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**Research Paper**

# Estimation of Prevalence of Depression Anxiety and Quality of Life Among Postmenopausal Women in Rural Community of Dharmapuri District-TamilNadu

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## ABSTRACT

**Context:** Menopause is the onset of aging in women. During this process, some women experience physical changes that impact their psychological and social status, affecting their Quality of life. **Aims:** The study aimed to evaluate the prevalence of Depression, Anxiety, and Quality of life among postmenopausal women in rural communities. **Settings and Design:** This study was done in a community setup. Women in age 60 years were inquired about the attainment of menopause and requested their participation as a volunteer in the study. The study was a questionnaire-based survey done in the rural community of Dharmapuri district, Tamil Nādu, in the form of face-to-face interviews to estimate the prevalence of Depression, Anxiety, and Quality of life using HAM-D, HAM-A, and SF-12 scales, respectively. **Methods and Material:** The study was a questionnaire-based survey done in the rural community of Dharmapuri district, Tamil Nādu, in the form of face-to-face interviews to estimate the prevalence of Depression, Anxiety, and Quality of life using HAM-D, HAM-A, and SF-12 scales respectively. 75 subjects were recruited based on inclusion and exclusion criteria. **Statistical analysis used:** Pearson's correlation computed between BMI and HAM-A, HAM-D and SF-12. **Results:** Pearson's correlation computed between BMI and HAM-A, HAM-D and SF-12 are negatively weak correlated and not statistically significant shown. Pearson's correlation of SF-12 with HAM-D is weak and negatively correlated, whereas HAM-A and SF-12 are statistically not significant; however, HAM-D and HAM-A are strongly associated ($r=0.732$ $P<0.001$) and statistically significant. **Conclusions:** The study concludes that subjects affected by Depression and Anxiety were limited to physical activity, social integration, and Quality of life of postmenopausal women.

***Keywords:*** *Postmenopausal Women, Depression, Anxiety and Quality of Life (QoL)*

In contrast to menarche, menopause is the termination of a woman's reproductive potential. It often occurs around midlife, in the late 40s or early 50s, and signifies the end of a woman's reproductive period. [1] The transition from a potentially reproductive to a non-reproductive state usually is not sudden or abrupt, may occur over several years and is a consequence of biological aging.[1] Menopause is an inevitable part of every woman's life;

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about 3 out of every 4 women experience problems during menopause. [2] The most common menopausal symptoms reported are; hot flashes, night sweats, fatigue, decreased libido, and mood changes, including; Depression, irritability, and emotional liability.[2]

Menopause is associated with depressive symptoms that can significantly affect a woman's Quality of life .[3]The concept of Quality of life is considered a multidimensional construct that includes several dimensions. [4]

According to epidemiological and clinical research, women are more likely than males to experience Depression. This difference is thought to be related to changes in endocrines that control the reproductive system.[5] Hormonal changes, age, socioeconomic status, altitude of residency, ethnicity, and cultural aspects may also correlate with more intense menopausal symptoms and impaired QoL. On the other hand, lifestyle factors such as cigarette smoking, alcohol consumption, sedentary lifestyle, obesity, and mental illnesses, especially mood disorders such as Anxiety and Depression, are also important. Mood problems are of particular importance as they increase during the menopausal transition. In particular, the association between Anxiety and QoL during female midlife is a growing interest. Anxiety is highly prevalent during the peri- and early postmenopausal stage, mainly due to hormonal changes. In addition, other aspects seem to explain the association between Anxiety and QoL, including inflammation, the presence of hot flashes, and certain neurotransmitters.[6]

Postmenopausal women experience considerable biological and psychological changes, including a decreased level of Estrogen, which may be related to Depression .[5] Estrogen interacts with its receptors in the limbic area of the brain, which is essential for the regulation of emotions, cognition, and behaviour .[5]

The study aimed to evaluate the prevalence of Depression and Anxiety in rural community women and the Quality of life among postmenopausal women in rural communities and explore the association of Depression with menopausal status and menopause symptoms.

## SUBJECTS AND METHODS

### *Source of Data*

Women who have attained menopause in a community setup from a selected area in the Dharmapuri district of Tamil Nādu.

### *Method of Collection of Data*

The data for the study was collected based on the following categories:

- **Study setting:** Community-based survey in a selected area of Dharmapuri district, Tamil Nādu.
- **Study subjects:** Postmenopausal women with a BMI value less than 40.
- **Study design:** Cross-sectional study
- **Sampling technique:** Convenient sampling
- **Study recruitment:** Community setup
- **Sample size calculation:** n=75

### *Inclusion Criteria*

- Subjects are willing to participate and sign the written informed consent.
- Subjects in the age limit of 40-60 years who have attained menopause.

