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Quality of Life Among Women at Menopause

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Abstract

This study aimed to examine factors related to the quality of life in women at menopause. This cross-sectional study included 53 women aged 45 to 65 who were at menopause, with self-reported good general health and not receiving hospital treatment, and were willing to participate as respondents. The Menopause-Specific Quality of Life (MENQOL) questionnaire assessed quality of life across four domains: vasomotor, psychosocial, physical, and sexual. Data analysis involved univariate analysis using frequency tables and crosstabs, bivariate analysis using correlation tests, and multivariate analysis using chi-square tests. The bivariate analysis revealed a significant association between education and quality of life ($p = 0.000$). Additionally, the age of menarche ($p = 0.022$) and income ($p = 0.006$) were significant factors. The multivariate analysis confirmed that both income ($p = 0.021$) and frequency of sexual activity ($p = 0.032$) significantly impacted the quality of life. The quality of life among women at menopause was influenced by factors such as education, age of menarche, income, and early menopause. Income and the frequency of sexual activity particularly affected the quality of life, specifically in the sexual domain. This research holds implications highlighting the need for targeted interventions to help women prepare for menopause and mitigate physical complaints.

Introduction

Menopause, a natural biological transition marked by the cessation of menstruation, affects a significant and growing proportion of women globally. This demographic shift is particularly relevant in Indonesia, where the number of senior citizens, especially women, is increasing. According to World Health Organization (WHO) projections, the global population experiencing menopause is expected to increase significantly by 2030. Approximately 1.2 million women, half of whom live in a developing country, are currently 50 years old, with this number projected to rise by 3% annually. The age at which women enter menopause varies and is generally influenced by several factors. One key factor is the age at menarche or the first menstrual period. Women who experience menarche earlier tend to enter menopause later, suggesting an inverse relationship (Bjelland *et al.*, 2018; Clayton *et al.*, 2024). Psychological well-being and employment status can also influence the timing of menopause. Women who are both employed and married tend to experience menopause at a later stage. The number of children a woman has is another factor, with women who have multiple pregnancies often entering menopause at a later

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age (Langton *et al*., 2023).

Women who are going through menopause often face sexual dysfunction, which can contribute to the development or exacerbation of psychological issues, reduced mental well-being, and a decline in the overall quality of life (Javadpour *et al*., 2021; Gozuyesil *et al*., 2018). Interventions such as pelvic floor muscle exercises and regular physical activity have been shown to improve sexual function by increasing genital blood flow and enhancing muscle tone (del Carmen Carcelén-Fraile *et al*., 2020). Despite these interventions, menopause is associated with increased risks of chronic health conditions, including coronary heart disease, osteoporosis, and stroke (Rozenberg *et al*., 2020; Seeto *et al*., 2023). Quality of life encompasses various aspects, including cognitive capacities, emotional well-being, and the ability to perform domestic, vocational, and social roles. Menopause can negatively impact these aspects, leading to symptoms such as hot flashes. sleep disturbances, and mood swings. Addressing these symptoms through conventional therapy, complementary medicine, and alternative therapy can help improve the quality of life (Nguyen *et al*., 2020).

Previous studies have identified several factors that influence the quality of life in menopausal women, including age, educational level, and occupation. Studies also highlight the role of physical activity and proximity to healthcare facilities on the quality of life among women at menopause. Hormonal changes during menopause can lead to difficulties in concentration, decision-making, sleep, and increased anxiety. Unaddressed, these issues can reduce quality of life and lead to degenerative diseases such as osteoporosis, stroke, and heart disease (Toulasik *et al*., 2019). A local survey in Bulu, Sukoharjo, revealed that many women are unaware of menopausal symptoms and lack knowledge on how to manage them, with six out of ten women reporting feeling unwell but not understanding how to address these changes. This highlights the need for further research to identify factors specifically affecting the quality of life of menopausal women. This research aimed to examine the factors associated with quality of life among women after menopause. Understanding these factors is crucial for empowering women to find solutions and improve their well-being

Methods

This research used a quantitative approach with a cross-sectional design to identify factors influencing the quality of life among women at menopause in Sukoharjo, Central Java, Indonesia, from July to October 2022. The target population was menopausal women aged 45-65 residing in the Bulu District, Sukoharjo Regency. Simple random sampling was used to select a sample of 53 participants from a total population of 416. The inclusion criteria were women aged 45 to 65 at menopause, with self-reported good health (not currently undergoing hospital treatment), and willing to participate. The exclusion criteria for this study were as follows: women outside the menopausal age range of 45 to 65 years, those with severe medical conditions that could potentially affect their quality of life, such as severe hormonal disorders, women who did not provide written consent to participate, women residing outside the Bulu District, Sukoharjo Regency, and women with language or communication limitations that would prevent effective participation in the study.

