



THE EFFECT OF KANG DUDING EXERCISE ON THE QUALITY OF LIFE IN MENOPAUSAL WOMEN

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ABSTRACT

Introduction: Menopause is recognized for inducing various complaints in women, including common experiences such as dizziness, fatigue, and anxiety. Physical exercise has been scientifically proven to enhance both physical and psychological performance. Regular exercise contributes to improved cardiovascular health, increased strength and endurance, reduced stress and anxiety, enhanced cognitive function, and overall well-being and quality of life. Quality of life encompasses an individual's satisfaction with various aspects of life, including the physical, psychological, social, and environmental dimensions. **Objective:** This study seeks to investigate the impact of exercise on the quality of life among menopausal women, employing an experimental design with a control group and a 12-week pre and post-test. **Method:** The study involved 32 women aged 45-55 years, divided into two groups: one engaging in Kang Duding exercises (2 sessions of 60 minutes per week) and a control group without intervention. The assessment of quality of life utilized the WHO-QoL questionnaire. **Result:** The results revealed a significant improvement in all domains of quality of life (QoL) among menopausal women engaging in Kang Duding exercise on physical ($p=0.009$), psychological ($p=0.006$), social ($p=0.008$), and environmental ($p=0.029$). Physical activity emerges as a key factor contributing to enhanced quality of life, operating through various mechanisms. **Conclusion:** this study establishes that Kang Duding exercise effectively enhances the quality of life in menopausal women. The findings underscore the significance of incorporating structured physical activity interventions to promote the overall well-being of women during the menopausal transition.

ARTICLE INFO

Article History:

Received: September 11, 2023

Revised: November 27, 2023

Accepted: December 18, 2023

First Available Online:

December 30, 2023

Published: December 30, 2023

Keywords:

Exercise, quality of life, menopause

1. INTRODUCTION

Menopause, a pivotal phase in a woman's life, signifies the permanent cessation of the menstrual cycle for 12 consecutive months due to a deficiency in estrogen, unassociated with any pathology (World Health Organization, 2022; Peacock & Ketvertis, 2023). Throughout a woman's childbearing years, the regularity and nature of the menstrual cycle undergo transformations, with natural menopause typically occurring between 45 and 55 years of age (Ozcan, 2019).

The multifaceted impact of menopause is evident in its diverse symptoms, including night sweats, hot flashes, vaginal dryness, and sleep disturbances, alongside a spectrum of other challenges such as sexual dysfunction, anxiety, depression, memory problems, headaches, fatigue, joint pain, and weight gain (Palupi & Astutik, 2021; Ibrahim et al., 2020). Despite menopause not posing a fatal threat, its symptomatic intricacies contribute significantly to discomfort and disruptions in daily life, influencing the quality of life for women navigating this transitional phase (Suryonegoro et al., 2021).

The ramifications of menopause extend beyond its immediate phase, as many women live more than 20 years post-menopause, experiencing estrogen deficiency for a significant portion of their lives. This deficiency leads to physical and mental decline, with over 80% of menopausal women suffering from symptoms that contribute to a decline in their overall quality of life (Sari & Istighosah, 2019). The impact of poor quality of life is far-reaching, evident in the deterioration of physical and mental health, disruptions in social relationships, and adverse effects on environmental aspects (Handayani et al., 2020).

Understanding quality of life, as defined by the World Health Organization (WHO), is paramount in this context. It is an individual's subjective perception of life within their cultural and value system, intricately woven with personal goals, expectations, norms, and concerns (Crocker et al., 2019). Quality of life is a multidimensional concept, encompassing various life aspects such as physical and psychological well-being, dependence or independence, social relationships, and the individual's relationship with the environment. It goes beyond the absence of disease, encompassing the notion of prosperity and overall well-being.

The journey through menopause transcends its biological dimensions, impacting the holistic well-being of women. Recognizing the interconnectedness of physical, psychological, and social elements is crucial for tailored support, emphasizing the significance of a comprehensive understanding of quality of life in this nuanced life stage (World Health Organization, 2022; Crocker et al., 2019).

