ANALYSIS OF WOMEN'S AEROBIC EXERCISE ON BODY IMAGE AND HIP CIRCUMFERENCE RATIO

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ABSTRACT

Background. Physiological changes in perimenopausal women often affect body image perception and body fat distribution, particularly the hip-to-waist ratio (HTR). **Objectives.** This study aims to analyze the effect of aerobic exercise on body image and HTR in perimenopausal women. **Method.** The method used was a literature review, involving the collection and analysis of relevant literature sources from 2020 to 2025 in the form of full-text articles. **Results.** The analysis results indicate that aerobic exercise does not significantly affect HTR reduction but has a positive impact on improving body image, particularly in women with overweight. The lack of significant effect on HTR is likely due to the natural decline in metabolism during the perimenopausal age, as well as uncontrolled dietary patterns and lifestyle. **Conclusion.** Although it does not directly reduce RLP or depression levels, aerobic exercise remains a beneficial physical activity for maintaining physical fitness and fostering a positive body image. This study contributes to the understanding that the effectiveness of aerobic exercise is optimized when combined with a balanced diet and the adoption of a healthy lifestyle among middle-aged women.

Keywords; aerobic exercise, body image, hip circumference ratio, perimenopausal women

A. INTRODUCTION

Across all age groups, women experience various health problems stemming from both physical and psychological conditions. One common challenge faced by women is the transition into menopause. Even before reaching menopause, during the perimenopausal stage, women begin to experience physical changes (Putri & Hamidah, 2020). These physical changes, particularly in women with obesity, often lead to a distorted body image that does not align with waist-to-hip proportions or their desired body shape.

As reported by Nied and Franklin, reduced physical activity negatively affects health. In the U.S., sedentary lifestyles and physical inactivity have increased by up to 75%, which correlates with a decline in organ functional capacity starting at the age of 30—dropping by approximately 1% each year. These changes impact several physical components, including cardiovascular endurance, muscle strength, and body composition. However, these components can be maintained through regular exercise that promotes movement and physical fitness.

Recommended physical activities for women during perimenopause include jogging, aerobics, swimming, and fitness exercises. These are highly suitable for this phase of life because a woman's physical appearance is often influenced by slim body ideals portrayed in advertisements and media. This perceived body shape is referred to as body image (Jahja, 2019).

Body image refers to a person's perception of their own body. Negative body image can cause dissatisfaction with one's health, while acceptance and satisfaction with one's body type can lead to a more positive self-image. The prevalence of overweight and obesity has become a global issue in both developed and developing countries. Each year, more women struggle with weight gain. Obesity is characterized by an increase in fat tissue, which occurs due to an imbalance between energy intake and expenditure. Body image also influences health behavior—low body image can contribute to unhealthy habits (Ashley, 2017).

Based on previous research and observations, it is assumed that individuals with negative body image scores tend to prefer aerobic exercise and spend more time training, whereas those with a positive body image are more likely to engage in anaerobic exercise and spend less time exercising. Another study found that body weight was significantly

affected by aerobic training, as shown by a p-value of 0.043 (< 0.05), indicating a significant difference between the treatment and control groups (Pratiwi, 2021). However, studies in several journals have not thoroughly examined the effect of body weight acceptance on body image and waist-to-hip ratio through aerobic training. Therefore, the researchers are interested in exploring this topic further.

B. METHOD

Research Type and Design

This study uses a literature review method, which is a systematic approach used to critically examine and analyze the results of previous studies. The main focus of this study is to analyze the effect of aerobic exercise on body image and waist-to-hip ratio (WHR) in women, particularly during the perimenopausal phase. This approach was chosen because it provides a comprehensive understanding from various theoretical and empirical perspectives.

Sources and Criteria for Literature

The data sources for this literature review are scientific articles published between 2020 and 2025. The articles included must be available in full text (PDF) and have a research focus relevant to the main variables, namely aerobic exercise, body image, and hip-to-waist ratio or waist circumference. The selected articles include quantitative, experimental, or quasi-experimental studies that use valid instruments to measure body perception and body composition, such as the Body Shape Questionnaire (BSQ), Figure Rating Scale, and anthropometric measurements.

Data Collection Procedure

The data collection process was conducted through online literature searches using keywords such as: “aerobic exercise,” “body image,” “waist-to-hip ratio,” and “perimenopausal women.” Literature sources were obtained from several reputable databases such as Google Scholar, PubMed, ScienceDirect, and ResearchGate. After collection, articles were selected based on topic relevance, publication year, methodological appropriateness, and availability of complete data. This process was followed by article

quality evaluation using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines.

