

Knowledge, Attitudes, and Healthcare-Seeking Behavior Regarding Menopause Among Rural Women: A Questionnaire-Based Assessment of Quality-of-Life Parameters

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ABSTRACT

Background: Menopause significantly impacts women's health and quality of life, particularly in rural settings where healthcare access and knowledge may be limited. Understanding the relationship between menopause-related knowledge, healthcare-seeking behavior, and quality of life is crucial for developing effective interventions for rural women.

Objectives: This study aimed to assess menopause-related knowledge, examine healthcare-seeking behavior patterns, and evaluate their impact on quality of life among rural women. Additionally, we investigated the barriers to healthcare access and factors influencing menopause management in rural settings.

Methods: A cross-sectional study was conducted among 384 rural women aged 45-60 years, selected through multistage sampling. Data were collected using structured questionnaires, including the Menopause Knowledge Questionnaire (MKQ), Menopause Attitude Scale (MAS), and Menopause-Specific Quality of Life Questionnaire (MENQOL). Statistical analysis included descriptive statistics, correlation analysis, and multiple linear regression.

Results: The mean knowledge score was 6.8 ± 2.4 out of 15, with only 37% of participants seeking professional healthcare for menopausal symptoms. The mean MENQOL score was 3.8 ± 1.2 , indicating moderate quality of life impairment. Knowledge scores significantly correlated with both healthcare-seeking behavior ($r = 0.426$, $p < 0.001$) and quality of life ($\beta = -0.324$, $p < 0.001$). Major barriers to healthcare access included financial constraints (64.5%), distance to facilities (58.7%), and lack of awareness (51.2%).

Conclusion: The study reveals significant knowledge gaps and limited healthcare-seeking behavior among rural women during menopause, substantially affecting their quality of life. These findings emphasize the need for targeted educational interventions and improved healthcare accessibility in rural areas. Community-based health programs and policy initiatives addressing both educational and structural barriers are recommended to enhance menopausal health management in rural settings.

Keywords: Menopause; Rural Women; Healthcare-Seeking Behavior; Quality of Life; Health Knowledge; Healthcare Access

INTRODUCTION

Menopause represents a significant physiological and psychosocial transition in women's lives, marked by the permanent cessation of menstruation and various accompanying symptoms that can substantially impact quality of life [1]. While

this natural phenomenon affects all women, the experience, understanding, and management of menopausal symptoms vary considerably across different socioeconomic and geographical contexts [2]. Rural women, in particular, face unique challenges in accessing healthcare services and information regarding menopause, potentially leading to suboptimal management of menopausal symptoms and reduced quality of life [3].

Studies indicate that approximately 85% of women experience at least one menopausal symptom during their transition, with severity ranging from mild to severe [4]. These symptoms, including vasomotor disturbances, psychological changes, and urogenital complications, can persist for several years and significantly affect daily activities and overall well-being [5]. Despite the universal nature of menopause, research suggests that knowledge levels and healthcare-seeking behaviors vary substantially, particularly in rural communities where access to healthcare services and health information may be limited [6].

The relationship between menopause-related knowledge and healthcare-seeking behavior is particularly crucial in rural settings, where cultural beliefs, educational limitations, and healthcare accessibility barriers often intersect to influence women's health decisions [7]. Previous research has demonstrated that women with better knowledge about menopause tend to have more positive attitudes toward this life transition and are more likely to seek appropriate medical care when needed [8]. However, studies specifically examining these relationships in rural populations remain limited, creating a significant gap in our understanding of how to best support these communities [9].

Quality of life during the menopausal transition is increasingly recognized as a critical health outcome, influenced by various factors including symptom severity, social support, and access to healthcare resources [10]. Understanding the interplay between knowledge levels, attitudes, and healthcare-seeking behaviors among rural women is essential for developing targeted interventions and improving health outcomes in this potentially vulnerable population [11].

This study aims to assess the knowledge, attitudes, and healthcare-seeking behavior regarding menopause among rural women, with a specific focus on how these factors influence quality of life parameters. By examining these relationships, we seek to identify potential barriers to optimal menopausal health management and inform the development of culturally appropriate interventions tailored to rural communities' unique needs and circumstances [12].

