



Biopsychosocial Risk Factors of Depression in the Menopausal Transition: A Narrative Review

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Received 2017 May 09; Revised 2017 August 20; Accepted 2017 November 05.

Abstract

Context: As the most common psychiatric disorder associated with menopause, depression is associated with significant morbidity and mortality consequences. Given the importance of identifying risk factors of depression in the menopausal period, this study aims to determine bio psychosocial risk factors of depression during the menopausal transition.

Evidence Acquisition: For this narrative review, electronic databases including Google Scholar, Magiran, Scientific Information Database (SID), PubMed, Web of Science, Scopus, Ovid, Science Direct, and ProQuest were searched. Articles published between 1978 and 2017 were retrieved, and an abstract and full-text appraisal was conducted. A total of 71 articles were selected for this review. The inclusion criteria included articles focusing on depression in menopausal-aged women that were published in scientific journals and English and Farsi language articles conducted in menopausal aged women.

Results: The bio psychosocial risk factors of depression were divided into three major categories: biological, psychological, and social risk factors.

Conclusions: Given the important role of psychological health in menopausal-aged women, it is recommended that mental health and risk factors of psychiatric disorders in menopause are evaluated at menopause clinics and that every high-risk woman is referred to a psychiatrist for pharmacological or non-pharmacological intervention.

Keywords: Biological, Depression, Menopause, Psychiatric Disorders, Psychosocial Factors

1. Context

Menopause is defined as having occurred a year after menstrual bleeding has ended (1-3). It is a natural developmental transition that all women experience between the age of 49 - 58 (3, 4). During menopause, women may experience a range of biological, psychological, and social changes (3, 5-7), which have a significant effect on their quality of life (7-10). Psychological symptoms of the menopause include mood swings, sadness, depression, frustration, lack of motivation or interest, diminished energy, hopelessness, difficulty concentrating, difficulty making decisions, irritability, intolerance, nervousness, anxiety, and low self-esteem (1, 2, 5, 11-13). Among these symptoms, the most common psychiatric disorder is depression, which is associated with significant morbidity and mortality consequences such as cardiovascular dis-

ease, metabolic syndrome, chest pain, obesity, impaired interpersonal relationship, social and occupational dysfunction, and sexual health (2, 13-16). Studies of Iran have reported a prevalence rate of depression ranging from 4% - 64% among the Iranian population (17-20) compared to an estimated prevalence of 16.3% to 20% for the population worldwide (2, 11). The association between the menopausal transition and an increased risk of depression is an important, unspecified public health problem that requires much attention (14, 21). In this regard, both community-based cohort and cross-sectional studies have shown that menopause is a window of vulnerability to depression and psychiatric disorders (2, 22-29). The exact etiology of this relationship is not determined; however, various studies have assessed the possible causes of depression (1, 2, 11). Several studies report that biological, social, and psychological factors have a significant impact on the onset of

depression during the menopausal stages (3, 30-33). Although there are some review articles regarding depression in menopausal women all over the world, there is no review article in this background in Iran (13, 27, 34). In addition, given the importance of mental health in the menopausal transition and the adverse long-term effects of depression on various aspects of women's lives, this study aimed to determine the bio psychosocial issues leading to depression in the menopausal transition.

2. Evidence Acquisition

In this review, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement was used as a guideline. This comprehensive literature review was conducted in three steps (35):

2.1. Identifying the Research Question

This study aims to answer the following research question: "What are the bio psychosocial risk factors of depression in the menopausal transition?"

2.2. Search Strategies for Identifying and Selecting Related Studies

To address the research question, three researchers (FE, MA and EF) commenced the initial search independently using Google Scholar, Magiran, SID, PubMed, Web of Science, SCOPUS, Ovid, Science Direct, and ProQuest during November 2016 and April 2017. The researchers used Text Word and the Medical Subject Heading (MeSH) with the keywords "psychological" OR "depression" OR "anxiety" OR "mood disorder" OR "psychiatric disorder" AND "femininity" OR "reproductive loss" OR "empty nest syndrome" OR "social issues" OR "psychosocial problems" OR "vasomotor symptoms" OR "hormonal changes" OR "biological" OR "menopausal symptoms" AND "menopause" OR "perimenopause" OR "midlife" OR "menopausal transition." After the initial search, 3 478 related articles published between 1978 and 2017 were extracted. After discarding duplicate articles (n = 2 252), the remaining papers were screened in two stages. In the first stage, the titles and abstracts of all remaining papers were independently reviewed by three researchers (FE, MA, and EF) and those that met the entry requirements and answered the research questions were selected. The inclusion criteria were articles focusing on depression in menopausal-aged women that were published in scientific journals, and English and Farsi languages articles conducted in menopausal aged women. In contrast, studies that do not refer to risk factors of depression or clinical trials were excluded from this

