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Review Article

Factors affecting sexual function in menopause: A review article

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ABSTRACT

This study aimed to systematically review the articles on factors affecting sexual function during menopause. Searching articles indexed in Pubmed, Science Direct, Iranmedex, EMBASE, Scopus, and Scientific Information Database databases, a total number of 42 studies published between 2003 and 2013 were selected. Age, estrogen deficiency, type of menopause, chronic medical problems, partner's sex problems, severity of menopause symptoms, dystocia history, and health status were the physical factors influencing sexual function of menopausal women. There were conflicting results regarding the amount of androgens, hormonal therapy, exercise/physical activity, and obstetric history. In the mental–emotional area, all studies confirmed the impact of depression and anxiety. Social factors, including smoking, alcohol consumption, the quality of relationship with husband, partner's loyalty, sexual knowledge, access to health care, a history of divorce or the death of a husband, living apart from a spouse, and a negative understanding of women's health were found to affect sexual function; however, there were conflicting results regarding the effects of education, occupation, socioeconomic status, marital duration, and frequency of sexual intercourse.

Introduction

Menopause is a natural event associated with several physical and psychological changes that cause a complex period in life for women [1]. Various aspects of women may be influenced by menopause; among them sexual function can be affected greatly. Sexuality is an integral part of one's identity and sexual function is a combination of psychosocial aspects such as sexual arousal, sexual desire and sexual fantasies [2]. Therefore, changes in sexuality and sexual function could be included in postmenopausal concerns.

Sexual health is affected by personal factors, intrapersonal relations, social and family traditions, culture, and religion [3]. According to the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition), sexual dysfunction is defined as a disturbance in the sexual response cycle or pain associated with sexual intercourse [4]. The prevalence of sexual dysfunction among all women is estimated at between 25% and 63%. The prevalence in postmenopausal women is even higher with rates between 68% and 86.5% [5].

Several studies have addressed the many factors impacting sexual function in menopausal women. The overall impact of different factors on sexual function including physical, mental–emotional, and social factors has been studied. Physical issues such as the age of the woman and her spouse, hormonal changes, duration of menopause, type of menopause (surgical or medical), organic causes of chronic medical problems, husband's sexual problems, severity of physical menopausal symptoms, physical activity, hormone therapies, obstetric history, and health status are discussed in this paper. Mental–emotional issues, including factors such as depression and anxiety, intensity of menopausal emotional symptoms, feelings about the sexual partner, level of self-confidence and self-esteem, body image, and feelings of sexual attraction are introduced and discussed. Social factors such as the education level and occupation of a woman and her spouse, access to a sexual partner, change in sexual partner, duration of relationship or marriage, frequency of sexual intercourse, quality of relationship with spouse, partner loyalty, socioeconomic status, cultural background, religious beliefs, sexual knowledge, perceived health status, lifestyle, previous sexual activity, social expectations, access to health care, history of previous divorce or death of a

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spouse, racial and ethnic differences, and substance abuse (tobacco, alcohol, etc.) are reviewed and discussed.

Given the variety of factors and the results of the studies, this article aims to answer the question of what factors influence sexual function in menopausal women.

Materials and methods

This was a narrative review, searching Pubmed, Science Direct, and Iranmedex databases and the Scientific Information Database using keywords including "menopause", "sexual function", "sexual dysfunction", "predictive factors", "menopausal women", "sexual difficulty/difficulties", and "climacteric". Longitudinal, cross-sectional, and interventional studies published between 2003 and 2013 were considered. In this study, English and Farsi-language articles were reviewed. It is noteworthy that the full manuscripts of all citations that were likely to meet the objective of our study were selected and obtained. In cases of duplicate publication, the most recent and complete versions were selected. Articles with no clear methodology as well as those conducted only on premenopausal women were excluded. However, other studies including menopausal and nonmenopausal women were included in the study with concentration on results of menopausal women. Other studies on menopausal age groups (e.g., 42–52 years) without menopausal status were excluded. Furthermore, studies based on convenience sampling, articles with an answer rate <50%, and studies with an indefinite answer rate or sample size were also excluded. In such studies, lack of menstruation for a 1-year period has been the criterion for menopause. Moreover, the investigation of sexual function and diagnosis of sexual dysfunction was carried out using standard questionnaires such as Female Sexual Function Index, the six-item Female Sexual Function Index, McCoy Female Sexuality Questionnaire, and the 14-item Changes in Sexual Functioning Questionnaire. We found 42 related articles from 153 citations identified from electronic searches.