This study used a multiple-choice questionnaire to measure the quality of life of women at menopause. The demographic data contains information on age, education, occupation, income, and activity. The Menopause-Specific Quality of Life (MENQOL) questionnaire was employed to assess the quality of life across four domains: vasomotor (3 questions), psychosocial (7 questions), physical (16 questions), and sexual (3 questions). The MENQOL questionnaire is a tool designed to assess the functional well-being of women with respect to their quality of life. It measures the changes in their quality of life over time (Hilditch *et al*., 1996). The validity and reliability of the MENQOL questionnaire have been thoroughly tested to ensure its effectiveness in measuring the quality of life among women experiencing menopause.

Demographic data were organized into groups and coded to facilitate efficient analysis. This included categorizing ordinal data, such as income levels, for statistical purposes.

Quality of life was measured using scores from the MENQOL questionnaire, ranging from 1 to 8. A score of 1 indicated no symptoms (asymptomatic), while higher scores reflected increasing symptom severity. The scores were categorized into four criteria (Nie *et al*., 2017): 1 for asymptomatic, 2-3 for mildly symptomatic, 4-5 for moderately symptomatic, and 6-8 for severely symptomatic. Questionnaires were administered electronically via Google Forms and distributed through WhatsApp. Quantitative data were analyzed using SPSS software version 25. We used univariate analysis, including frequency tables and crosstabs, to describe the distribution of participant characteristics (e.g., age, education). Correlation tests were used to examine the strength and direction of relationships between individual variables, and the multivariate analysis used the chi-square test. A P-value of less than 0.05 was considered statistically significant. This study was approved by the Universitas Duta Bangsa at 08.08.2022 (Research Contract Letter Number 081/UDB.LPPM/A.34-HK/VIII/2022). All

Table 1. Sample Characteristic

Variable		Frequency	%
Age	45–50 years old	26	49.1
	50–55 years old	13	24.5
	55–60 years old	9	17.0
	60–65 years old	1	1.9
	> 65th years old	4	7.5
Education	Elementary School	6	11.3
	Middle School	4	7.5
	High School	13	24.5
	Bachelor's Degree	15	28.3
	Master Degree	15	28.3
Occupation	Housewife	23	43.4
	Teacher/Lecture	7	13.2
	Employer	10	18.9
	Farmer	1	1.9
	Civil servant	3	5.7
	Nursing/Midwifery	2	3.8
	Trader	2	3.8
	Entrepreneur	1	1.9
	The others	4	7.5
Income	<1 million	15	28.3
	1–3 million	14	26.4
	3–5 million	10	18.9
	5–7 million	3	5.7
	> 5 million	11	20.8
First Age of Menopause	40–45 years old	12	22.6
	45–50 years old	16	30.2
	50–55 years old	19	35.8
	55–60 years old	4	7.5
	> 60 years old	2	3.8

Menopause Period	0	2	3.8
	0–3 months	11	20.8
	3–6 months	1	1.9
	6–12 months	6	11.3
	1–3 years	8	15.1
	> 3 years	25	47.2
Activity	Gym/once a week	8	15.1
	Daily activity	26	49.1
	Work	14	26.4
	Other	5	9.4

the participants were provided with informed consent forms to ensure the confidentiality of the data collected.

Results and Discussions

Table 1 summarizes the characteristics of the 53 participants in this study. The age range of the participants was 45-65 years old, with the majority (49.1%) aged 45-50 years. Regarding education, 28.3% of the participants had a bachelor's degree, and another 28.3% had a master's degree, while 11.3% completed elementary school. Most participants were not employed (43.4%). The most common age of menopause onset was between 50 and 55 years (35.8%), and the majority of participants

Table 2. Bivariate Analysis of Quality-of-Life Domains

Variable		Quality of Life Domain							p-value correlation
		Vasomotor		Psycho social	Sexual		Sexual		
		Mild	Mod erate	Mild	Mild	Mod erate	Mild	Mod erate	
Age	45-50 years old	24	2	26	25	1	24	2	
	50–55 years old	12	1	13	13	0	11	2	
	55–60 years old	9	0	9	9	0	7	2	0.815
	60–65 years old	1	0	1	1	0	1	0	
	> 65 years old	4	0	4	4	0	4	0	
Education	Elementary School	5	1	6	5	1	6	0	
	Middle School	3	1	4	4	0	4	0	
	High School	12	1	13	13	0	11	2	0.000
	Bachelor's Degree	15	0	15	15	0	12	3	
	Master Degree	15	0	15	15	0	14	1	
Occupation	Housewife	21	2	23	22	1	20	3	
	Teacher/Lecture	7	0	7	7	0	7	0	
	Employer	10	0	10	10	0	7	3	
	Farmer	1	0	1	1	0	1	0	
	Civil Servant	3	0	3	3	0	3	0	0.152
	Nursing/Midwifery	2	0	2	2	0	2	0	
	Trader	2	0	2	2	0	2	0	
	Entrepreneur	1	0	1	1	0	1	0	
	Others	3	1	4	4	0	4	0	