study. At the first stage of screening, 415 papers were discarded from the study. In the second stage of screening, the full texts of all remaining papers were reviewed and those who, despite referring to depression, did not refer to the etiology and risk factors of depression (n = 322) and were not related to the aim of the study (n = 418) were discarded from further analysis. In addition, the reference lists of the selected papers were checked to find more papers and conduct the search with a higher sensitivity and precision. In the end, 71 papers were used for the current review study (Figure 1).

2.3. Summarizing, Extracting, and Reporting the Data

Using the studies selected from the previous stage, the researchers carefully studied all the relevant papers and extracted and organized the information they needed for the current study. The content on the risk factors of depression in the menopause were organized into categories (Table 1). This project was found to be in accordance to the ethical principles and the ethical code of this project (IR.MAZUMS.REC.1397.012) was determined by Mazandaran University of Medical Sciences.

3. Results

In Table 1 the risk factors of depression in menopausal aged women are shown. The bio psychosocial risk factors of depression were divided into three major categories: biological, psychological, and social risk factors.

3.1. Biological

Several studies claim that biological factors play a role in the onset of depression in the menopausal period (10, 28, 34, 36, 37). The biological risk factors of depression include decreased reproductive hormonal level changes (10, 26, 28, 34, 38, 39), a long premenopausal period (more than 27 months) (31, 40, 41), severe menopausal symptoms including long-term vasomotor symptoms (i.e., hot flashes and night sweats) (1, 10, 25, 26, 31, 40), type of menopause (surgical vs. natural menopause) (10, 26, 28), premature menopause (29, 41, 42), decreased physical health, chronic medical diseases (13, 21, 26, 40, 43-46), use of antidepressants (28, 42, 47-49), and history of Premenstrual Syndrome (PMS) (5, 21, 31, 39, 47). While some studies have demonstrated a strong association between the presence of vasomotor symptoms and depression (10, 12, 21, 38, 47), others indicated depression as an indirect outcome of sleep disruption that occurs when experiencing hot flashes or night sweats (5, 21, 50). Problematic hot flashes were significantly associated with tiredness, social isolation, embarrassment, diminished self-esteem, loss of control, panic, dizziness, and depression (27, 31, 47, 50).

