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Original research article

# Transforming menopausal health: an experimental study on the impact of an empowerment program

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**Abstract**
The study aimed to determine how well the empowerment program works to raise the general standard of living for menopausal women. Thirty participants were used in a real experimental design that took a comprehensive approach to health outcomes. The participants were randomly assigned to a control and an intervention group, and baseline data were collected using biophysical indicators.

The results showed that the intervention group's mean age was 51 years, and the majority of participants were from nuclear families. The mean post-test score for menopausal symptoms was 15.9 + 3.08, which is significantly less than the average pre-test score of 22.4 + 3.2, suggesting a significant decrease in symptom severity. In a similar vein, scores for family support and well-being showed notable gains. According to the Mann-Whitney test, there was a considerable improvement in well-being ($Z = 4.27$, $p = 0.000$), a large increase in family support ($Z = 1.7$, $p = 0.000$), and a highly significant decrease in menopausal symptoms ($Z = 4.13$, $p = 0.001$). Changes in biophysical parameters provided additional support for these advances. Additionally, the study found a substantial positive association ($r = 0.71$, $p = 0.02$) between women's well-being and familial support.

The study's findings indicate that the empowerment program for menopausal women was highly effective, resulting in a significant improvement in their overall quality of life.

**Keywords:** Empowerment; Family support; Menopause; Symptoms; Well-being

## Introduction

The end of a woman's menstrual cycle is marked by the typical occurrence of menopause, which has significant effects on reproductive health (Harper et al., 2022). A woman goes through a complicated stage in her life during this time, which is marked by significant changes in her body and mind (Hendriks et al., 2025).

During postmenopausal age, an integrated, woman-centred model of care can empower women to attain a higher health-related quality of life (Thapa and Yang, 2022). Menopausal age leads to a variety of symptoms, including hot flushes, dry vagina, urinary tract issues, more brittle bones, heart disease, cognitive decline, and sexual dysfunction (Beura et al., 2023). Contrary to research, menopausal women may have vasomotor symptoms, a decrease *in libido*, and a fear of ageing (Abhishek and Balamurugan, 2024).

As women age, there will be variations in the blood sugar level, blood pressure, body weight, and haemoglobin, which influence the menopausal symptoms and quality of life (Malaijerdi et al., 2023). These symptoms are also influenced by age factor, lifestyle, and habitat (Kaur et al., 2022). The hormones estrogen and progesterone affect the blood sugar level, which also leads to uncontrolled diabetic mellitus (Kelley, 2025). Most women tend to lose bone density at menopause, but there will be an unevenly distributed accumulation of visceral fat, especially under the arms, abdomen, thighs, and pelvis. It is important to check their body weight and monitor lifestyle habits (Masoumi et al., 2024).

The scope of the study is to focus on these issues and encourage menopausal women to open up about their problems – as it is tough to reach medical help unless they raise the issue. There is a need for creative and evidence-based approaches through which health personnel can engage with menopausal women and bring greater visibility to the challenges they face.

## Materials and methods

The current study utilises a quantitative evaluative research approach to assess the effectiveness of an empowerment program on the well-being of menopausal women in a selected rural community in Mangaluru Taluk, Karnataka, India. The

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samples were selected based on the simple random technique. Subjects were divided equally into an experimental and a control group. The random number generator was used to create the numbers; the experimental group received the first set of numbers, while the control group received the second set.

Sample size calculation is achieved with the formula:

$$N = \frac{2(Z_\alpha + Z_\beta)^2 P(1-P)}{(P_1-P_2)^2}$$

$Z_\alpha$ = 1.96 at 95% confidence interval
$Z_\beta$ = 1.281 (90%)
$P_1$ = Proportion (Exp) = 40%
$P_2$ = Proportion (Control) = 88%

$$P = \frac{P_1+P_2}{2}$$

Attrition rate at 10%, Total sample size $n$ = 30.

