



# Fit And Flourishing: A Review Of Exercise Benefits For Menopausal Women

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## ABSTRACT

**Background:** Menopause is a naturally occurring process involving decreased activity of ovarian follicles and causing permanent stoppage of menstruation in women. Hormonal fluctuations and menopausal symptoms predispose women to reduced physical activity and prone to chronic conditions. Women in menopause go through various physical and psychological changes. Women suffer from a decline in quality of life during menopause. An important factor improving these symptoms is physical activity. It also has a positive impact on quality of life. This review focuses on how physical activity affects quality of life in menopausal women.

**Objectives:** To evaluate the effect of physical activity on quality of life in menopausal women. This review aims to analyze and summarize the available literature on the impact of physical activity on the quality of life in menopausal women. This review focuses on the effects of physical activity on menopausal symptoms and overall quality of life in women.

**Study Selection:** A database available from Google Scholar, PubMed, Research Gate, and Science Direct was analysed, and studies published from 2009 to 2024 were included in this review. The included studies mainly focused on the relationship between physical activity with quality of life in menopausal women.

**Conclusion:** Regular physical activity can improve menopause symptoms and thus the quality of life in middle-aged women and those suffering from climacteric symptoms. Therefore, women should be educated

and encouraged to exercise regularly. However, the intensity of exercise and other factors might influence the outcomes.

**Keywords:** Physical Activity, Quality of Life, Menopausal Women, Menopause, Menopausal Symptoms

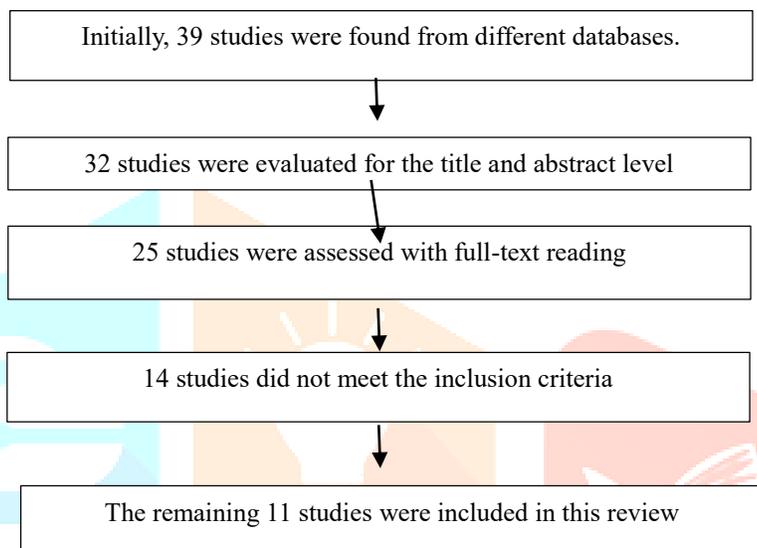
## INTRODUCTION

According to WHO, the permanent stoppage of menstruation occurring due to a decline in follicular activity of the ovaries is called natural menopause<sup>1</sup>. A woman is said to enter menopause if she has not menstruated consecutively for at least a period of 12 months, and this point marks the beginning of the post-menopausal period. Different stages of menopause women go through are- late reproductive to early and late menopausal transition, to post menopause. Many factors, such as physical activity, environmental factors, socioeconomic status, educational status, genetic and reproductive factors such as age at menarche, number of pregnancies, etc. influence the age at which menopause begins<sup>2</sup>. The average life span in India is 71 years, while in women, the average age of menopause is 47.5 years. This indicates that Indian women spend around 23.5 years of their lives in menopause.<sup>3</sup> During menopause, different symptoms such as sleep and mood disorders, night sweats, hot flushes, impaired memory, nervousness, depression, insomnia, and musculoskeletal complaints can be experienced by women.<sup>4</sup> Menopause associated symptoms affect around 80% of women, with one-third of these women having severe symptoms.<sup>5</sup> Menopause leads to alterations in the hormonal levels of women, making them prone to chronic conditions and thus affecting their overall quality of life.<sup>6</sup> According to WHO, quality of life is the individual's perception of their position in the value and culture system in which they live, and also of their relations to the standards, concerns, and their goal expectations.<sup>7</sup> Around one-third of women think their activity level has decreased as they go through menopause.<sup>8</sup> According to the estimates, the population of menopausal women in 1990 was 467 million, and it is assumed that by 2030, this population will cross 1200 million in number.<sup>9</sup> Physical activity is defined as body movement produced by the skeletal muscles, which involves energy expenditure.<sup>10</sup> Improved quality of life, physiological characteristics and psychological well-being, and physical functioning have been observed as a result of physical activity (PA) in menopausal women.<sup>11</sup> Engaging in physical activity is a significant factor influencing the quality of life for menopausal women. Exercise in postmenopausal women can boost cardiovascular, metabolic, physical, and mental well-being, thereby improving their overall quality of life by alleviating negative health changes associated with menopause.<sup>12</sup> Various treatment options available for the menopausal symptom management include hormonal therapy, counselling, symptom-specific non-hormonal medications, lifestyle modifications, and physical exercise. Physical exercise aids in maintaining a healthy weight, enhancing bone density, coordination, balance, muscle strength, and joint flexibility. It also improves lipid profiles, addresses genitourinary issues, reduces depression, and promotes better sleep.<sup>13</sup> Physical activity is the key to improving overall health. Engaging in regular physical activity boosts health, reduces stress, and lowers the risk of