Income	< 1 million	14	1	15	14	1	14	1	
	1–3 million	13	1	14	14	0	13	1	
	3–5 million	9	1	10	10	0	10	0	0.006*
	5–7 million	3	0	3	3	0	1	2	
	> 5 million	11	0	11	11	0	9	2	
First Age of Menopause	40–45 years old	12	0	12	11	1	10	2	
	45–50 years old	15	0	15	15	0	13	2	
	50–55 years old	18	1	19	19	0	17	2	0.003*
	55–60 years old	3	1	4	4	0	4	0	
	> 60 years old	2	0	2	2	0	2	0	
Menopause Period	0	2	0	2	2	0	2	0	
	0–3 months	9	2	11	10	1	11	0	
	3–6 months	1	0	1	1	0	1	0	0.961
	6–12 months	6	0	6	6	0	5	1	
	1-3 years	8	0	8	8	0	8	0	
	> 3 years	24	1	25	25	0	20	5	
Activity	Gym/once a week	8	0	8	8	0	7	1	
	Daily activity	24	2	26	25	1	23	3	0.723
	Work	13	1	14	14	0	13	1	
	Other	5	0	5	5	0	4	1	

(47.2%) had been in menopause for more than 3 years. Daily activity was the most frequently reported physical activity level (49.1%).

The relationship between participant characteristics and quality of life was explored using correlation tests. Education, income, and age at menarche were significantly correlated with quality of life ($p < 0.05$). Conversely, no significant associations were found between quality of life and age, occupation, duration of menopause, or physical activity ($p > 0.05$) (Table 2).

A chi-square test was conducted to identify associations between categorical variables and quality of life. The analysis revealed a significant association between

Table 3. Multivariate Analysis Quality of Life of Women Menopause

Variable	Quality of Life Domain								
	Vasomotor			Physical			Sexual		
	p-value	95 % CI		p-value	95 % CI		p-value	95 % CI	
		Lower	Upper		Lower	Upper		Lower	Upper
Age	0.888	0.865	0.878	0.901	1.000	1.000	0.688	0.653	0.671
Education	0.194	0.148	0.162	0.092	0.179	0.195	0.568	0.609	0.628
Occupation	0.783	0.628	0.647	0.995	1.000	1.000	0.636	0.571	0.591
Income	0.865	0.898	0.909	0.630	1.000	1.000	0.021*	0.025	0.032
First age of menopause	0.454	0.470	0.490	0.481	0.335	0.353	0.888	1.000	1.000
Menopause Period	0.496	0.336	0.355	0.565	0.518	0.538	0.434	0.371	0.391
Activity	0.792	1.000	1.000	0.787	1.000	1.000	0.889	1.000	1.000

income and quality of life (p = 0.021). Additionally, a significant association was found between the frequency of sexual activity and quality of life (p = 0.032). No significant associations were observed between quality of life and other categorical variables tested (p > 0.05) (Table 3). This study investigated the factors influencing the quality of life in menopausal women. The findings revealed significant correlations between education, income, and age of menarche with quality of life. Who identified education, marital status, job, and parity as influencing factors. This suggests that socioeconomic factors and overall health awareness play a role in how women experience menopause. The positive correlation between education and quality of life is likely due to the knowledge and resources associated with higher education levels. Women with a higher level of education may be more likely to adopt healthy lifestyle practices, such as maintaining a balanced diet, engaging in regular physical activity, and obtaining preventive healthcare, all of which can contribute to a better quality of life during menopause.

Zulfitri reported that menopausal women with hypertension have a poorer quality of life (Zulfitri *et al*., 2022). Lack of knowledge and low education levels can prevent menopausal women from maintaining their health, while low income can exacerbate these issues (Nazarpour *et al*., 2020). Women experiencing early menopause often report poorer quality of life due to increased vasomotor, physical, and sexual symptoms. Additionally, menopausal women with a history of diseases like hypertension tend to have a worse quality of life compared to those without such conditions (Zulfitri *et al*., 2022). The decrease in estrogen and progesterone levels in these women can lead to symptoms such as hot flashes and dyspareunia, thereby reducing sexual function (Zulfitri *et al*., 2022; Kamal & Seedhom, 2017). Physical symptoms in premenopause are more severe than in post menopause. This could be because, in post menopause, a woman can adapt to her life (Marni & Husna, 2023).