True experimental design was adopted in this phase of the present study (Table 1).

**Table 1. The study design**

| Study groups | Pre-test | Intervention | Post-test |
|---|---|---|---|
| Group I | $O_1$ | $X_1$ | $O_2$ |
| Group II | $O_1$ | – | $O_2$ |

*Abbreviations used:* $O_1$ observations at the pre-test; $O_2$ is the post-test observation; $X_1$ – Intervention for group I.

In this phase, menopausal women were segregated into experimental and control groups. A pre-test was done, and biophysical markers like Hb, BMI, BP, and FBS were checked before the empowerment program. The following variables were identified: age, occupation, number of children, symptoms of menopause, age at menopause, education status, marital status, family income, type of support expected from the family, satisfaction with family support.

### *Data collection tool and technique*

*The researcher selected the study subjects based on the following requirements:*

- Women who are experiencing mild and moderate degrees of menopausal symptoms and moderate and poor well-being.
- Women who have had menopausal symptoms for 6 months.
- Women who have had a complete cessation of menstruation for 1 year.

*Certain study subjects were excluded from the study, based on the following criteria:*

- Women with surgical menopause.
- Women taking antidepressants and anxiolytics to prevent side effects from their meds.
- Women with a severe co-morbidity, like cancer or severe medical disorder.
- Women undergoing hormonal replacement therapy.

The researcher ensured that the intervention and control were homogeneously distributed. Prior to the analysis, we tested the distribution of our data using the Shapiro–Wilk test. The data for the interventional group followed a normal distribution. Based on homogeneity, we applied the paired *t*-test for within-group comparisons where normality was satisfied, and the Mann–Whitney *U* test for between-group comparisons (as the distribution did not meet parametric assumptions). The subjects were screened to check biophysical markers. The investigator used a digital weighing machine, a stadiometer. Using the formula BMI = weight (kg)/height ($m^2$), the BMI was determined. Haemoglobin analyser Hb Check Plus testing, Digital blood pressure monitor, and Blood sugar level monitor ISO Certified Accu-Check Instant were used. The standardised menopausal rating scale was used for the study. There were 27 items on the menopausal symptom rating scale, covering physical, psychological, somatic, sexual, and genital issues.

Menopausal symptoms were categorised and evaluated as none, mild, moderate, severe, and very severe. Rhod's well-being assessment scale, a standardised scale, was used for the study. This scale consisted of 3 domains: physical, emotional, and social well-being. A higher score indicates good well-being and a good lifestyle. A score <20 indicates poor well-being. Family support assessment was performed using a structured family support assessment scale, which is a 20-point rating scale, evaluated as very happy, moderately happy, satisfied, and not satisfied. The five domains of the scale were financial support, emotional support, social support, physical support, and general support. A higher score indicates good family support. The tools were pre-tested by administering them to 15 menopausal women. The participants' responses revealed the item's relevancy and intelligibility in the tools. The average time taken for the completion of the tool was 30 minutes.

Table 2 presents the structured empowerment programme delivered to the intervention group. The programme consisted of three components: promotion of menopausal health, family support sessions, and physical support activities. This program was carried out for one month. The post-test was administered to both the intervention and control groups.

## Results

The majority of women were aged between 51 and 55. Women (50%) were educated with primary education, and most were housewives (Table 3). It is important to note that many were living in nuclear families.

The menopausal women were asked about family satisfaction in relation to the physical, emotional, and social support their husband provides. Chart 1 explains the type of support the woman expects from her husband. It indicates that women need financial and social support as a priority.

The checklist was used to assess the satisfaction level. Most women in the intervention and control groups were moderately happy (Chart 2). The majority of the women were not satisfied with the family support rendered by their families.

