousal, changes in sexual

![Figure 1 - Flowchart of the sample of selected articles for review, based on PRISMA](image-url)
satisfaction, decreased desire and changes in interest) and this review adds the other existing characteristics in NANDA-I such as changes in orgasm, pain, changes in the lubrication and changes in desire.

Regarding factors related to sexual dysfunction during pregnancy, it was verified that there are several (Table 2). From the analysis, it is clear that the physical and psychological changes associated with changes in the structure and body function as well as the presence of discomfort are the most evident factors. The sociodemographic factors are often referred to in the literature (60%), as well as the fears and cultural factors that arise in approximately half of the studies. In 40% of the studies, it was evident the inadequate knowledge of the pregnant women on the female sexual function. It is also noted as influential the obstetric history of the pregnant women (35%) and relational and self-image changes (30%). Religious, changes in self-esteem, presence of some vulnerabilities (diseases) and conflicts of values were a little less prevalent factors identified.

### Table 1 - Frequency of clinical indicators of female sexual dysfunction during pregnancy in the selected studies

<table>
<thead>
<tr>
<th>Defining characteristics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in sex desire</td>
<td>45</td>
<td>78</td>
</tr>
<tr>
<td>Changes in sexual satisfaction</td>
<td>37</td>
<td>64</td>
</tr>
<tr>
<td>Changes in the orgasm</td>
<td>34</td>
<td>59</td>
</tr>
<tr>
<td>Dyspareunia</td>
<td>33</td>
<td>57</td>
</tr>
<tr>
<td>Changes in sexual activity/frequency</td>
<td>31</td>
<td>54</td>
</tr>
<tr>
<td>Changes in sexual arousal</td>
<td>29</td>
<td>50</td>
</tr>
<tr>
<td>Decrease in sexual desire</td>
<td>27</td>
<td>47</td>
</tr>
<tr>
<td>Changes in vaginal lubrication</td>
<td>25</td>
<td>43</td>
</tr>
<tr>
<td>Changes in sexual interest</td>
<td>12</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related factors</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical changes</td>
<td>40</td>
<td>76</td>
</tr>
<tr>
<td>Psychological changes</td>
<td>38</td>
<td>66</td>
</tr>
<tr>
<td>Changes in the structure and function of the body, notably related with the presence of discomfort throughout pregnancy</td>
<td>37</td>
<td>64</td>
</tr>
<tr>
<td>Sociodemographic factors (age, education, socioeconomic status, ...)</td>
<td>35</td>
<td>60</td>
</tr>
<tr>
<td>Fears</td>
<td>30</td>
<td>52</td>
</tr>
<tr>
<td>Cultural factors</td>
<td>28</td>
<td>48</td>
</tr>
<tr>
<td>Insufficient knowledge</td>
<td>26</td>
<td>45</td>
</tr>
<tr>
<td>Myths, taboos and beliefs</td>
<td>23</td>
<td>40</td>
</tr>
<tr>
<td>Obstetric history (number of children, number of pregnancies, childbirth types, abortions, ...)</td>
<td>20</td>
<td>35</td>
</tr>
<tr>
<td>Relational changes</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td>Changes in self-image</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>Religious factors</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>Gestational age</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>Changes in self-esteem</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Vulnerabilities (problems in pregnancy, diseases, ...)</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Conflict of values</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>
It should be noted that, similar to the related factors already classified in NANDA-I, only the insufficient knowledge was identified. The results of this review are in addition to the factors already classified such as sociodemographic, physical, psychological and relational changes, gestational age, obstetric history, myths, taboos, prejudices and beliefs, fears, self-esteem and self-image, religious and cultural factors.