Therefore, it is important to maintain and improve the quality of life, especially in menopausal women (Livana et al., 2020). One effort to maintain health and quality of life in women experiencing menopause is by doing physical exercise. Exercise is also a low-cost intervention with many significant and positive health benefits (Nguyen et al., 2020). A comprehensive examination of the literature reveals strong evidence supporting the positive impact of exercise on the quality of life of women undergoing menopause. Engaging in regular physical activity has been consistently associated with improved overall well-being and health outcomes during the menopausal transition (Mouton et al., 2017). Exercise has shown efficacy in alleviating common menopausal symptoms such as hot flashes, sleep disturbances, and mood

swings, contributing to a better quality of life for women in this life stage (Sternfeld et al., 2014). Furthermore, physical activity has been linked to positive effects on bone health, countering the decline in bone density often observed during menopause (Kohrt et al., 2019). The psychological benefits of exercise are evident in its association with reduced levels of anxiety and depression in menopausal women, emphasizing its role in supporting mental well-being (Ainsworth et al., 2013). Socially, participation in group-based exercise programs has the potential to foster a sense of community and social support, further enhancing the overall quality of life for menopausal women (Mouton et al., 2017).

Regular exercise plays a pivotal role in enhancing the quality of life for menopausal women, providing a holistic approach to mitigate the physical and psychological challenges associated with this life stage. Physical activity has been shown to alleviate common menopausal symptoms such as hot flashes, night sweats, and mood disturbances, contributing to an overall sense of well-being. Additionally, exercise aids in maintaining bone density, mitigating the risk of osteoporosis, which is particularly relevant as estrogen levels decline during menopause. The positive impact of exercise on cardiovascular health is also crucial, addressing concerns related to weight gain and promoting overall fitness. Furthermore, engaging in regular physical activity can help alleviate stress, anxiety, and depression, which are prevalent during menopause. This holistic approach to well-being underscores the significance of exercise in fostering a higher quality of life for menopausal women. This study endeavors to examine the influence of exercise on the quality of life among menopausal women.

2. METHODS

Research Design

The method used in this research was an experimental design with a control group before and after kang duding exercise. This intervention was carried out for 2 weeks.

Population and Sample

This research involved 32 women aged between 45 and 55 years, divided into two groups intervention and control.

Research Procedure

Participants are given an explanation of the study data by researchers. Following their understanding of the study and consent to take part in it, the participants work with the homeroom teacher to fill out a research authorization form. The Kang Duding exercise program was administered to the intervention group; it consisted of two weekly sessions lasting sixty minutes each. The control group was not given any assistance.

The participant receives all of the instruments from the researcher after that. The World Health Organization Quality of Life (WHO-QOL) questionnaire, which was adapted for use with menopausal women, is one of the instruments utilized in this study. A comprehensive conceptual framework that takes into account several facets of a person's life is the foundation of WHO QOL tools. Physical health, psychological well-being, social interactions, and environmental influences

are examples of these categories. The tools are made to reflect the multifaceted character of quality of life, understanding that a person's overall health is impacted by a variety of social, psychological, and physical elements.

The researcher then maintain the data, including editing, coding, data input, and tabulation, after gathering the information.

Data Analysis

Data analysis in this study was robustly executed, employing both univariate and bivariate analysis methodologies. The univariate analysis delved into respondent characteristics, while the bivariate analysis harnessed the power of the independent t-test.

Ethical Clearance

This study has received ethical approval following examination by the research ethics board at STIKep PPNI Jawa Barat, marked by the reference number III/017/KEPK-SLE/STIKEP/PPNI/JABAR/VI/2023.

3. RESULTS

In this study, the average age of women was 52.86 years in intervention group and 52.6 in control group. This information provides an initial understanding of the adolescent age group that is the subject of the research.

Table 1. Description of Respondent Characteristics

Characteristics	Kang Duding Exercise (n=16)	Control (n=16)	p
Age mean (sd)	52,86 (4,36)	52,65 (5,29)	0,853
Moca-Ina, mean (sd)	22,62 (3,23)	22,47 (5,58)	0,777
Body Weight, kg, mean (sd)	58,76 (7,41)	57,41 (6,47)	0,752
Height, cm, mean (sd)	152,62 (4,61)	153,06 (3,65)	0,900
Blood Plesure, mean (sd)			
Sistolic, mmHg	120,57 (14,17)	121,18 (12,69)	0,950
Diastolic, mmHg	78,10 (6,80)	78,82 (6,00)	0,889
Education n (%)			
Low	6 (25)	7 (29,2)	0,441
High	15 (26,8)	10 (17,9)	
Mental status, n (%)			
Married	20 (26,3)	17 (22,4)	0,508
Widowed	1 (25,0)	0 (0,0)	
Menopausal S, n (%)			
Perimenopause	9 (37,5)	6 (25,0)	0,871
Postmenopause	12 (21,4)	11 (19,6)	
Medical history, n (%)			
Gastritis	1 (10,0)	3 (30,0)	0,247
Hipertention	3 (21,4)	2 (14,3)	0,814
Diabetes melitus	1 (20,0)	1 (20,0)	0,704