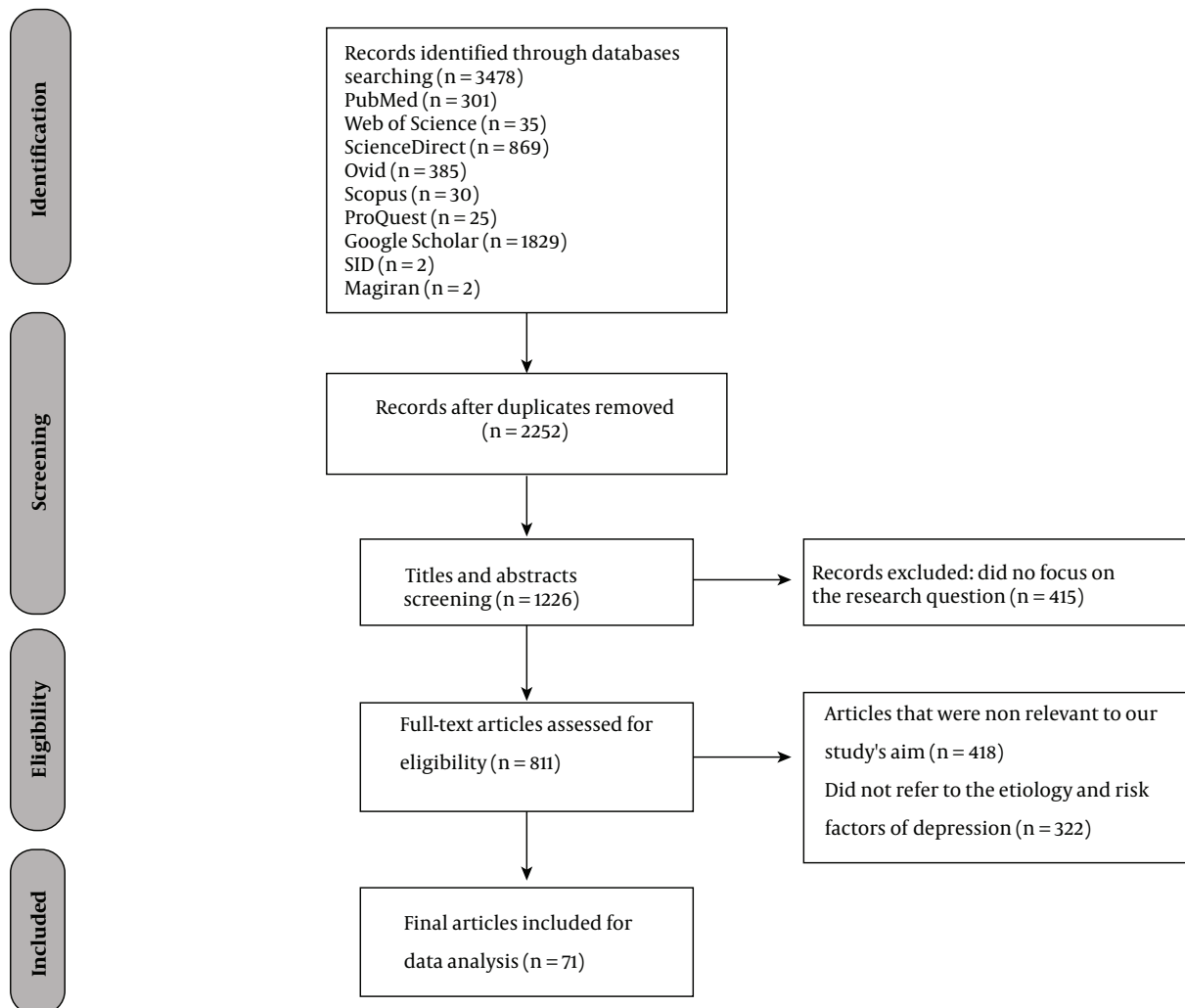


Figure 1. Process of search

Type, stages, and time of menopause are other factors that affect the occurrence of depression in the menopausal transition (28, 51). Women who have undergone a surgical menopause are more likely to experience depression (10, 14, 26, 52). Additionally, women who experience a premature menopause are more likely to experience depression compared with the general population (26, 41, 53). Large community-based cohort studies showed that the menopausal transition is a window of vulnerability to depressive disorders, and it is considered an independent biological basis in the onset of depression (29, 54). The results of some studies indicate that the prevalence of depression in premenopausal women is approximately twice that in premenopausal women (10, 23, 27).

An important biological risk factor relating to depres-

sion is the hormonal level changes in this period (10, 23, 26). Estrogen deficiency might increase the susceptibility for depression (36): two hypotheses might explain the link between the development of depression and hormonal changes in estrogen. First, low levels of estrogen associated with a depressed mood and second, unstable and irregular patterns of hormone production during menopause increase the vulnerability to depression in susceptible women (14). A study showed that a greater variation in follicle stimulating hormone (FSH) and estradiol hormones was significantly associated with depressive symptoms in the menopause transition (38, 48). Estrogen therapy, during the premenopausal or postmenopausal periods, can diminish mood disorders and enhance the subjective sense of well being (34, 36).

A history of PMS is another predictor of depression during the menopausal transition (25). Previous studies have indicated that both disorders (PMS and depression) are caused by underlying hormonal changes and changes involving the central nervous system (21, 25, 27, 55).

3.2. Psychological

Although no specific psychiatric disorders are associated with the menopausal transition, psychological issues that were experienced during the menopausal period were found to be a main predictor of depression (9). As a history of depression is the strongest predictor of depression (1, 13, 21, 25, 31, 41, 47, 55), women with a history of depression are more vulnerable to the onset of depressive symptoms during the menopausal transition compared with those with no history of psychiatric disorders during their lifetime (16, 41, 52).