A cross-sectional study by Kamal involving 1,100 menopausal women found that common symptoms included muscle and joint pain (82.1%), fatigue (69.6%), and hot flashes (49.2%) (Kamal & Seedhom, 2017). These symptoms significantly impact the quality of life, with women experiencing a range of mild to moderate symptoms across various domains, including vasomotor, psychosocial, physical, and sexual. High income allows women to afford hormone supplements and vaginal lubricants, which can improve their sexual quality of life. Consequently, higher income is associated with a better overall quality of life during menopause (Zulfitri *et al*., 2022; Kamal & Seedhom, 2017). Research conducted by Nazarpour indicates that education level and family income significantly influence the quality of life. To improve the quality of life for women after menopause, it is crucial to implement appropriate policies that address these factors. Psychological well-being has a greater influence on the quality of life in the elderly, especially self-acceptance, positive relationships with others, autonomy, and purpose in life (Prastyawan *et al*., 2024). The impact of other variables on quality of life during menopause appears less significant, likely because most respondents in this study had a high level of education (bachelor's or master's degree). These respondents may have adopted healthy lifestyle behaviors that prevent many symptoms from arising. This aligns with findings in the psychosocial domain and supports research suggesting that clean and healthy living behaviors positively affect the quality of life of older adults (Zulfitri *et al*., 2022). Interventions for postmenopausal women experiencing genitourinary syndrome should include both hormonal and non-hormonal therapies. Using vaginal estrogen as a lubricant or moisturizer can reduce complaints of dyspareunia. In general, postmenopausal women may experience genitourinary syndromes such as vaginal dryness, irritation, itching, vaginal bleeding, and pain during sexual activity (Zulfitri *et al*., 2022).

Hormone replacement therapy (HRT) is a common treatment option for menopausal symptoms. It can be delivered through various methods, including transdermal preparations, vaginal rings, and systemic therapy. The International Menopause Society recommends vaginal ring therapy for some cases. However, long-term use of HRT (more than ten years) may carry potential health risks (Santoro,

2016). Therefore, a discussion of the risks and benefits of HRT is crucial when considering this treatment option. Non-hormonal therapies are also available and can be a suitable alternative for women who cannot or choose not to use HRT. These therapies may include vaginal moisturizers, lubricants, and medications like prasterone and ospemifene. Quality of life in postmenopausal women can also be affected by sleep quality. Lavender aromatherapy has been shown to significantly reduce vasomotor and physical symptoms and improve sleep quality (Zulfitri *et al*., 2022; Kamal & Seedhom, 2017). Massage with lavender aromatherapy also significantly reduces psychosocial sub-dimensional scores during menopause (Gürler *et al*., 2020; Nikjou *et al*., 2018). Increasing knowledge through natural menopause training and regular physical exercise can further enhance the quality of life for menopausal women (Taherpour *et al*., 2015; Yoshany *et al*., 2022).

This study acknowledges two key limitations. The relatively small sample size (n = 53) might limit the generalizability of the findings. Additionally, the length of the questionnaire could have impacted respondent focus. To mitigate this limitation, participants were given 5-6 days to complete the questionnaire in a relaxed state to enhance focus and accuracy. Our findings underscore the need for multifaceted interventions to improve the quality of life for women at menopause. Educational programs targeting lower education can equip women with knowledge and self-management strategies. Raising awareness about the potential link between the age of menarche and quality of life among healthcare professionals can lead to more personalized care plans. Socioeconomic disparities necessitate targeted support systems for women with lower incomes. Income-sensitive interventions addressing sexual health concerns, like counseling and educational programs, can be beneficial. Tailoring interventions to the specific needs of different age groups during menopause is crucial. Encouraging a proactive approach to long-term symptom management and preventive healthcare, even for women with a good current quality of life, is essential. Future research with larger, more diverse samples and longitudinal designs can further explore causal relationships and the effectiveness of various interventions, including complementary therapies. By implementing these recommendations, we can improve our understanding of menopause and empower women to have a healthy and fulfilling postmenopausal experience

Conclusions

This study investigated factors influencing quality of life among 53 women at menopause. The findings revealed significant correlations between education, income, and age of menarche with quality of life. Notably, income and frequency of sexual intercourse specifically influenced the sexual domain of quality of life. These results suggest the importance of addressing socioeconomic factors and potentially exploring the link between the age of menarche and menopause to improve women's well-being during this transition.

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