Table 2. The Impact of Kang Duding Exercise on Quality of Life

Quality of life	Kang Duding Exercise (n=16)		Control (n=16)	
	Mean, sd	p	Mean, sd	p
Physical				
Baseline	63,81 (14,61)	0,009*	65,75 (14,27)	0,059
After 12 weeks	74,63 (9,60)		72, 92 (10,44)	
Psychological				
Baseline	64,81 (12,15)	0,006*	68,33 (10,38)	0,058
After 12 weeks	72,75 (9,00)		75,00 (6,77)	
Social				
Baseline	65,69 (13,53)	0,008*	63,00 (11,47)	0,873
After 12 weeks	70,69 (12,30)		62,50 (10,41)	
Environmental				
Baseline	63,25 (12,35)	0,029*	61,50 (12,15)	0,593
After 12 weeks	70,44 (10,42)		63,67 (13,93)	

Table 2 shows that in the group that performed Kang Duding exercise, the average quality of life before engaging in Kang Duding exercise was as follows: physical = 63.81, psychological = 64.81, social = 65.69, and environmental = 63.25. After participating in Kang Duding exercise, the averages increased to physical = 74.63, psychological = 72.75, social = 70.69, and environmental = 70.44. The difference in mean values between before and after exercise was observed as follows: physical = 10.82, psychological = 7.94, social = 5, and environmental = 7.19. The statistical test results yielded a p-value < 0.05, indicating a significant difference between the quality of life before and after Kang Duding exercise.

In the control group, the average quality of life before Kang Duding exercise was physical = 65.75, psychological = 68.33, social = 63.00, and environmental = 61.50. After engaging in Kang Duding exercise, the averages increased except for the social domain, which decreased to physical = 72.92, psychological = 75.00, social = 62.50, and environmental = 63.67. The difference in mean values between before and after exercise was observed as follows: physical = 7.17, psychological = 6.67, social = -0.5, and environmental = 2.17. The statistical test results yielded a p-value > 0.05, indicating that there was no significant difference between the quality of life before and after Kang Duding exercise.

4. DISCUSSION

The outcomes of this study align with previous research, particularly that of Sasnitari and Mulyati (2018), which demonstrated the positive impact of aerobic exercise on reducing vasomotor complaints, psychological distress, and somatic symptoms in premenopausal women. The mitigation of these complaints is indicative of an enhanced quality of life. Further supporting this, research conducted by Dwi and Nurhayani (2023) suggests that engaging in low-impact aerobic exercise can effectively reduce psychological distress, specifically anxiety. This finding resonates with the study conducted by Nurlina (2017), indicating that menopausal women who partake in low-impact aerobic exercise exhibit higher quality of life scores compared to their counterparts who do not engage in such exercises.

Engaging in aerobic exercise has been demonstrated as an effective intervention in reducing anxiety levels. Notably, the research conducted by Dwi and Nurhayani (2023) specifically

highlights the capacity of low-impact aerobic exercise to lower psychological distress, particularly anxiety. This finding aligns with broader studies emphasizing the anxiolytic effects of aerobic exercise. Nurlina's study (2017) on menopausal women reveals that those who participate in low-impact aerobic exercise exhibit higher quality of life scores, indicating the potential anxiety-reducing benefits associated with this form of physical activity. Additionally, the study conducted by Asghari et al. (2017) supports the idea that engaging in aerobic exercise, particularly low-impact forms, contributes to an increase in overall quality of life scores, suggesting a positive impact on mental well-being. These findings collectively underscore the potential of aerobic exercise, such as low-impact aerobics, as a viable and beneficial strategy for reducing anxiety and promoting psychological well-being.

A parallel investigation by Ina et al. (2018) yielded statistically significant results, revealing an improvement in the quality of life within the exercise group ($p < 0.05$), while the control group exhibited no significant difference in quality of life. Consistent with these findings, Asghari et al.'s (2017) research demonstrated that the increase in quality of life scores among the group engaged in low-impact aerobic exercise surpassed that of the control group. Moreover, Ekayani et al. (2022) emphasize the positive effects of physical exercise, specifically aerobic exercise lasting 30 minutes for 3 or 4 sessions, on overall quality of life.