DISCUSSION

Sexual function is associated with quality of life and sexual satisfaction of women throughout pregnancy. Sexual dysfunction is a common phenomenon during pregnancy and reaches more significant levels in the third quarter. During this period, sexual function is compromised, and sexual activity fell as the pregnancy progresses, although variable, but with a marked decrease in the pre-pregnancy period and the end of the pregnancy. The different countries identified in the results show that this is a cross problematic for the pregnant condition in different cultures. Sexual dysfunction interferes with women’s health and it can be assumed as a major health problem because of its negative impacts such as decreased self-esteem and various emotional changes that can result in significant distress in the person and the couple. It can be understood as an imbalance in the face of satisfaction with sexual intercourse but it can also be characterized as a psychophysiological disorder in sexual response, which causes distress and difficulty in interpersonal relationships. In pregnancy, sexual dysfunction is also characterized by the changes in female sexual functioning involving one, several or all of the phases of the sexual response cycle. This change will lead to a disorder in the experience of sexual identity, interfering in interpersonal relationships, causing anguish and stress. It is a human response to a transition or life process that can lead to other answers related to health/disease process and therefore requires holistic care and specializes in the diagnosis and intervention planning. The diagnoses classification of nursing in NANDA-I integrates the diagnosis sexual dysfunction, defined as a change in sexual function observed in one or more phases of sexual response. It can be understood that, although the definition of the diagnosis contemplates the various stages of sexual response, the defining characteristics do not include all of them, so this review suggests enrichment with new defining characteristics, such as changes in orgasm, pain, changes in the lubrication and changes in desire.

The existence of sexual dysfunction during pregnancy is, in fact, reported in the literature. The studies analyzed show some changes to the level of the different phases of the cycle of sexual response translated into the identification of clinical indicators throughout this review. These are related, in a comprehensive way, with the changes in the structure and body function, the biopsychosocial changes, misinformation or insufficient knowledge, conflicts of values and vulnerability in this period. Bodily changes, hormonal and psychological, pregnancy and associated features of the concern about the effect of sex on maternity or health of the fetus, are consistently reported in the literature and also mentioned as an important reason for the decrease in the frequency of sexual intercourse and for the change of female sexual function in this period. The presence of discomfort, such as malaise, sleep and changes in self-image can lead to decreased desire and arousal, verifying a significant change in these areas of sexual function. The pregnant woman is more emotionally fragile, needed of greater support, care and attention, thus showing an increase of emotional needs, which can also influence female sexual response in all areas. Excessive anxiety, lack of information and the presence of personal and cultural beliefs are some of the reasons referred to the change of sexuality during pregnancy. The role of the health education is very important, to let people know about the normal changes that occur at different stages of pregnancy and thus reducing anxiety and helping improve sexual function.

Today’s society requires the obstetric nurse plays the care process towards a more effective, with a greater level of knowledge and aiming to complete respond to the needs of the pregnant woman/couple. Women value the scientific nursing skills, but they consider primordial relational qualities, active listening and the involvement of pregnant women in the care, appreciate the expert nurse as a confident, a guide and key support in the experience of the whole process associated with pregnancy and childbirth. This enhancement reinforces the important role of the obstetric nurse in sexual health promotion as an intimate area of the woman/couple.

Despite the fears and myths about sexual activity during pregnancy, sexual interactions of a couple during pregnancy can promote their sexual health, well-being and a greater depth of intimacy in the couple. The need for knowledge by the pregnant women on female sexual function in this period is a factor that stands out in the analysis of studies with potential relation to changes in the sexuality of pregnant woman/couple during pregnancy and its implications in practice care.

Afshar et al. (2012) reported an improvement in sexual function of pregnant women after application of an educational program in which a positive correlation between sexual knowledge and a satisfactory sexual function was found. Most couples did not have enough information about the sexual dimension during pregnancy, and the importance of sex education was reflected by the positive effect on the sex life of the pregnant woman. The application of another educational program also shows benefit in improving the level of knowledge and sexual attitudes during pregnancy. However, the access to information on the topic is apparently obtained through the internet and by the opinion of friends with the conditioning that comes with it, showing the need for health professionals to invest in this issue. Aribi et al. (2012) state that the information and support for women in this period are still insufficient and found that more than half of the women confirmed the usefulness of information about sexuality, but only a third of couples sought information. Therefore, it is noteworthy the importance of the initiative by healthcare professionals in providing information to couples on sexuality during this period, even if not requested. Although women feel the need for information, they rarely find opportunities to show their questions with the health professionals. Couples need guidance regarding the impact of pregnancy on sexual function, on amendments to psychosocial...
level to understand the changes and the normal fluctuations of sex during pregnancy and to improve the sexual health of the couple, as well as their quality of life.\textsuperscript{42,47}

