



## Review Article

## Anxiety and depression in post-Menopausal women: A short review

Sparsh Madaan<sup>1,\*</sup>, Neema Acharya<sup>1,\*</sup>, Arpita Jaiswal<sup>1</sup>, Deepika Dewani<sup>1</sup>, Kanan Kotdawala<sup>1</sup><sup>1</sup>Dept. of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences and Research, Wardha, Maharashtra, India

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## ABSTRACT

**Introduction:** Anxiety, Depression and stress are one of the most prevalent psychological problems witnessed in post-menopausal women. These complaints are mostly neglected by the females and ignored due to social stigmas and lack of awareness amongst the elderly population regarding the same. It often affects the quality of life and is thus essential to diagnose and treat on time. Reduced Vitamin D and estrogen levels are one of the proposed culprits behind these psychological disorders in post-menopausal women which will be discussed in this review.

**Materials and Methods:** Systematic literature review was done with the help of data search domains such as Pubmed, Scopus, Web of science and google scholar. Case reports, observational studies and cross-sectional studies were included in this review.

**Review Findings:** Depression and anxiety are common problems for the post-menopausal women. Various factors such as reduced Vitamin D levels and Estrogen levels as well as increased stress can contribute to development of these psychological complaints. Though these problems might look benign to the patients, they can severely impact the mental health and require more awareness amongst the patients to improve the mental as well as physical health in post-menopausal women.

**Conclusions:** Women in the post-menopausal stage have increased predisposition towards developing psychological disorders and hence the assessment of mental health is essential in these females which should be a vital part of the evaluation done of these females.

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## 1. Introduction

There has been a recent change in demographics of the population with increase in the life expectancy which has resulted in nearly  $1/3^{rd}$  of the women's life being in the post-menopausal stage of reproductive life.<sup>1</sup> Being a ignored and neglected group of the society the menopausal issues mostly go unnoticed. Psychological as well as physical changes during this time period might result in impairment of social and work-related impairments which ultimately result in reduced quality of life.<sup>2</sup> Psychological

issues which are commonly encountered include mental and physical exhaustion, irritability, depressed mood and reduced libido as well as sleep. Prevalence of psychological distress has been reported to be twenty-four percent however the treating clinicians tend to miss about thirty to fifty percent of women who present with such issues particularly when somatic symptoms remain the presenting complaint. It is therefore essential for the treating clinicians to be alert in order to identify such. Women with psychological issues and to recognize the patients with high risk in order to ensure favorable outcome. It is very essential to identify the factors which can serve as flags

\* Corresponding authors.

E-mail address: [neemasacharya@gmail.com](mailto:neemasacharya@gmail.com) (N. Acharya).

used to predict a potential increase in risk of psychological problems out of which depression and anxiety remain the most common disorders.

Factors which predispose women to develop psychological disorders in the post-menopausal age are social stress, increased vasomotor symptoms and a past history of depression or anxiety. Stress, major life events, negative expectations of menopause and daily hassles contribute to the depression encountered in post-menopausal age.<sup>3</sup> Lack of physical activity and a low socioeconomic status also contribute to the psychiatric problems of old age.

In a country like India, inadequate attention to the psychological complaints in the post-menopausal age group due to the presumption that such symptoms are part and parcel of normal menopause often lead to unrecognized psychological disorders which can have serious outcomes.<sup>4</sup> Also recently, in the COVID19 pandemic there has been an upsurge in number of cases of depression and anxiety amongst females of both reproductive as well as post menopausal age group.<sup>5</sup> Therefore, in order to ensure proper mental health in the post-menopausal age group it is essential for these women to be properly screened for mental health issues.

## 2. Materials and Methods

We have reviewed the available literature on menopausal women with depression and anxiety on Scopus, PubMed, Web of science and google scholar. Letter to editor, commentary and editorials were removed from the search results. Also, expensive paid articles and articles not in English language were removed from this review.

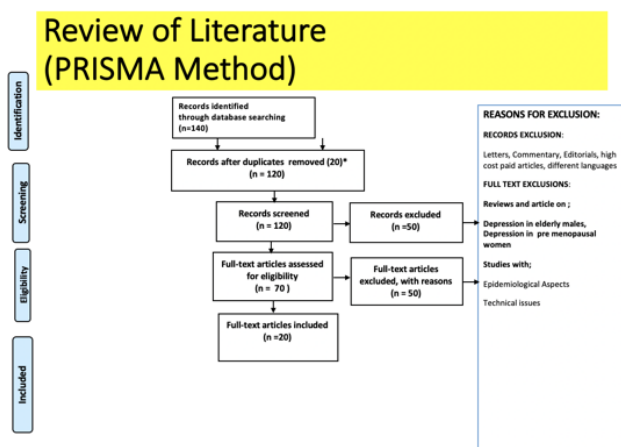


Fig. 1: Methodology of review

## 3. Review Findings

In the Indian population, the prevalence of psychological symptoms in women increase with the increase in age with

mean duration since menopause.