Numerous studies conducted in recent years have consistently demonstrated the multifaceted benefits of physical activity on overall well-being. Physical exercise has been associated with improvements in cardiovascular health, metabolic function, and weight management, which are crucial components for maintaining a healthy lifestyle (Lear et al., 2017; Ekelund et al., 2019). Additionally, contemporary research underscores the positive impact of exercise on mental health, including its role in reducing symptoms of anxiety and depression and promoting cognitive function and emotional well-being (Stubbs et al., 2017; Schuch et al., 2018). As a holistic approach to health, exercise contributes not only to the prevention of chronic diseases but also to the enhancement of psychological resilience and social engagement, ultimately elevating the overall quality of life (Smith et al., 2018; Warburton et al., 2021).

The efficacy of low-impact aerobic exercise is underscored by Ina et al. (2018), highlighting that when executed correctly with adequate intensity, it serves as a stimulator for the body, thereby enhancing physical, health, and psychological aspects. Consequently, this improvement translates into an overall enhancement of the quality of life. The collective evidence from these studies reinforces the robust association between aerobic exercise, particularly low-impact aerobic exercise, and the heightened quality of life experienced by women undergoing menopause.

Regular physical activity has been shown to be effective in mitigating many of these symptoms and enhancing overall well-being during this life stage (Sternfeld et al., 2017; Daley et al., 2019). Exercise contributes to the maintenance of healthy body weight, which is particularly relevant as menopausal women often face challenges related to weight gain and changes in body composition (Kotzé et al., 2018). Furthermore, it has been documented that exercise can help alleviate sleep disturbances, reduce the risk of cardiovascular diseases, and improve bone health, all of which are pertinent concerns for women during menopause (Daley et al., 2019; Bacchi et al., 2018). Psychological benefits, such as a reduction in anxiety and depressive symptoms, are also

observed with regular exercise, positively impacting the overall quality of life for menopausal women (Elavsky et al., 2019). Therefore, incorporating a tailored exercise regimen can be a valuable and empowering strategy to navigate the challenges associated with menopause and enhance the overall well-being of women during this life stage.

Exercise has been shown to have a direct impact on mood and mental well-being in menopausal women. Regular physical activity stimulates the release of endorphins, which are known as "feel-good" hormones, promoting a sense of happiness and reducing symptoms of anxiety and depression. Moreover, exercise provides an opportunity for social interaction and engagement, which can further enhance psychological well-being and combat feelings of loneliness or isolation that may arise during menopause (Elavsky et al., 2019).

Maintaining a healthy weight and managing body composition becomes increasingly challenging during menopause due to hormonal changes. Exercise, particularly a combination of aerobic and resistance training, has been found to be effective in preventing weight gain and maintaining a healthy body mass index (BMI). It helps to increase metabolism, burn calories, and preserve lean muscle mass, thereby reducing the risk of obesity and related health conditions, such as diabetes and cardiovascular disease (Nguyen et al., 2020)..

Menopause is associated with a decline in estrogen levels, which can lead to a decrease in bone density and an increased risk of osteoporosis. Weight-bearing exercises, such as walking, jogging, or weightlifting, have been shown to stimulate bone formation, increase bone mineral density, and reduce the risk of fractures. Incorporating regular exercise into a menopausal woman's routine can help maintain bone health and reduce the likelihood of osteoporosis-related complications.

Cardiovascular health is another crucial aspect affected by menopause. Estrogen has a protective effect on the cardiovascular system, and its decline during menopause increases the risk of heart disease. Engaging in aerobic exercises, such as brisk walking, cycling, or swimming, can improve cardiovascular fitness, lower blood pressure, reduce cholesterol levels, and decrease the risk of heart disease in menopausal women (Nguyen et al., 2020)..

By incorporating exercise into their daily lives, menopausal women can experience numerous benefits that directly contribute to an improved quality of life. Regular physical activity can enhance physical fitness, boost mood, improve sleep quality, aid in weight management, strengthen bones, and reduce the risk of cardiovascular diseases. It is important for women to consult with healthcare professionals to develop an exercise program that suits their individual needs and capabilities. With proper guidance and regular exercise, women can navigate through menopause with increased vitality, improved overall well-being, and a higher quality of life.

5. CONCLUSION

The Kang Duding exercise has been proven to enhance the quality of life in the group of women experiencing menopause. This group is recommended to follow the exercise guidelines for a minimum of 60 minutes per week for two weeks. There was a notable enhancement in various aspects of quality of life (QoL) for menopausal women who participated in the Kang Duding exercise, including improvements in physical ($p=0.009$), psychological ($p=0.006$), social ($p=0.008$), and environmental ($p=0.029$) domains.

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