coronary heart disease, hypertension, and obesity. It also alleviates menopausal symptoms and helps reduce physical, emotional, and social challenges.<sup>14</sup>

## METHODS

Search engines such as Google Scholar, Research Gate, PubMed, and Science Direct are used for searching the review literature. This review contains the literature published from 2009-2024. Key words included are physical activity, quality of life, menopausal women, menopause, menopause symptoms, menopause specific quality of life, etc.



| Authors, Year                  | Objective   | Study Design                | Characteristics of participants, Study Sample  | Materials and Methods  | Outcome Measures  | Results  |
|--------------------------------|---|-----------------------------|--|--|---|--|
| Elavsky S (2009) <sup>15</sup> | To examine the long-term effects of physical activity on menopause-related quality of life (QoL) and to test the mediating effects of physical self-worth | Randomized controlled trial | 99 women aged 42-58 years of age, all reporting at least one vasomotor symptom (hot flashes or night sweats) in the month before enrollment, were randomized in a controlled | The experimental group underwent walking and yoga. After 2 years follow-up was done. | Menopausal symptoms were assessed using the <b>GCS</b> . Physical activity outside the program was self-reported via the <b>ACLS</b> . Positive and negative affect was assessed using the <b>Affectometer</b> . Physical self-esteem was | A positive association was found between physical activity and menopausal symptoms, physical self-worth. Physical activity and better physical self-worth were also positively |

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|   | and positive affect in this relationship  |                           | exercise trial.  |   | measured using the PSW scale of the Physical Self-Perception Profile. Menopause-specific quality of life was assessed using the UQOL Scale. | associated with better menopause specific quality of life.   |
| Moilane n, J.M. et al. (2012) <sup>16</sup> | To study the role of menopausal status and physical activity on quality of life.  | Longitudinal cohort study | 1165 women aged 45-64 years of age   | Data were collected through a home interview, questionnaires, and a physician's examination   | MET, BMI, QoL, HRT  | Women with improved or stable physical activity showed better quality of life. Global quality of life was more affected by physical activity level than the menopausal stage |
| Javadival a Z et al. (2013) <sup>17</sup>   | The study aimed to examine the relationship between physical activity and (a) menopausal symptoms, (b) HRQOL, and (c) chronic diseases. | Cross-sectional study     | 273 women 40-60 years of age who reported irregularity in menstrual cycle or experienced no menstrual periods were recruited using a clustered random sampling method. | Personal home-based interviews were used to gather data between March and May 2012, utilizing a structured questionnaire authorized by Tabriz University of Medical | MRS, IPAQ, HRQoL METs and time spent in low, moderate and high intensity physical activity.   | Physical activity was positively associated with psychological, social, and environmental HRQOL domains ( $p < 0.001$ ). Higher activity levels were linked to fewer somatic |