Other possible psychological problems that promote the occurrence of depression include a negative attitude toward menopause and aging (1, 5, 8, 16, 25, 26, 43, 56), a history of anxiety (9, 13, 15, 16), history of mood disorders (31, 34, 38, 57), family history of psychiatric disorders (46, 55), history of postpartum depression or postpartum blues (13, 25), a sense of loss in life such as a loss of control to their menopausal symptoms (1, 41, 49), loss of femininity such as unattractiveness (5, 8, 16, 25, 39, 49, 58), the loss of reproductive capacity (4-6, 12), low self-concept and self-esteem (1, 2, 5, 50), daily stressors (8, 13, 21, 26, 40, 44), and dissatisfaction with relationships (26, 43).

According to psychoanalytical perspective, menopause is defined as a time of disappointment and psychiatric vulnerability (28). While the psychosocial perspective considers the menopausal transition a natural part of a woman's life that can lead to personal development with new knowledge and experience, for some women with severe menopausal symptoms, psychosocial perspective might lead to a conflict and loss of self-esteem (3).

An individual's perceptions, thoughts, attitudes, and beliefs regarding the menopause have a significant influence on their experience of depression and other psychiatric disorders in this stage of their life (47, 59). Women with a negative attitude toward menopause are most likely to experience severe negative moods and psychological distress (5). For example, for many pessimistic women, menopause is a symbol of aging as well as becoming old and has a negative effect on the meaning of life for them (60). These women develop a feeling of lacking something; they believe that the menstrual cycle is a sign of youth and power, and the loss of this event creates high levels of stress and mood swings in the menopausal transition (6, 8). By contrast, for optimistic women, menopause is

a time of pleasure and relief from menstruation bleeding and fear of pregnancy, and a time of doing their favorite activities (41). Menopausal symptoms such as vaginal dryness, memory problems, health complaints, and life stress are significantly related with negative attitudes toward the menopause and predisposed depression in this period (21). Women's self-concept might change during the menopausal transition. Studies have shown that a significant relationship exists between lower self-concept, self-esteem, and depression in menopause (2, 12). Some women experience a sense of loss at menopause, such as a loss of femininity (21, 39, 48, 61), which is due to hormonal imbalances, changes to reproductive potentials, and changes to body physiology (3, 6). Additionally, a loss of sexual attractiveness, loss of beauty, sense of emptiness, and loss of a maternal role are important causes of a loss of femininity and depression (12, 39, 50, 60).

3.3. Social

Although psychological factors are more frequently assessed in relation to depression in the menopause, several important social changes are strongly associated with the onset of depression in the menopausal period (4, 58). Due to the fact that the menopausal transition often coincides with important life events (6), women might experience a shift in their roles, responsibilities and relationships (4, 39, 47, 57). These social changes include stressful life events (1, 2, 21, 27, 28, 38, 41, 57), the stress of caring for adolescent children or changes in the family structure such as children leaving home, which causes the "empty nest syndrome" (2, 4, 8, 12, 13, 25, 44, 48, 56, 60), children failing to go to a university or get a job (11); additional care giving responsibilities of old parents (13, 16, 41, 44, 45); death of parents or decreased physical health of the women or their partner (2, 6, 21, 34, 40, 56, 62); lower socioeconomic status, financial problems, or low family income (11, 21, 25, 26, 34, 40, 41, 43, 62); changes at work such as the absence of employment, inability to work outside the home, and an avoidance of social activities (13, 41, 47, 52, 59, 62); retirement of the woman or their husband (13, 40, 47, 52); and changes in marital status such as divorced, widowed, or marital conflicts (4, 11, 26, 46).

As mentioned above, one of the major family changes that occur around the time of menopause is that of the children leaving home or getting married (61). Empty nest syndrome, which has been extensively experienced by menopausal women, was considered an important risk factor of depression by many studies (4, 21, 63). Due to the fact that women's activities are often limited to their home and their families, the loss of their role as a mother is identified as a possible risk factor for depression (5). However, some women considered this change positive, reporting a

feeling of relief from dealing with the distress of their children's problems and worrying about the health and relationships between family members (16, 60).