***Exclusion Criteria***

- Subjects with other diseases affecting the Quality of life (e.g., cancer, moderate to severe chronic renal insufficiency, chronic respiratory diseases, cardiovascular diseases including uncontrolled hypertension, diabetes) and the presence of severe cognitive, visual, or hearing impairments.
- Subjects who are terminally ill.
- Subjects who have a BMI of more than 40.

***Material Required***

- Stationeries
- Consent form printouts
- Questionnaires printouts
    1. Hamilton depression scale
    2. SF 12 version
    3. Hamilton Anxiety Rating Scale (HAM-A)
- Weighing scale
- Stature meter

***Outcome Measuring Tools***

**SF-12 Scale:**

Health-related Quality of life assessment in postmenopausal women. One of the most used tools for evaluating self-reported HRQOL is the SF-12. The SF-12 was initially derived from the Medical Outcomes Study (MOS) 36-item Short-Form Health Survey (SF-36), but it asks significantly fewer questions and covers the exact eight health domains as the SF-36. This makes it a more valuable research tool, especially for populations with attention deficit disorder or mental health issues.

**Hamilton Anxiety Rating Scale:**

One of the earliest rating scales created to gauge the intensity of anxiety symptoms was the HAM-A, which is still frequently employed in clinical and academic contexts. The scale has 14 items, each of which is characterized by a set of symptoms, and it assesses physical Anxiety as well as psychic Anxiety (mental agitation and psychological distress). (Physical complaints related to Anxiety). With a total score range of 0-56, each item is rated on a scale of 0 (not present) to 4 (severe), with 17 denoting mild severity, 18–24 mild to moderate severity, and 25–30 moderate to severe.

**Hamilton Depression Rating Scale:**

The HDRS (the Ham-D) is the most widely used clinician-administered depression assessment scale. The original version contains 17 items about symptoms of Depression experienced over the past week. It includes 17 items about signs of Depression experienced over the last week. A score of 0-7 is within normal, while a score of 20 is higher. It contains 17 items about symptoms of Depression experienced over the last week. A score of 0-7 is within normal, while a score of 20 is higher.

***Procedure***

For this study, informed written consent from the selected subjects was obtained after explaining the purpose of the study. The researcher recruited the subjects based on inclusion and exclusion criteria with the help of a subjective self-reporting questionnaire. This

questionnaire was used to identify the subjects. Demographic data of the subjects have been collected and recorded, including the subject's name, age of the subject, and anthropometric measurement of height and weight to calculate body mass index. This study is a questionnaire-based survey in a selected area of Dharmapuri district, in Tamil Nādu. The questionnaire used in this study is the Hamilton Depression scale for evaluating the presence of Depression, and the health-related Quality of life questionnaire SF 12 was used to assess the health-related Quality of life in the population of postmenopausal women. Hamilton depression scale and Hamilton Anxiety Rating Scale (HAM-A) has been used to document the level of Anxiety and Depression. This study was done in a community setup where the women in the age limit of 40 to 60 years had been inquired about the attainment of menopause and requested their involvement as a volunteer in the study. The SF 12 scale has been used to collect data on their experience of symptoms using the direct oral interview technique. Hamilton depression scale has been used to evaluate the prevalence of Depression in their life by a face-to-face interview technique. The data were then subjected to statistical analysis.

## RESULTS

The data collected for this study were entered in MS Excel and MS Word. The data collected for this study were analyzed statistically in the following 2 ways: Descriptive statistics: All the categorical variables were presented in a tabular form, and the result was expressed in frequency tables and percentages wherever necessary. Wherever necessary, the result was presented graphically. The quantitative variables were described using descriptive statistics like Mean, Median, SD, or interquartile range with standard error of the mean and 95% confidence interval for the mean. Inferential statistics: Pearson's or Spearman's Rank correlation subject to normality assumption verification was determined between the three variables and the results were considered statistically significant whenever $P<0.05$.

***Table no 1: Age distribution of Postmenopausal women***

| Age (yrs.) | Frequency | Percent |
|---|---|---|
| 46 – 50 | 20 | 26.7 |
| 51 – 55 | 16 | 21.3 |
| 56 - 60 | 39 | 52.0 |
| Total | 75 | 100.0 |

***Table no 2: Distribution of Educational qualifications of Postmenopausal women***

| Education | Frequency | Percent |
|---|---|---|
| | 27 | 36.0 |
| 10th | 10 | 13.3 |
| 3rd | 1 | 1.3 |
| 4th | 2 | 2.7 |
| 5th | 7 | 9.3 |
| 6th | 3 | 4.0 |
| 7th | 5 | 6.7 |
| 8th | 6 | 8.0 |
| 9th | 4 | 5.3 |
| B.Ed. | 4 | 5.3 |
| BA | 1 | 1.3 |
| M.COM | 1 | 1.3 |

| | | |
|---|---|---|
| MA B.Ed. | 1 | 1.3 |
| PUC | 3 | 4.0 |
| Total | 75 | 100.0 |