The data demonstrates that many Indian women rely entirely on their husbands for all forms of support. It shows the expected level of support that women anticipate from their husbands. The menopausal symptom rating scale effectively evaluated menopausal symptoms. Participants were explicitly questioned to pinpoint the symptom that most significantly impacted their daily activities. Common symptoms reported were getting up early in the morning, sweating, hot flushes, disturbed sleep, lack of concentration, increased need to urinate, bladder incontinence, sexual problems, and joint pain (Chart 3).

**Table 2. Structured empowerment activities for the women**

| Session frequency | Content | Total weeks | Total sessions | Duration per week | Total duration of each session |
|---|---|---|---|---|---|
| Once weekly | Promotion of menopausal health | 3 | 3 | 40 min | 2 hrs |
| Once weekly | The following exercises were taught to the intervention group<br>a. Brisk walking<br>b. Lifting<br>c. Paced breathing<br>d. Kegel exercises<br>e. Squatting exercises<br>f. Meditation | 7 | 7 | 30 min | 3 hrs 30 min |
| Once weekly | Session on family support<br>a. Symptoms and problems of menopausal women<br>b. Management of menopausal symptoms<br>• Screening tests<br>• Observation of deviations<br>• Lifestyle modification, diet<br>c. Support to be rendered by the family members | 5 | <br>2<br>1<br><br><br><br>2 | <br>30 min<br>30 min<br><br><br><br>30 min | 2 hrs 30 min |

*Note:* Health awareness sessions for one year

**Table 3. Frequency distribution of demographic variables (*N* = 15 + 15)**

| | Intervention (f) | Control (f) |
|---|---|---|
| Age | | |
| 45–50 | 3 | 4 |
| 51–55 | 6 | 6 |
| 56–60 | 6 | 5 |
| Education | | |
| No education | 2 | 4 |
| Primary | 10 | 8 |
| High school | 3 | 3 |
| Occupation | | |
| Housewife | 13 | 10 |
| Self-employed | 2 | 5 |
| Type of family | | |
| Nuclear family | 9 | 10 |
| Joint family | 6 | 5 |
| Income in rupees | | |
| 5 000–10 000 | 8 | 8 |
| 10 001–20 001 | 7 | 7 |
| 20 001–30 000 | 0 | |
| Marital status | | |
| Married | 15 | 15 |
| Unmarried | 0 | 0 |
| Single parent | 0 | 0 |