Social support is a well-known factor affecting women's general well-being and mental status (3, 38, 41, 59, 64). Low social support, dissatisfaction with role, and conflict in relationships are associated with distress and psychiatric illnesses, especially depressive disorders (41, 47, 56, 57).

4. Discussion

The present study aimed to determine the bio psychosocial risk factors of depression in the menopausal transition. Menopause is a biological event occurring in midlife (28). The relationship between menopause transition and being depressed has been widely studied (25, 65). The largest community-based study, the Study of Women's Health Across the Nation (SWAN), reported that women in early perimenopause had a higher rate of persistent mood symptoms than premenopausal women (29). Overall, determining the exact relationship between menopause and mood was difficult due to numerous methodological issues, different measurements of mood, different stages of menopause, and other confounding factors (1).

One common factor in the relationship between menopause transition and depression is the hormonal changes that occur during the midlife period (25, 28). One study revealed that depression in menopause occurs due to a decrease in gonadal hormone levels, which subsequently leads to fatigue, loss of sleep, and overnight hot flashes (66). Regarding the role of hormone therapy in the etiology of depression, there are considerably controversial results. One study found that no consistent relationship exists between circulating estradiol or FSH levels and depression (67), while another study declared that early menopause and the use of exogenous hormones (hormone replacement therapy) were associated with the risk of postmenopausal depression (68). However, another study indicated that there may be some benefit to treat mood disorders with estrogen replacement, which can improve menopausal vasomotor symptoms (13).

Psychological perspectives of the menopause include the meanings and definitions of the menopause, appraisals and attributions of symptoms to the menopause, and cognitive, emotional, as well as behavioral reactions to the menopause (1). Most studies indicated that psychological problems experienced during the menopausal period should be considered important and attract more attention due to the fact that they have a direct relation with psychical limitations such as medical diseases and lowered physical health (22). Psychological factors can also

modify the experiences of menopausal symptoms, which can affect the possibility of developing depressive disorders. Women with more negative attitudes towards the menopause report more menopausal symptoms (28). Regarding psychological factors, the relation between stress and depression were assessed in prior studies and the results showed a positive relationship (16, 31).

Various studies that have demonstrated the relation between social changes and depression during menopause (3, 47, 69-71) have highlighted dissatisfaction with marital status and family life, loss of social activities, and dissatisfaction with job as significant risk factors of depression (22).

This study has several strengths and limitations. This article is a result of assessing a lot of related articles and can be a good resource for interested researchers in regards to mental health during menopause. In addition, in this review authors assessed articles that were published in a long time bound. The limitation of this study was that the quality assessment of the included studies or the inter-rater reliability was not conducted. Additionally, articles written only in Farsi and English languages were used, and studies written in other languages, even if they were related to the aim of our study, were not included.

4.1. Conclusions

Women in midlife face an increased risk of low mood and depression. The results of many studies focusing on the link between depression and menopause indicate that a number of biological, psychological, and social risk factors affect the occurrence of depression during the menopausal period. Given the importance of women's psychological health in their midlife period, this study recommends that the mental health of midlife women, particularly those at a high risk of depression, should be evaluated by physicians in menopausal clinics. In addition, every psychological disorder should be referred to a psychiatrist for pharmacological or non-pharmacological interventions.

4.1.1. Application in Research

This study can be a source for researchers to be aware about the results of a lot of studies regarding risk factors of depression in menopausal periods. In order to give the mentioned limitations, the authors of this study proposed that a systematic review or meta-analysis regarding the risk factors or contributing factors of depression in menopausal women to identify the most important risk factors of depression in this period would be a good action.

4.1.2. Application in Practice

Given the important role of mental health in women's quality of life, considering the psychological screening in

the menopause clinic along with physical screening are recommended and lead to increase in psychological well-being.

Acknowledgments

We sincerely appreciate Mazandaran University of Medical Sciences and the student research committee for providing funds for this project (Grant number: 96 - 84) and ethical code: IR.MAZUMS.REC.1397.012).

Footnotes

Authors' Contribution: Forouzan Elyasi and Ensieh Fooladi contributed in the conception of the work, manuscript revising, and approval of the final version of the manuscript. Marzieh Azizi drafting and revising the manuscript. All other authors read and approved the final manuscript.

Declaration of Interests: None declared.

Funding / Support: This study was supported financially by the Mazandaran University of Medical Sciences and student research committee.

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