The procedure consisted of one researcher searching for the articles. Inclusion and exclusion of articles were based on the title and abstract of articles. Then, the full texts of the qualified articles were obtained and were studied, and results were extracted. The results were given to two other researchers for revision and correction.

Results

There is great controversy on sexual function and its influencing factors in the literature. While some studies showed that menopause transition negatively affects sexual function [1,9,10], others demonstrated opposite effects [6–8]. Some postmenopausal women consider the menopausal period as the best time of their lives in terms of sexuality, because they lack the fear of pregnancy and have been living with their partners for a longer time [6–8].

Menopause was associated with an increase in sexual problems, such as lack of sexual desire [1], decreased frequency of sexual activity, decreased sexual response, orgasmic problems, and a decrease in genital sensitivity [9] related to reduced levels of estradiol [10], while other studies indicated that interpersonal variables may be more significant than hormonal levels. Factors affecting sexual function can be classified as physical, mental–emotional, and social.

Physical factors

Ageing

A longitudinal analysis indicated a significant decline in sexual function associated with aging and menopausal transition. A review of studies indicated that there is a negative correlation between age and sexual function (see Table 1). Some studies also found a negative relationship between the age of the husband and the wife's sexual function [11–14].

Hormonal profiles

Hormonal changes such as estrogen deprivation and decreased androgens may lead to changes in sexual organs and other body systems influencing sexual function. Researchers have reached a consensus about the effects of estrogen decline on reduced sexual function [5]. Moreover, the effect of androgens on sexual function has been studied. A study has shown lower levels of testosterone to be predicators of sexual dysfunction, especially in women with natural menopause [15]. In another study it was shown that in early menopausal-transition women, free plasma testosterone levels were the sole predictive factor of overall sexual function score. In early postmenopause (defined as the 5 years following the final menstrual period) [16], however, dehydroepiandrosterone sulfate (DHEAS) and estradiol levels were predictors of the overall sexual function score [17].

A study indicated a positive relationship between total and free testosterone levels and DHEAS with sexual function [18]. Conversely, some studies showed no relationship between sexual function and serum androgens [19–21]. A study has shown that androgen level is not predictive of low female sexual function in women aged 18–75 years but low domain score for sexual responsiveness for women aged 45 years or older was associated with lower serum DHEAS level [21].

It has been demonstrated that the use of hormone replacement therapy has a positive effect on the sexual function of menopausal women [11,13,14,22,23]. A study showed that hormone replacement therapy significantly improved sexual function in orgasm, pain relief, and lubrication, but desire and arousal which have the highest importance rating were not improved [23]. However, one study showed that the use of hormone replacement therapy during menopause is the main risk factor associated with sexual dysfunction in sexually active women [24].

Type and duration of menopause

The type of menopause as another factor in sexual dysfunction has been studied. A study showed that sexual dysfunction was significantly more common in women who had surgical menopause compared with those who experienced natural menopause [15]. Another factor is the severity of menopausal symptoms. All studies in this area suggest that sexual function is inversely correlated with the severity of menopausal symptoms [12,13,22,25–28]. One study found no relation between the duration of menstrual cessation and sexual function [25].

Medical histories

Chronic medical problems (including urinary incontinence, pelvic floor disorders, surgery, diabetes, cardiovascular disease, neurological or cardiovascular disorders, obesity, hyperlipidemia, hypertension, osteoarthritis, multiple sclerosis, renal failure, liver failure, pulmonary disease, endometriosis, uterine fibroids, cancer, hyperprolactinemia, and hypothyroidism) were studied and the results showed that these problems have a negative impact on sexual function in postmenopausal women [5,11,25,29]. Among medical complications, obesity is of high concern. In a survey, it was shown that the frequency of women reporting their sexual activity as satisfactory was higher among women with lower body mass index [30]. It was also demonstrated that overall sexual function