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|  |  |   |   | Sciences' Ethical Committee.   |  | complaints, including sexual problems, vaginal dryness, and joint-muscular discomfort.   |
| Ngowsiri K et al. (2014) <sup>18</sup>     | To examine the effects of "Rusie Dutton" on health and quality of life in menopausal women.                                | Quasi-experimental randomized control trial | 50 women aged 45-59 years of age were recruited from a Thai community and randomly assigned to either the experimental or control groups on a waiting list. | For 13 weeks, a group of 24 people performed Rusie Dutton. The control group (n=26) did not receive any intervention. Both at the start and finish, measurements were taken. | BMI, Resting HR and BP were measured by sphygmomanometer, Shoulder girdle flexibility test, Sit and reach test, 6MWT for VO <sub>2</sub> max and MENQOL for quality of life. | Within as well as between group comparison revealed that experimental group had statistically significant improvement in quality of life and other outcome except body weight and BMI. |
| Mansikkamäki K et al. (2015) <sup>19</sup> | To study the association between engagement in the recommended level of physical activity and QoL among middle-aged women. | A population-based cross-sectional study    | 2606 Finnish women aged 49 years of age.  | An informed consent form and a postal questionnaire were provided to the women in 2012, one year before their initial invitation for a mammography screening.                | BMI, WHQ to assess the QoL, and the Questionnaire on lifestyle   | Physically active women had a better quality of life in all four dimensions of the WHQ. Also, the global quality of life was better in active women as compared with inactive women.   |

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| <p>Dąbrowska-Galas M et al. (2019) <sup>20</sup></p> | <p>To investigate the association between specific domains (physical activity during leisure time, at work, during transportation, and household activities) and the menopausal symptoms.</p>                                   | <p>Cross-sectional study</p>               | <p>305 women with age between 40-65 years</p>  | <p>Using the Stages of Reproductive Aging Workshop (STRAW), all participants were split into three groups based on their menopausal state respectively.</p> | <p>The MRS score is used to evaluate the severity of menopausal symptoms and IPAQ measures physical activity.</p>  | <p>Most post-menopausal women had high physical activity, and physical activity was negatively correlated with the severity of menopausal symptoms.</p>  |
| <p>El Hajj A et al. (2020) <sup>21</sup></p>         | <p>To investigate the relationship between menopause-related discomforts and quality of life in Lebanese midlife women, in relation to physical activity, anthropometric, medical, sociodemographic, and lifestyle factors.</p> | <p>Cross-sectional observational study</p> | <p>1113 naturally menopausal Lebanese women, belonging to 40-60 years of age group</p> | <p>Women with induced menopause, pregnancy, mental or physical impairments were excluded. Data were collected by trained dietitians from Jan–Apr 2018.</p>  | <p>BMI, Waist circumference (WC), IPAQ measures physical activity of the last seven days and characterizes it into low, moderate and high levels. MENQOL has 29 items divided into four domains as: vasomotor, psycho-social, physical, and sexual</p> | <p>Women (avg. age 49.5, BMI 26.7) showed the highest MENQOL scores in physical and psychosocial domains. Low physical activity (45.4%) was linked to worse MENQOL scores (<math>p &lt; 0.001</math>). Symptoms varied by menopausal status and were influenced by lifestyle</p> |

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|                                      |  |  |  |  |   | and sociodemographic factors.  |
| Barati M et al. (2021) <sup>22</sup> | To determine the prevalence of menopausal symptoms and factors associated with the QoL among postmenopausal women. | Descriptive-analytical cross-sectional study | 270 postmenopausal women, 45-60 years of age, were chosen by stratified random sampling.           | Women aged 45–60 in Hamadan were selected health centers. Inclusion required natural menopause, no hormone therapy, hysterectomy, or major illness.                        | MENQOL consists of 29 questions, and its score is evaluated in 4 domains of quality of life   | The postmenopausal stage was significantly correlated with total quality of life and the psychological dimension of MENQOL. A direct association between quality of life and physical activity was found in the study. |
| D'Souza CJ al. (2021) <sup>23</sup>  | The association between physical activity and menopause related quality of life                                    | Cross-sectional study                        | 260 postmenopausal women aged between 45-65 years were selected using convenience Sampling method. | Only postmenopausal women (no menses in 12 months) were included. Exclusions : perimenopause, irregular cycles, recent hormone use, hysterectomy, or inability to complete | MRS has 11 items, each scored from 0-4, with a higher score indicating greater severity of menopausal symptoms. IPAQ-SF assesses weekly physical activity on the basis of METs. | Women who had lower physical activity had a higher score on MRS. The inverse relationship between physical activity level and MRS score was found.   |