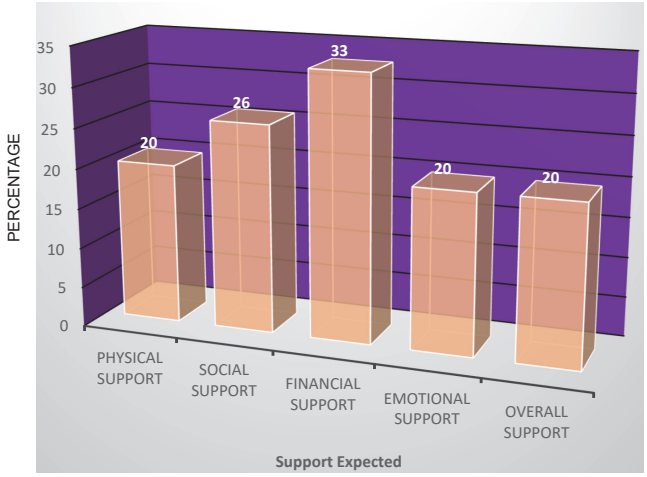



**Chart 1.** Chart showing the type of support women expect from their husband

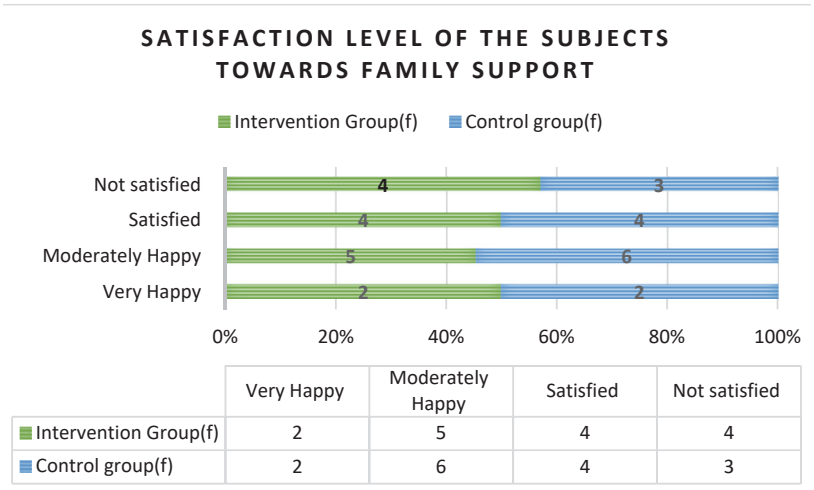
The empowerment program provided comprehensive education for menopausal women, covering topics such as menopause, diet, and exercise, and even included education for their husbands to improve the lifestyle of menopausal women. Table 2 provides additional details about the program.

After conducting the empowerment program, we carefully assessed the biophysical markers and observed a significant change in several of them (Table 4).

Table 5 explains the effectiveness of intervention among intervention and control groups. The symbol * shows the significance between the intervention and control group. A paired *t*-test was used to check the difference between the experimental and control groups. Mann–Whitney test was used to check the difference between the post-test of the control group and the experimental group.

The severity of symptoms and family support–related well-being were evaluated before and after the empowerment program. A significant improvement was observed in overall well-being, encompassing physical, social, and emotional domains. The effectiveness of the program is checked using a *t*-test, and the comparison between the groups is checked by Mann–Whitney test. The symptom's z value was 4.13 with a *p*-value < 0.000. The z value of overall well-being was 4.27, with a significant p-value of less than 0.001 (CI of 95%).

Family support, along with BMI and blood pressure were also found to be significant (Table 5). The researcher found that family support has a major impact on menopausal health, compared with other variables.




| | Very Happy | Moderately Happy | Satisfied | Not satisfied |
|---|---|---|---|---|
| Intervention Group(f) | 2 | 5 | 4 | 4 |
| Control group(f) | 2 | 6 | 4 | 3 |