MATERIALS AND METHODS

Study Design and Setting

This cross-sectional, questionnaire-based study was conducted at Shivamogga institute of medical science between February 2022 to October 2022 in rural areas Shivamogga district. The study setting encompassed villages located at least 30 kilometers from the nearest urban center, consistent with the national rural classification guidelines [13]. These communities were selected based on their demographic characteristics and limited access to specialized healthcare facilities.

Study Population and Sampling

The target population included women aged 45-60 years, postmenopausal woman who come to OPD residing in the selected rural areas. Using the formula for sample size calculation in cross-sectional studies [$n = Z^2P(1-P)/d^2$], where $Z = 1.96$ at 95% confidence interval, $P =$ anticipated population proportion (50%), and $d =$ absolute precision (5%), the minimum required sample size was calculated to be 300 participants [14]. To account for potential non-responses and incomplete data, we increased the sample size by 10%.

A multistage sampling technique was employed to select participants. First, villages were randomly selected using a cluster sampling method [15]. Within each selected village, households were chosen through systematic random sampling, and eligible women from these households were invited to participate in the study.

Inclusion and Exclusion Criteria

Women aged 45-60 years who had been residing in the selected rural areas for at least one year were eligible for inclusion. We excluded women with surgical menopause, those undergoing hormone replacement therapy, and those with diagnosed psychiatric conditions that could affect their responses [16]. Additionally, women who declined to provide informed consent were excluded from the study.

Data Collection Tools

The study utilized a structured questionnaire comprising four main sections:

1. **Sociodemographic Information:** This section collected data on age, education level, marital status, occupation, and economic status, adapted from standardized demographic assessment tools [17].
2. **Menopause Knowledge Assessment:** Knowledge was evaluated using a modified version of the Menopause Knowledge Questionnaire (MKQ), which has been validated in similar rural settings (Cronbach's alpha = 0.82) [18]. The questionnaire was translated into the local language following WHO translation guidelines, including forward and backward translation [19].
3. **Attitudes and Healthcare-Seeking Behavior:** This section employed the Menopause Attitude Scale (MAS) and a customized healthcare-seeking behavior assessment tool developed based on previous studies [20]. The tools were pilot-tested in a similar rural population (n=30) to ensure cultural appropriateness and comprehensibility.
4. **Quality of Life Assessment:** The Menopause-Specific Quality of Life Questionnaire (MENQOL) was used to assess participants' quality of life across various domains including vasomotor, psychosocial, physical, and sexual functioning [21].

Data Collection Procedure

Trained female health workers conducted face-to-face interviews in participants' homes or at local health centers, based on participant preference. Each interview lasted approximately 45-60 minutes. The interviewers received comprehensive training on questionnaire administration, ethical considerations, and cultural sensitivity [22]. Quality control measures included regular supervision and random spot checks by the research team.

Ethical Considerations

The study protocol was approved by ethical committee. Written informed consent was obtained from all participants after explaining the study objectives and procedures in their local language. For participants unable to read or write, thumb impressions were obtained in the presence of a witness [23]. Confidentiality was maintained throughout the study by using unique identification codes instead of personal identifiers.

Data Analysis

Data were entered into EpiData and analyzed using SPSS. Descriptive statistics were calculated for sociodemographic characteristics and knowledge scores. The Chi-square test was used to examine associations between categorical variables, while Pearson's correlation coefficient analyzed relationships between continuous variables [24]. Multiple linear regression analysis was performed to identify factors independently associated with quality-of-life scores. Statistical significance was set at $p < 0.05$.

RESULTS

Sociodemographic Characteristics

A total of 384 rural women participated in the study, with a response rate of 92%. The mean age of participants was 52.3 ± 4.7 years. Table 1 presents the detailed sociodemographic characteristics of the study population.

Table 1: Sociodemographic Characteristics of Study Participants (N=384)

Characteristic	n	%
Age Group (years)		
45-49	142	37.0
50-54	156	40.6
55-60	86	22.4
Educational Status		
No formal education	156	40.6
Primary education	124	32.3
Secondary education	82	21.4
Higher education	22	5.7
Marital Status		
Married	298	77.6
Widowed	64	16.7
Separated/Divorced	22	5.7
Employment Status		
Employed	142	37.0
Unemployed	242	63.0