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|  |   |                                   |  | the questionnaire.   |  |   |
| Kuck MJ et al. (2024) <sup>24</sup>    | To examine psychological complaints across menopausal stages and assess how resilience, self-efficacy, and perceived stress relate to these complaints by menopausal stage and age. | Cross-sectional study             | 272 menopausal women categorised based on the STRAW (37=pre-menopausal, 80=early perimenopausal, 40=late perimenopausal, 115=postmenopausal); aged 40-60 years | Participants were recruited via convenience sampling through social media and online groups, using a survey link on Bristol Online Surveys.              | Perceived stress scale evaluates stress-related thoughts and feelings during last month. Brief resilience scale evaluates subjective perception to cope with stress. MENQOL consists of 29 items divided into four domains. General Self Efficacy scale has 10 items and evaluates subjective self efficacy. | Early perimenopausal women group was at a higher risk of stress and anxiety than postmenopausal women. Statistically significant difference was observed between perceived stress, anxiety, and depression scores of peri- and postmenopausal groups of women |
| Tsekoura M et al. (2024) <sup>25</sup> | To investigate the relationship between physical activity and quality of life in postmenopausal Greek women.  | Descriptive cross-sectional study | 219 postmenopausal women aged 54-78 years  | Women living in Greece with natural menopause ( $\geq 12$ months) were recruited via flyers and ads. Those unable or unwilling to respond were excluded. | IPAQ measure physical activity level as low, moderate and high based on METs. -HADS consists of 14 questions of 2 subdomains, i.e., anxiety and depression and QoL was assessed via EQ-5D-5L questionnaire. BMI and Waist Circumference were also measured.  | Among postmenopausal Greek women, physical activity was strongly linked to quality of life and age, and moderately to anxiety and depression. Overall, 64.8% were physically active   |

## DISCUSSION

The main objective of this review was to find out the effects and relationship of physical activity on the quality of life of menopausal women, primarily focusing on the post-menopausal group of women. Menopause is associated with changes in the hormonal levels, which affect various domains of quality of life of menopausal women<sup>3</sup>. Though there are various treatment options available to treat these symptoms in women, such as hormone replacement therapy for vasomotor symptoms and other non-hormonal medications but these harm the body in the long term<sup>13</sup>. Different experimental, cross-sectional, and longitudinal studies included in this review support significant positive outcomes of physical activity on various menopause related symptoms and the quality of life. Most studies show a significant positive association of physical activity with quality of life in all domains.

A study by Dąbrowska-Galas M et al. (2019)<sup>20</sup> revealed that women in the peri-menopausal stage suffer the most and have more significant symptoms as compared to the others because they have fluctuating hormonal levels. Another study by D'Souza CJ al. (2021)<sup>23</sup> showed a negative correlation between physical activity and menopausal symptoms. Barati M et al. (2021)<sup>22</sup>, and Tsekoura M et al. (2024)<sup>25</sup> in their respective studies revealed that physical activity was positively correlated with improved overall quality of life. Thus, highlighting the improvements in physical as well as psychological health. Javadi Z et al. (2013)<sup>17</sup> found that physical activity positively influences all QoL domains, including physical, psychological, and social health. According to Mansikkamäki K et al. (2015)<sup>19</sup> women engaged in regular physical activity have fewer symptoms and better health outcomes as compared to those with a sedentary lifestyle. This highlights that performing physical activity regularly leads to decreased menopausal symptoms. Inactivity, along with menopause, can severely affect a woman's health. The beneficial effects of physical activity are well known, but there remains a doubt, mainly related to the intensity and type of physical activity. Elavsky S (2009)<sup>15</sup> and Ngowsiri K et al. (2014)<sup>18</sup> showed that both structured activities like yoga and walking, and culturally specific exercises also improve quality of life. But there remains a gap as to which activity is most suitable for a person. Other factors, such as stage of menopause, environmental factors, and general health, are also responsible for the type of results obtained by a particular physical activity.

Interestingly, lifestyle variables (such as smoking and alcohol use), education level, menopausal stage, and body mass index all had an impact on the severity of symptoms and quality of life. However, none of these factors has been consistently demonstrated as a significant correlation with physical activity. From the above studies, it can be concluded that physical activity is a better non-pharmacological way to improve quality of life and to decrease symptoms of menopause in middle-aged women.

## CONCLUSION

Physical activity has a positive effect on the quality of life of middle-aged women. The positive benefits of physical activity can be utilized to improve health and quality of life in women going through climacteric symptoms. Regular physical activity is associated with decreased menopausal symptoms, improved mental and physical health, and improved quality of life. Encouraging and educating women about the benefits of engaging in regular physical activity can have a positive impact on their lives. However, further research needs to be done to find out the most effective intensity and types of physical exercise. Healthcare providers can play a major role in spreading awareness among women related to menopause and the benefits of exercise.

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