**Chart 2.** Level of satisfaction among the intervention and control group

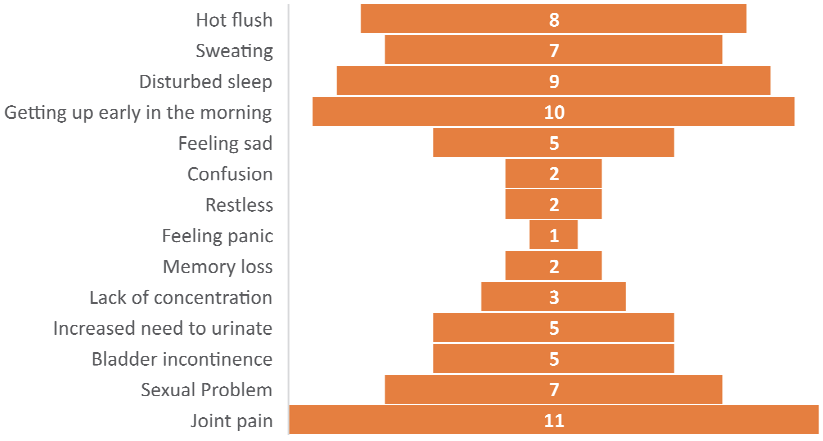



**Chart 3.** Common symptoms that interfere with daily life in the intervention group

**Table 4. Pre-test and post-test score of biophysical markers before and after the empowerment program**

| Participants | FBS gm/dl Pre | FBS gm/dl Post | BP mm of hg Pre | BP mm of hg Post | BMI kg/m$^2$ Pre | Post intervention score | Hb gm/dl Pre | Post intervention score |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | 110 | 130/90 | 130/90 | 30.2 | 30.0 | 12.8 | 12.9 |
| 2 | 140 | 138 | 130/90 | 130/90 | 28.2 | 27.8 | 11.0 | 11.2 |
| 3 | 100 | 93 | 140/110 | 130/100 | 32.1 | 31.8 | 12.0 | 12.0 |
| 4 | 110 | 110 | 140/100 | 130/90 | 34.3 | 33.2 | 9.8 | 10.1 |
| 5 | 130 | 128 | 120/90 | 120/901 | 29.2 | 28.2 | 10.2 | 10.3 |
| 6 | 128 | 128 | 150/100 | 140/90 | 27.2 | 27.0 | 10.9 | 11.0 |
| 7 | 136 | 132 | 130/80 | 130/801 | 33.3 | 33.0 | 12.2 | 12.2 |
| 8 | 102 | 100 | 140/90 | 140/90 | 31.5 | 31.4 | 12.4 | 12.4 |
| 9 | 130 | 128 | 120/80 | 120/80 | 35.4 | 35.2 | 10.8 | 111.0 |
| 10 | 138 | 136 | 130/90 | 130/90 | 38.3 | 38.2 | 9.2 | 10.5 |
| 11 | 100 | 120 | 140/80 | 140/90 | 32.3 | 32.3 | 8.9 | 9.1 |
| 12 | 130 | 130 | 150/90 | 140/90 | 31.3 | 31.2 | 10.0 | 11.0 |
| 13 | 110 | 100 | 140/90 | 140/80 | 30.2 | 30.0 | 8.8 | 9.5 |
| 14 | 115 | 115 | 130/80 | 130/80 | 29.3 | 29.0 | 9.7 | 10.5 |
| 15 | 120 | 20 | 140/90 | 140/90 | 31.2 | 31.0 | 9.6 | 10.5 |