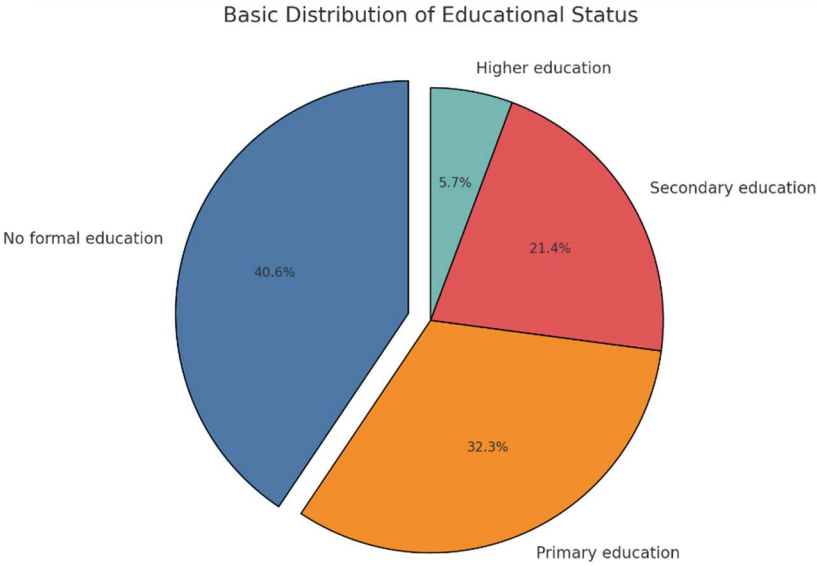


Fig 1: Basic Distribution of Educational Status

Knowledge Regarding Menopause

The mean knowledge score was 6.8 ± 2.4 out of a possible 15 points. Table 2 presents the distribution of correct responses across different knowledge domains.

Table 2: Distribution of Correct Responses in Menopause Knowledge Assessment (N=384)

Knowledge Domain	n	%
Definition of menopause	286	74.5
Natural age of onset	198	51.6
Common symptoms	245	63.8
Long-term health effects	156	40.6
Treatment options	124	32.3

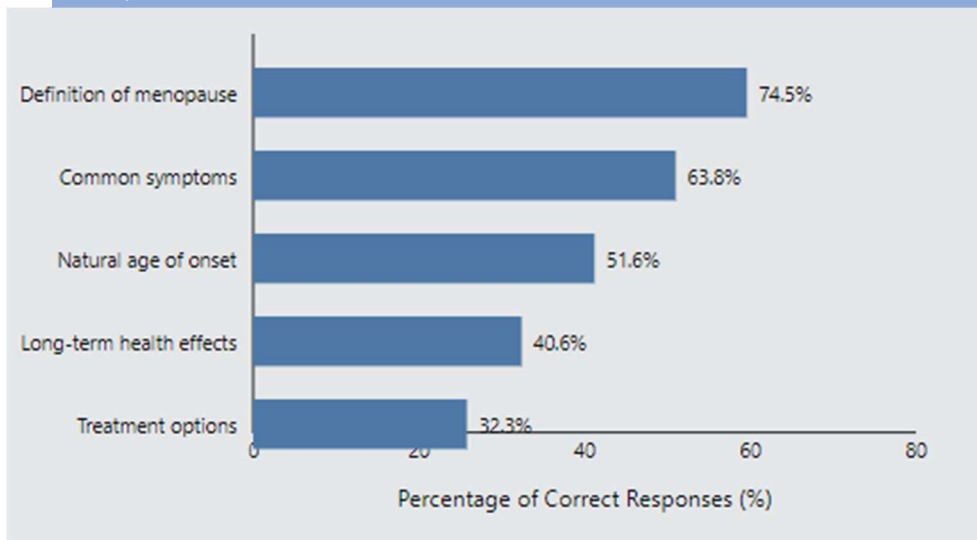


Fig 2: Percentage of Correct reponses across knowledge domain

Healthcare-Seeking

Behavior Analysis of healthcare-seeking patterns revealed that only 142 (37.0%) women had consulted a healthcare provider for menopausal symptoms. Table 3 summarizes the healthcare-seeking behaviors and associated factors.