Health professionals should seek to develop an open approach on sexuality aspects and provide anticipatory guidance to the couple about the expected changes in sexual health during pregnancy.\textsuperscript{18} This is an important intervention in the evaluation and sexuality issues management to improve the relationship, educating and advising on sexuality during pregnancy and while recognizing that the change in sexual activity during this period occurs and can affect marital relationships. Pregnant women should be regularly evaluated considering their sex life and encouraged to talk about the dimension of sexuality with health professionals.\textsuperscript{5} The professionalism of this approach includes, not with a holistic concern, but should include the entire ethical care and communication skills inherent in the topic that are close. They should not be ignored since female sexual dysfunction, and its implications for health during pregnancy are considered areas of concern for health professionals in health care to women.\textsuperscript{5} Intervention in sexual and reproductive health should be a priority for professionals who care for women’s health. Pregnancy can be a time of intervention in solving problems related to sexual (dys) function. Proper communication about sexual health among women and health professionals is essential, but it is still often lacking.\textsuperscript{5} The obstetric nurses have an opportunity to initiate discussions about sexuality during pregnancy in the consultations. However, ideally, these conversations about sexual health should take place on a regular basis during consultations in primary health care, both before and after pregnancy. Guidance for sexual health highlight not only potential problems and difficulties but also the opportunity to improve self-esteem and interpersonal relationships. Women should be advised to have an open and honest conversation with their partners and also with health professionals about their sexual needs, expectations, and obstacles.\textsuperscript{5}

The culture often influences attitudes toward sexuality in pregnancy and this influence may also extend to the intervention of health professionals. The approach to sexuality should be part of care in prenatal, and professionals should be vigilant and review their opinions and attitudes on this subject.\textsuperscript{51} Health professionals should have training in sexuality and sexual health, whether through initial professional training, such as post-graduate training or continuing education. The negative influence of pregnancy on female sexual function is obvious and, therefore, should not be neglected. Health professionals should be able to investigate the incidence of sexual dysfunction, minimize anxiety about the changes induced by pregnancy, encourage the participation of the partners in surveillance, answering questions and demystifying taboos.\textsuperscript{19,32,72} Lack of knowledge of pregnant and their partners, as evidenced in this review and already classified in NANDA-I, often causes fears and anxieties that can lead to sexual abstinence and preventable relational consequences. The health education on the experience of sexuality during pregnancy promotes freedom for pregnant express sexuality, fears regarding sexual act and discussion of beliefs, values, and anxieties, contributing to the promotion of sexual and reproductive health. Educational practices favor the peaceful experience of pregnancy, the mother/child relationship, the acceptance of pregnancy, as well as promoting the expression of sexuality.\textsuperscript{54,68,70}

Advances regarding sexuality approach in the field of health and nursing are notorious. However, there are still difficulties in the intersection between care and sexuality in professional practice. New care approaches are emerging to promote the comprehensiveness of care and demystify the care of the body and sexuality in nursing care.

CONCLUSION

Sexuality is part of the human experience and is influenced by several factors contributing to the welfare of the woman/couple. The association between pregnancy and sexual dysfunction has also been little studied. However, the results of this association show implications in the practice of nursing care during pregnancy. It is necessary to recognize the changes in female sexual function in pregnant women or by implication the experience of women’s sexuality and the couple will be shown either by the influence these changes have on other aspects of women’s lives.

In care practice, the obstetric nurse must identify the changes in sexuality and individualize the answers to every pregnant woman/double, respecting the particularities of each situation. Addressing the issue of sexuality during pregnancy surveillance is essential to the health professionals evidencing the role of obstetric nurses particularly in education for health throughout pregnancy surveillance. The sensitization of professionals to this approach will contribute to a better clarification of pregnant regarding the absence of risks to keep the sex life during this period and thus promoting women/couple’s welfare with benefit to both and the development of the baby in a healthy and harmonious environment.

This study identified new characteristics and related factors of sexual dysfunction based on literature. These new data should be validated in a clinical context to gather evidence and contribute to the NANDA-I.

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