**Table 5. Effectiveness of the empowerment program on the well-being of menopausal women**

| | | | | | | | | *t*-test | | Mann–Whitney test | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Comparison within the group | | | Comparison of the change between the groups | |
| Group | | | Mean | Std. deviation | Mean difference | Std. deviation difference | Change (%) | *t*-value | df | *p*-value | Z value | *p*-value |
| Symptoms | Exp | Pre<br>Post | 22.40<br>15.93 | 3.20<br>3.08 | 6.47 | 4.09 | 28.87 | 4.13 | 14 | 0.000 | 4.13 | 0.000* |
| | Con | Pre<br>Post | 17.27<br>17.27 | 3.71<br>3.71 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| Physical well-being | Exp | Pre<br>Post | 22.87<br>17.27 | 4.60<br>2.74 | 5.60 | 3.56 | 24.49 | 4.09 | 14 | 0.000 | 4.09 | 0.000* |
| | Con | Pre<br>Post | 19.73<br>19.73 | 3.17<br>3.17 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| Social well-being | Exp | Pre<br>Post | 24.53<br>20.33 | 2.59<br>1.76 | 4.20 | 1.37 | 17.12 | 5.85 | 14 | 0.000 | 5.85 | 0.000* |
| | Con | Pre<br>Post | 23.27<br>23.27 | 2.05<br>2.05 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| Emotional well-being | Exp | Pre<br>Post | 17.13<br>14.87 | 2.88<br>1.55 | 2.27 | 1.71 | 13.23 | 5.13 | 14 | 0.000 | 5.13 | 0.000* |
| | Con | Pre<br>Post | 17.13<br>17.13 | 2.88<br>2.88 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| Overall well-being | Exp | Pre<br>Post | 64.53<br>52.47 | 9.31<br>5.17 | 12.07 | 5.65 | 18.70 | 8.27 | 14 | 0.000 | 4.27 | 0.000* |
| | Con | Pre<br>Post | 60.13<br>60.13 | 7.36<br>7.36 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| Physical support | Exp | Pre<br>Post | 13.40<br>10.00 | 1.12<br>0.65 | 3.40 | 1.12 | 25.37 | 1.74 | 14 | 0.000 | 1.74 | 0.000* |
| | Con | Pre<br>Post | 13.40<br>13.40 | 1.12<br>1.12 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| Overall support | Exp | Pre<br>Post | 5.40<br>5.40 | 0.63<br>0.63 | 0.00 | 0.00 | 0.00 | – | – | – | – | – |
| | Con | Pre<br>Post | 5.40<br>5.40 | 0.63<br>0.63 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| Overall family support | Exp | Pre<br>Post | 44.80<br>41.40 | 3.03<br>2.53 | 3.40 | 1.12 | 7.59 | 1.74 | 14 | 0.000 | 1.74 | 0.000* |
| | Con | Pre<br>Post | 44.80<br>44.80 | 3.03<br>3.03 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| FBS | Exp | Pre<br>Post | 119.93<br>117.00 | 14.12<br>11.89 | 2.93 | 7.52 | 2.45 | 1.51 | 14 | 0.153 | 1.51 | 0.142 |
| | Con | Pre<br>Post | 124.47<br>124.47 | 12.76<br>12.76 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| SBP | Exp | Pre<br>Post | 135.33<br>131.33 | 9.15<br>7.43 | 4.00 | 6.32 | 2.96 | 2.45 | 14 | 0.028 | 2.45 | 0.02* |
| | Con | Pre<br>Post | 134.67<br>134.67 | 9.90<br>9.90 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| DBP | Exp | Pre<br>Post | 90.00<br>90.00 | 8.45<br>8.45 | 0.00 | 0.00 | 0.00 | – | – | – | – | – |
| | Con | Pre<br>Post | 90.00<br>90.00 | 8.45<br>8.45 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| BMI | Exp | Pre<br>Post | 31.40<br>31.13 | 2.85<br>2.59 | 0.27 | 0.46 | 0.85 | 2.26 | 14 | 0.041 | 2.26 | 0.032* |
| | Con | Pre<br>Post | 30.87<br>30.87 | 4.07<br>4.07 | 0.00 | 0.00 | 0.00 | – | – | – | | |
| Hb | Exp | Pre<br>Post | 10.60<br>10.87 | 1.24<br>1.25 | –0.27 | 0.46 | 2.52 | –2.26 | 14 | 0.041 | 2.26 | 0.032 |
| | Con | Pre<br>Post | 10.40<br>10.40 | 0.83<br>0.83 | 0.00 | 0.00 | 0.00 | – | – | – | | |

*Note:* * Symbol indicates the significance

The researcher also wanted to know the influencing factors within the elements. Karl Pearson's correlation formula was used to assess this. There is a strong correlation between emotional well-being and physical and social well-being, where the calculated *p*-value was found to be less than 0.001 level of significance (Table 6).

The demographic variables are indeed associated with factors such as physical well-being, family support, and the education level of women. Table 7 effectively explains the association between the variables.

**Table 6. Correlation between the variables**

| Variables | | *r*-value | *p*-value |
|---|---|---|---|
| Physical well-being | Symptoms | 0.35 | 0.90 |
| Social well-being | Physical well-being | 0.73 | 0.02* |
| Emotional well-being | Physical well-being | 0.94 | 0.01* |
| Emotional well-being | Social well-being | 0.81 | 0.01* |
| Family support | Well-being | 0.71 | 0.02* |

*Note: r*-value denotes the correlation between the variables; *p*-value less than 0.05 level states significance; * symbol indicates the significance

**Table 7. Association among the variables**

| Dependent variable | Independent variable | *F*-value | *P*-value | Eta square |
|---|---|---|---|---|
| Physical well-being | Age | 9.3 | 0.01* | 0.48 |
| Social well-being | Religion | 10.7 | 0.03* | 0.68 |
| Family support | Religion | 7.4 | 0.10* | 0.59 |
| | Type of family | 12.3 | 0.06* | 0.553 |
| | Education | 5.3 | 0.26* | 0.516 |