Table 3: Healthcare-Seeking Behavior and Associated Factors (N=384)

Behavior/Factor	n	%
Consulted healthcare provider	142	37.0
Self-medication	98	25.5
Traditional remedies	86	22.4
No action taken	58	15.1
Reasons for not seeking healthcare*		
Financial constraints	156	64.5
Distance to facility	142	58.7
Lack of awareness	124	51.2
Cultural beliefs	98	40.5

*Multiple responses allowed; percentages calculated based on those who did not seek formal healthcare (n=242)

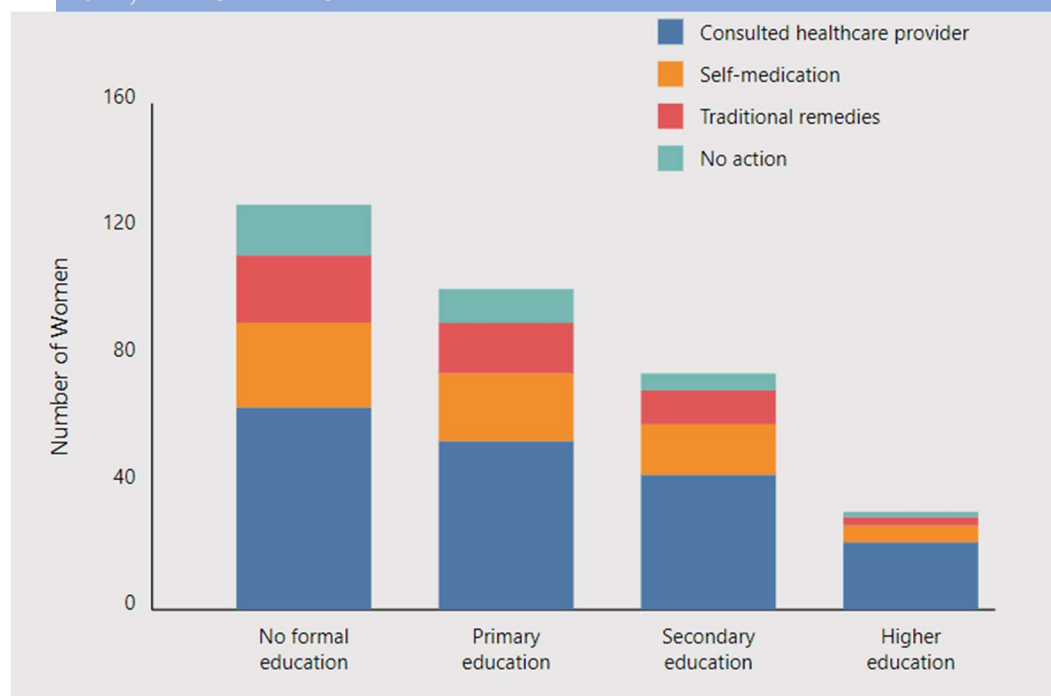


Figure 3: A stacked bar chart showing healthcare-seeking behaviors by educational status

Quality of Life Assessment

The mean MENQOL score was 3.8 ± 1.2 (range: 1-7, with higher scores indicating poorer quality of life). Table 4 presents the domain-specific MENQOL scores.

Table 4: Mean MENQOL Scores by Domain (N=384)

Domain	Mean Score	SD
Vasomotor	4.2	1.4
Psychosocial	3.9	1.3
Physical	3.7	1.1
Sexual	3.4	1.2