***Table no 3: Distribution of Occupation status of postmenopausal women***

| Occupation | Frequency | Percent |
|---|---|---|
| Homemaker | 48 | 64.0 |
| Teacher | 8 | 10.7 |
| Worker | 19 | 25.3 |
| Total | 75 | 100.0 |

***Table no 4: Mean, age, BMI, HAM-A, HAM-D, SF 12***

| | Range | Mean | SD |
|---|---|---|---|
| Age (yrs.) | 46 – 60 | 54.45 | 4.32 |
| BMI | 16.8 - 39.0 | 26.73 | 5.10 |
| HAM-D | 3 – 30 | 15.08 | 6.06 |
| HAM-A | 3 – 33 | 13.36 | 5.37 |
| SF-12 | 22 – 38 | 29.37 | 2.85 |

***Table no 5: Correlation between the variables***

| Correlation between | Pearson's correlation | P - value |
|---|---|---|
| BMI & HAM – D | -0.007 | 0.949 |
| BMI & HAM – A | -0.065 | 0.580 |
| BMI & SF – 12 | -0.041 | 0.724 |
| HAM - D & HAM – A | 0.732** | < 0.001 |
| HAM - D & SF – 12 | -0.024 | 0.835 |
| HAM - A & SF – 12 | 0.065 | 0.578 |

***. Correlation is significant at the 0.01 level (2-tailed).*

Pearson's correlation computed between BMI and HAM-A, HAM-D and SF-12 is negatively weak correlated and not statistically significant. Pearson's correlation of SF-12 with HAM-D is weak and negatively correlated, whereas HAM-A and SF-12 are statistically not significant; however, HAM-D and HAM-A are strongly correlated ($r=0.732$, $P<0.001$) and statistically significant.

## DISCUSSION

The present study was conducted to estimate the prevalence of Depression, Anxiety, and Quality of life in postmenopausal women in the age group of 40 to 60 years and a body mass index of not more than 40. The Depression, Anxiety, and Quality of life were assessed using the Hamilton depression rating scale, Hamilton anxiety rating scale, and SF 12 Scale, respectively, through a face-to-face interview method. 75 subjects participated in this study after signing the informed consent form. All the variables of Depression, Anxiety, and Quality of life were assessed along with demographic data, and findings were recorded. The result of this study showed a significant correlation between the variables.

In this study, Depression and Anxiety are strongly correlated and statistically significant. So, Depression and Anxiety play a major role in their Quality of life. Due to their depressive

symptoms and Anxiety, they compromise their Quality of life. Clinical significance affects their socialization in the community. Many postmenopausal women restrict themselves, hesitating to go out of the house, and their physical activity reduces, leading to community restrictions. Community participation is reduced in postmenopausal women. Socioeconomic factors also depend on lowering their Quality of Life. Therefore, prevention and management of Depression and Anxiety are essential for improving the QOL in postmenopausal women. Physical activity is vital for the betterment of the f quality of life.

Although menopause is a natural process, some women experience physiological changes that may interfere with their ability to cope with their new psychological and social status and affect their Quality of life. [7] Hence the prevalence of Depression, Anxiety is increasing worldwide. Indeed, Depression is one of the most common mental disorders among older adults (prevalence, 1–16%). Epidemiological and clinical investigations have revealed that Depression is up to two times as common in women than in males.

A strong association was found between Anxiety and severe somatic symptoms, which include hot flashes, sleep disorders, and muscle and joint complaints. [8] Depression and Anxiety are also associated with several functional disturbances and significant reductions in several aspects of QoL, including social functioning. In older adults, lowered QoL has been reported to depend significantly on reduced physical function. The inability to perform instrumental activities of daily living has been known to be associated with decreased QoL. [9] In the present study, Depression and Anxiety were significantly related to HRQoL in postmenopausal women. Depression, Anxiety at any time of life, including the postmenopausal period, is known to negatively impact QoL measures and somatic complaints. Community-based longitudinal studies have reported that the risk of Depression significantly increases during the menopause transition. These results suggest that in addition to 6 of 8, anxiety/depression and limitations on one's usual activities are important targets for improving HRQoL in postmenopausal women. [10]

***Limitation***

- The level of limitation of activity participation and social withdrawal due to Anxiety and Depression can be considered in detail.
- Menopause-specific symptoms could have been included in the study.
- The duration of the physical activity could have been documented.

## CONCLUSION

The study's objectives were to estimate the prevalence of Depression in postmenopausal women, the prevalence of Anxiety in postmenopausal women, and the Quality of life among postmenopausal women in rural communities.

Thus, the study concludes that subjects who have attained menopause and BMI values are more affected by Depression and Anxiety. Depression, Anxiety severely impacts the Quality of life of postmenopausal women in the rural community. Therefore, managing Depression and Anxiety is essential for improving the Quality of life in postmenopausal women.

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***Conflict of Interest***

There was no personal or institutional conflict of interest in this study.

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