*Note: F*-value expresses the multivariate Anova test; *P* > 0.05 level says significant; * symbol shows the significance

## Discussion

The study conclusively demonstrates that the biomarkers are distinctly unique to each woman and are contingent upon the woman's well-being. According to the study, a large number of rural women have menopausal symptoms that are affecting their physical and mental health. However, these women chose not to use the medical facilities that were accessible. Additionally, it was discovered that many women believe that these symptoms are normal as they age and attempt to cope with them. The study also sought to understand the specifics of family support and how it indirectly influences the lives of women.

There is evidence of a correlation between women's family support and their demographic background (Kim et al., 2025). To prevent worsening of the issue, it is essential to identify the symptoms early. The study's scope is restricted to determining menopausal women's well-being; measures still need to be taken to raise their standard of living. Since some of the symptoms are climacteric, systematic studies are also required to understand the menopausal problems in various parts of the state (Rai et al., 2023).

The major findings of the study are:

- Well-being assessment of menopausal women.
- Empowerment program for menopausal women.
- The impact of family support on menopausal women's health.
- Effectiveness of an empowerment program on the well-being of menopausal women.
- Association of well-being with other demographic factors.

The well-being assessment of menopausal women was assessed by checking for the severity of menopausal symptoms. Most of the menopausal women in the study indicated they experienced hot flushes and sweating. Other common symptoms were disturbed sleep, feeling sad, getting up early in the morning, confusion, restlessness, feeling panic, memory loss, lack of concentration, increased need to urinate, bladder incontinence, less sexual desire, vaginal dryness, and joint pain. Most of the subjects showed mild menopausal symptoms, while 14% showed severe symptoms.

A study by Ang et al. (2025) suggests that women experience menopause differently across countries. Therefore, the treatments and concerns of clinicians treating perimenopausal and menopausal women also vary. The study aimed to characterise the various approaches and issues associated with menopause management across the country. More research and government support are required to develop a consensus on treating the menopause and addressing women's midlife health challenges in India.

Based on the theory of unpleasant symptoms, a study by Kang and Kim (2022) sought to investigate the direct effect of antecedent factors on health-related quality of life, as well as their indirect effect via symptoms in Korean women during the late menopausal transition and early post menopause. The outcomes of this study show that menopausal symptoms are a key factor in health-related quality of life in women during the late menopausal transition and early post menopause. To increase health-related quality of life throughout the menopausal period, women require an integrated approach that addresses both antecedent causes and menopausal symptoms.

This also correlates with a study by Chin et al. (2025) that aimed to discover significant characteristics linked with menopausal symptoms in middle-aged women by analysing a broad range of physical, psychological, and lifestyle variables.

A study by Kulkarni et al. (2024) stated that an unusually high level of physiological and somatic complaints affect women, and family support is favourably connected with menopausal women's well-being.

### *Menopausal women's empowerment program*

In the empowerment program, menopausal women were trained on the menopause and its symptoms, healthy lifestyle practices, management of menopausal problems, and

strengthening exercises. The aim of the program was to improve the health of women undergoing menopause. In the pre-test, the mean scores were 22.87 ± 4.60 for physical well-being, 17.13 ± 2.88 for emotional well-being, and 12.53 ± 5.79 for social well-being. The overall well-being score in the pre-test was 65.53 ± 9.31, which improved to 52.47 ± 5.17 in the post-test. The post-test mean scores for the individual domains were 17.27 ± 2.74 for physical well-being, 14.87 ± 1.55 for emotional well-being, and 20.33 ± 1.76 for social well-being.