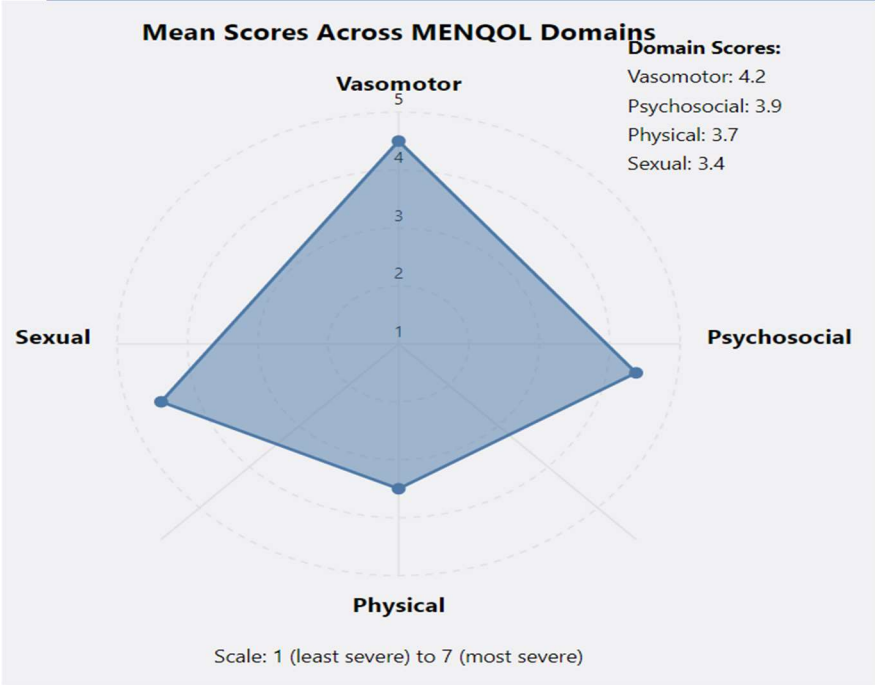


Figure 4: A radar chart showing mean scores across MENQOL domains

Correlation Analysis

Multiple linear regression analysis revealed significant associations between knowledge scores and quality of life parameters ($\beta = -0.324$, $p < 0.001$). Table 5 presents the correlation coefficients between key variables.

Table 5: Correlation Matrix of Key Study Variables

Variable	1	2	3	4
1. Knowledge score	1.000			
2. Healthcare-seeking behavior	0.426*	1.000		
3. Quality of life	-0.324*	-0.286*	1.000	
4. Educational status	0.512*	0.384*	-0.298*	1.000
*p < 0.001				

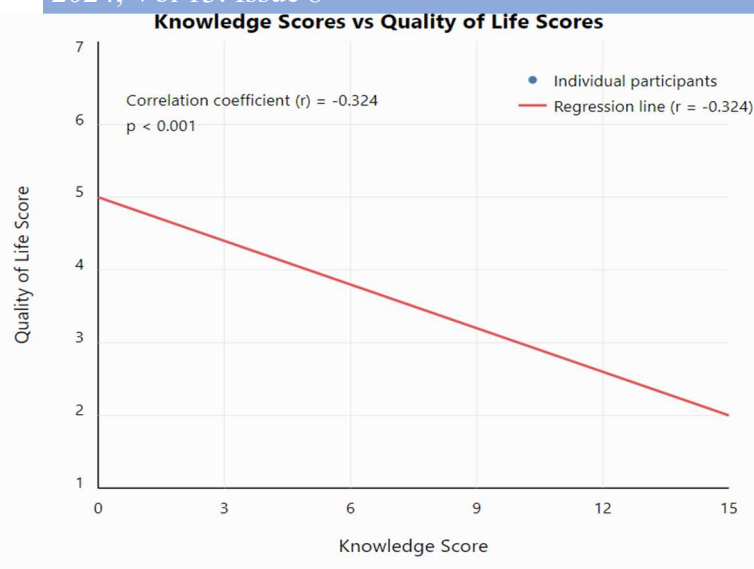


Figure 5: A scatter plot showing the relationship between knowledge scores and quality of life scores, with regression line

The analysis demonstrated that higher knowledge scores were significantly associated with better healthcare-seeking behavior ($p < 0.001$) and improved quality of life scores ($p < 0.001$). Educational status showed a strong positive correlation with knowledge scores ($r = 0.512$, $p < 0.001$) and healthcare-seeking behavior ($r = 0.384$, $p < 0.001$).

DISCUSSION

This study provides important insights into the complex interplay between menopause-related knowledge, healthcare-seeking behavior, and quality of life among rural women. The findings reveal several critical patterns that warrant detailed examination and have significant implications for public health interventions.

Knowledge and Educational Status Our finding that the mean knowledge score was relatively low (6.8 out of 15) aligns with previous studies in rural settings. For instance, Singh and colleagues [25] reported similar knowledge deficits among rural women in developing regions, with particularly low awareness of long-term health implications. The strong correlation between educational status and menopause knowledge ($r = 0.512$) reinforces the fundamental role of education in health literacy. This relationship becomes especially crucial considering that 40.6% of our study population had no formal education, potentially creating a significant barrier to health information access and understanding.