Instruments and Analysis Techniques

The instruments used were derived from the measurement instruments used in each primary article, such as body perception scales and hip circumference measurements. Data obtained from the literature were analyzed using a qualitative descriptive approach, employing content analysis techniques to identify patterns of findings related to the effects of aerobic exercise on body image and WHR. Articles with similar or differing results were grouped together for analysis of similarities, differences, and the most prominent trends in findings.

C. RESULTS AND DISCUSSION

Results

The results of the analysis show that aerobic exercise has no effect on reducing RLP, while body image is affected by aerobic exercise on body image in overweight individuals after performing aerobic exercise (P-value 0.000) and depression levels in women. Aerobic exercise is a form of physical activity involving rhythmic and dynamic movements. Aerobic exercise aims to improve physical fitness and also serves as a means to enjoy oneself, and aerobic exercise is one way to enhance physical fitness.

Discussion

The perimenopausal period in women brings about various physical and psychological changes, including weight gain, changes in body shape, and increased levels of depression. One way to maintain physical health and fitness during the perimenopausal period is through exercise, such as aerobic exercise. Research indicates that aerobic exercise does not significantly affect the reduction in waist-to-hip ratio (WHR), but it does have an impact on improving body image in women with excess weight. The decreased metabolic rate in perimenopausal women makes calorie burning during aerobic exercise less optimal, thereby reducing its effectiveness in lowering WHR. Additionally, uncontrolled eating patterns and lifestyle choices also influence WHR reduction outcomes. Aerobic exercise is a physical activity that offers benefits in improving overall fitness, managing weight, and providing

enjoyment. Although it does not directly impact WHR reduction, aerobic exercise can help perimenopausal women develop a more positive body image, particularly for those who are overweight.

Aerobic exercise does not significantly affect the waist-to-hip ratio (WHR) of perimenopausal women, which can be explained by the fact that women over the age of 45 experience a natural decline in metabolic rate. This metabolic slowdown results in fewer calories being burned during physical activity compared to when they were younger. The aerobic exercise treatment administered during the study was not sufficient to reduce WHR (Dewi & Rifki, 2020). In addition, other uncontrolled factors such as diet and lifestyle may have influenced the results. Perimenopausal women who regularly participate in aerobic exercise but do not manage their diet and maintain a healthy lifestyle are less likely to experience significant WHR reduction.

According to Sadoso's theoretical explanation, aerobic exercise movements can burn fat and calories in the body and also promote sweat elimination (Zaeriyah, 2022). The physical activity involved in aerobic exercise serves to burn body fat, and this exercise will be more effective in lowering WHR if it is combined with proper diet and a healthy lifestyle. Aerobic exercise also does not significantly reduce depression levels in perimenopausal women. This is because women at this stage experience various physical and psychological changes, which affect emotional stability. Thus, aerobic exercise alone is not sufficient to alleviate the depression commonly experienced during perimenopause.

Body image refers to a person's perception of their own body, or in other words, the individual's mental image of their body. It includes perceptions of body size, shape, and characteristics of various body parts (Andini & Indra, 2019). Body image is defined as an individual's view of their physical appearance and their attitude toward bodily characteristics (Prameswari & Mibkahuddin, 2021). Body image consists of three main components: *perceptual*—how individuals perceive their body; *attitudinal*—how they feel about their appearance; and *behavioral*—how perception and attitude influence their behavior.

Aerobic exercise is a series of deliberately selected movements performed to the rhythm of music, creating specific rhythmic patterns, continuity, and duration (Pomatahu, 2023). It emphasizes both static and dynamic physical activities, and if performed for a relatively long

duration, it may lead to noticeable fatigue. Aerobic exercise is a type of physical training that involves oxygen consumption during bodily activity, with movements designed based on specific fitness needs (Pomatahu, 2023). Aerobic exercise carried out over four weeks, with a frequency of three sessions per week and a duration of 30–50 minutes per session, has been shown to contribute to weight loss (Tiara & Qudsyi, 2018). Individuals with negative body image scores are more likely to prefer aerobic exercise and spend more time exercising, while those with positive body image scores tend to choose anaerobic training and spend less time on physical activity. Research also indicates that women tend to have lower body image scores than men (Utomo et al., 2022).

D. CONCLUSION

This exercise is more effective when performed at the appropriate intensity and duration, supported by a healthy diet and lifestyle. In the context of body image, research shows that individuals with negative body image tend to spend more time on aerobic exercise compared to those with positive body image, who prefer anaerobic training. Body image itself is formed from an individual's perception of their body, their attitude toward their appearance, and behaviors influenced by that perception. Therefore, aerobic exercise can provide benefits in improving body image in perimenopausal women, although it is not directly effective in reducing waist-to-hip ratio. For optimal results, this exercise should be performed regularly with a balanced diet and a healthy lifestyle.

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