The study is backed by research conducted by Currie and Moger (2020) on Integrating the Individual Empowerment Model into Menopausal Women's Quality of Life. At the Kashan Health Center in Iran, 186 menopausal women between the ages of 45 and 60 participated in a quasi-experimental design. Three groups participated in the intervention; each group received empowerment training, self-efficacy training, or a combination of the two for four sessions, each lasting from one to one and a half hours per week. To reduce the amount of information sharing, three study groups were selected from various centres. A questionnaire was used to evaluate menopausal women's quality of life. In the pre-intervention measurement, the mean quality of life scores were 32.96 ± 10.62 for empowerment, 31.93 ± 12.54 for self-efficacy, and 34.07 ± 11.7 for the integrated group. All three groups' quality of life was significantly enhanced by the intervention, with the p-value found to be significant ($p < 0.001$). According to the report, this information can assist health professionals in providing women with better education on self-care for menopausal complications.

The study results were also supported by Xu et al. (2024), who explain the link between early-life undernutrition during the Great Chinese Famine and the risk of early natural menopause. Long-term early childhood famine exposure, which resulted in chronic malnutrition at a young age, raised the chance of early menopause.

The study by Dastgerdi et al. (2020) indicates that early childhood undernutrition can be identified as a negative effect in female reproductive development and ageing. This cohort study confirmed the theory of developmental origins of health and disease in the context of women's reproductive health. Further mechanism research is required.

The reported Pearson's correlation ($r = 0.71$, $p = 0.02$) between family support and well-being is statistically significant, but we acknowledge the limitation of the small sample size, which increases the risk of random effects and reduces the generalisability of this result. We also recognise that our findings are based on a relatively small sample. Therefore, we recommend that future studies be conducted with a larger population, which would enable greater statistical power, reduce the risk of random effects, and enhance the generalisability of the results.

## Conclusion

According to the study, women experience a variety of physical changes and symptoms throughout the menopause; problems that are both physical and mental. Their general well-being and daily life are also affected. This serves as a reminder that most menopausal women do not receive enough assistance from their spouses and other family members. To enhance their lifestyle, it is essential to increase awareness of menopausal symptoms and to identify and treat them as soon as possible. Women's well-being can be positively impacted by increased family support. The purpose of this study is to educate all family members on the difficulties that women encounter as they age. By bringing awareness to these problems, we can collaborate to find solutions and raise women's standard of living in general.

### *Limitations of the study*

According to the current study, menopausal women who participate in an empowerment-based holistic intervention program experience fewer menopausal symptoms, better psychological well-being, and increased family support. Biochemical markers showed minor but statistically significant alterations, but these changes had little clinical significance and should be evaluated cautiously. The results should be regarded as preliminary due to the small sample size, brief follow-up period, and methodological constraints. However, the study provides a significant addition by emphasising the importance of family participation and holistic approaches in the care of menopausal women. It also emphasises the need for a longer follow-up period and bigger populations in future studies to confirm and build on these findings.

### *Ethical declaration*

The study is enrolled under the Institutional Ethics Committee with the reference number (NU/CEC/2020/0333). The study is also registered under the Clinical Registry of INDIA with CTRI number CTRI/2022/01/039796.

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### *Implications for practice*

This research contributes to gerontology by emphasising the factors that impact the health, well-being, and family support of older individuals. It shows that family support is key to the happiness and well-being of older individuals.

### *Implications for nursing care*

This study is beneficial for nurses to understand and educate family members on how to better understand and support women of menopausal age. The study provided insight into menopausal health, where well-being and quality of life are not only impacted by the intensity of symptoms but also by the support women receive from their families. The study convincingly explains that menopausal women need to be cared for in terms of their physical, emotional, and social well-being, as these domains have a direct correlation with their quality of life.

### *Influence on policymakers and research*

The study strongly advocates for policymakers to initiate additional interventional studies aimed at improving menopausal health. It confidently recommends the need for systematic mixed-method studies to thoroughly explore familial opinions on menopausal health and their ability to manage health issues associated with ageing.

### *Conflict of interest*

The authors have no conflict of interest to declare.

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