Healthcare-Seeking Patterns The observation that only 37% of women sought professional healthcare for menopausal symptoms represents a concerning pattern in healthcare utilization. This percentage is notably lower than those reported in urban studies, where healthcare-seeking rates typically range from 45-60% [26]. The high prevalence of self-medication (25.5%) and reliance on traditional remedies (22.4%) suggests a complex healthcare decision-making process influenced by multiple factors. The identified barriers to healthcare access – financial constraints (64.5%), distance to facilities (58.7%), and lack of awareness (51.2%) – mirror findings from other rural health studies [27], but their specific impact on menopausal health management presents unique challenges.

Quality of Life Implications The mean MENQOL score of $3.8 (\pm 1.2)$ indicates moderate impairment in quality of life, with vasomotor symptoms showing the highest impact (4.2 ± 1.4). This finding is particularly noteworthy when considered alongside the low healthcare-seeking behavior, suggesting that many women may be enduring significant symptoms without appropriate medical support. The negative correlation between knowledge scores and quality of life scores ($\beta = -0.324$) supports the hypothesis that better understanding of menopause leads to improved symptom management and better outcomes [28].

Cultural and Socioeconomic Dimensions The influence of cultural beliefs on healthcare-seeking behavior (affecting

40.5% of non-seekers) highlights the need for culturally sensitive interventions. These findings echo research by Rahman et al. [29], who emphasized the role of cultural perspectives in shaping women's health decisions. The significant association between educational status and healthcare-seeking behavior ($r = 0.384$) suggests that interventions must address both practical and cultural barriers to healthcare access.

Educational and Healthcare Implications The study's findings point to several actionable areas for improvement. The strong correlation between education and health outcomes suggests that educational interventions should be a priority. However, these must be designed with consideration for the specific challenges faced by rural women. The high percentage of women citing financial constraints (64.5%) as a barrier to healthcare suggests that economic factors cannot be separated from health education initiatives.

Study Strengths and Limitations Our study's strengths include its comprehensive assessment of multiple interrelated factors and high response rate (92%). However, several limitations should be acknowledged. The cross-sectional design limits our ability to establish causal relationships, and the self-reported nature of the data may introduce recall bias. Additionally, the study's focus on one rural region may limit the generalizability of findings to other rural contexts with different sociocultural characteristics.

Future Research Directions Future studies should consider longitudinal designs to better understand how knowledge and healthcare-seeking behaviors evolve throughout the menopausal transition. Investigation of successful intervention models from similar rural settings could provide valuable insights for program development. Additionally, research into the role of community health workers in bridging the knowledge and healthcare access gap could offer practical solutions for rural areas.

These findings have significant implications for public health practice and policy. They suggest the need for multi-level interventions that address not only knowledge gaps but also structural barriers to healthcare access. Such interventions should be culturally appropriate and economically sensitive while leveraging existing community resources and support systems.

CONCLUSION

This study provides valuable insights into the interconnected relationships between menopause-related knowledge, healthcare-seeking behavior, and quality of life among rural women. The findings demonstrate that limited menopause knowledge, combined with significant barriers to healthcare access, substantially impacts women's experiences during this critical life transition. The observed correlation between educational status and health outcomes underscores the fundamental role of health literacy in improving menopausal health management.

Our research reveals that rural women face multiple challenges in accessing appropriate healthcare during menopause, including financial constraints, geographical barriers, and cultural factors. The relatively low rate of healthcare consultation, coupled with high reliance on self-medication and traditional remedies, points to a pressing need for improved healthcare accessibility and culturally sensitive health education programs.

The significant association between knowledge levels and quality of life parameters suggests that educational interventions could substantially improve women's menopausal experiences. However, such interventions must be designed with careful consideration of the rural context, incorporating strategies to overcome both practical and cultural barriers to healthcare access.

Based on these findings, we recommend the development of comprehensive community-based health programs that combine education with improved healthcare access. These programs should focus on training local health workers, establishing mobile health clinics, and creating support networks within rural communities. Additionally, policy makers should consider implementing financial support mechanisms to reduce the economic barriers to healthcare access for rural women.

Future research should focus on developing and evaluating intervention strategies that are both effective and sustainable

in rural settings. Long-term studies examining the impact of educational programs on health outcomes would provide valuable guidance for public health initiatives. Furthermore, investigation into the role of community-based support systems could offer insights into sustainable solutions for improving menopausal health management in rural areas. The findings of this study contribute significantly to our understanding of menopausal health challenges in rural settings and provide a foundation for developing targeted interventions to improve the quality of life for rural women during this important life transition.

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