### 3.1. Prevalence of psychological illness in post-menopausal women

Sharma et al. observed forgetfulness to be present in 50 percent and anxiety in 10 percent of the postmenopausal women with depression and sleep disturbance to be present in 45 percent of women.<sup>6</sup> Similar observations were also seen by Sueblingvong who observed that overall prevalence of psychological symptoms was 32.2 to 38.7 percent in post-menopausal women.<sup>7</sup> In a study conducted by Chowta et al. it was observed that musculoskeletal symptoms were seen in 98 (48%) subjects of the menopausal age group which was followed by vasomotor symptoms, which were witnessed in 84 (42%) patients in menopausal age group. Whereas, Genitourinary symptoms constituting incontinence, frequency, urgency as well as difficulty in voiding were observed in 52 patients, and psychological symptoms were seen in 45 patients of the menopausal age group.<sup>8</sup> In a systematic review done of nine cohort studies Vesco et al. observed that women of post-menopausal age group were more likely to be depressed than premenopausal women.<sup>9</sup> According to American geriatric society major and subclinical depression has prevalence of fifteen percent in older women.

### 3.2. Screening for depression and anxiety

Screening is essential to detect depression in patients going through menopause. It can be done through different scales. Instruments which are useful to assess depression are Beck Depression Scale, CES-D Scale, Zung Depression Scale and primary care evaluation of mental disorder scale.

One new essential scale available is the Geriatrics Depression Scale which is an important tool to assess depression amongst population of above 65 years of age having good reliability and validity.

### 3.3. Risk factors

According to various studies it was found that women who had negative attitude towards the changes observed in menopause were at increased risk of suffering from depression.<sup>10</sup> Vasomotor symptoms are one of the important predisposing factors which increase the probability of having psychological problems in post-menopausal age.<sup>11</sup> They greatly impact the quality of life thus exerting psychological implications. This is further confirmed by studies showing women with hot flashes to be more likely to experience depression than asymptomatic women. Social issues as well as a history of depression in the past have also proven to be strong factors for predisposing post-menopausal women to develop depression.<sup>12</sup> Psychosocial factors which include daily hassles, negative expectations of menopause and death of a partner can be identified

as predictors of depression Zisook et al. reported that depression can be correlated with history of depression and death of child or spouse.<sup>13</sup>

### 3.4. Low physical activity and depression

Reduced physical activity can be both, cause as well as effect of depression. It has been reported that increased physical activity is associated with reduced levels of stress during menopause.<sup>14</sup> Also, the levels of stress, anxiety and depression were found to be lowest in the group of physically active postmenopausal women as compared to women who were inactive of the same age group.<sup>15</sup> Low physical activity can also be due to somatic complaints which might be the presenting feature of depression in the menopausal age group.<sup>16</sup> Frailty associated in the older age can also be a cause of reduction in physical activity.

### 3.5. Vitamin D deficiency in post-menopausal age and its relation with depression

Vitamin D deficiency has been witnessed in about thirty-one to seventy percent of post-menopausal age women.<sup>17</sup> Low vitamin D levels were found to be associated with depression.<sup>18</sup> Reduced levels of vitamin D were also associated with osteoporosis and frailty. Vitamin D causes expression of neurotrophic factors and interleukins. Thus, the deficiency of vitamin D has become a domain of study for treating depression. Inadequate diet is one of the causes of vitamin D deficiency in the elderly. Decline in levels of estrogen after menopause can be related to vitamin D deficiency as it diminishes the action of 1-alpha-hydroxylase vitamin D which in turn causes activation of vitamin D.

### 3.6. Reduced estrogen levels

Hormonal changes witnessed in the women of postmenopausal age group can be linked to adverse effects on mental health.<sup>19</sup> Hot flashes, insomnia and fatigue are commonly witnessed during this period further predisposing females to develop psychiatric disorders.<sup>20</sup> Changes in the levels of sex hormones in the females make them vulnerable to develop depression.

Post menopause there is a gradual reduction in the levels of estrogen due to reduction in the synthesis and release of estrogen by the ovaries.<sup>21</sup> Estrogen has synergistic action over serotonin therefore reduced levels of estrogen can be associated with depression. The raphe nuclei are the site of action for estrogen responsible for the regulation of serotonergic function.

## 4. Conclusions

Mental health often takes a backseat in the care of menopausal women with most of the symptoms of

depression and anxiety labelled as normal in menopause. It is important to understand the risk factors, screen and diagnose psychiatric conditions in the menopausal age group as they are the most vulnerable individuals to develop mental health conditions which when left undiagnosed can have adverse outcomes. Hence, timely diagnosis and treatment of mental health issues in post-menopausal females will result in the improvement of quality of life.

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## 6. Conflict of Interest

None.

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### Author biography

**Sparsh Madaan**, P G Resident

**Neema Acharya**, Professor and HOD

**Arpita Jaiswal**, Professor

**Deepika Dewani**, Assistant Professor

**Kanan Kotdawala**, P G Resident

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