



Psychological and Social Health of Physical Activity In Menopause Women

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ABSTRACT

Introduction: o chart peer-reviewed literature regarding the psychological and social health outcomes of physical activity (PA) around menopause in a systematic manner. **Materials and Methods:** The method used was a literature review where data was obtained from an electronic database, namely Google Scholar, Pubmet, Scopus between 2018-2024 have 68 after check the articles were found, 7 articles were selected that were in accordance with the objectives of this research. Manual checking of reference lists was also performed. The selection process was guided by the stages in PRISMA-ScR. **Results:** For all studies, surveys were the primary method of measuring psychological and social health outcomes, in cross-sectional studies (3 papers), intervention studies (3), longitudinal cohort studies (1) and one paper reporting a mixed-method study. The dataset comprised a total of women, with an average age of 52.6 and a variety of menopausal states. Most of the studies involved primarily Caucasian, relatively healthy, married and employed participants. Nineteen psychological and social health outcomes were assessed, including psychological menopause symptoms (N = 34), quality of life (N = 33), satisfaction with life (N = 7) and self-esteem (N = 5). **Conclusion:** Collectively, the findings of these studies indicate a relatively evident positive impact of PA on the respective health outcomes, with only a few studies reporting no association. It is also noteworthy that most studies did not report any difference related to menopausal status. Future studies would benefit from, inter alia, a qualitative approach to lived experiences of psychological and social health outcomes of PA during the menopausal transition.

Keywords: Exercise Training, Quality of Life, Menopausal Symptoms, Psychological





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1. Introduction



Menopause is generally defined as the permanent cessation of menstruation and is usually categorized into premenopausal, perimenopausal, and postmenopausal stages, which are determined based on endocrine status and regularity of menstrual bleeding patterns (Lawley et al., 2024). Physiological studies have shown that menopause-related endocrine changes involve a higher risk of several forms of cardiovascular disease, such as heart attack, stroke and atherosclerosis, as well as osteoporosis.

However, this biomedical definition ignores the complexity of menopause as a cultural life cycle transition, in which women experience physical, psychological, and social changes. Additionally, research shows that endocrine changes and bothersome symptoms of menopause, including hot flashes, night and day sweats, and sleep problems, place women at higher risk of experiencing psychological symptoms in this phase of life (Brown et al., 2024). In Western, china and japan culture, menopause is also considered a loss of sexual attraction, leading to depression (Shea, 2020). In contrast, and emphasizing the complexity of the research, menopause can also be experienced with liberation from cultural limitations, opportunities for personal development and feelings of competence and freedom (Matina et al., 2024).

Since approximately half of the world's population will eventually experience this phase of life, it is relevant to consider the complexity of this issue and look for ways to improve physical, psychological and social health leading up to menopause. Since findings from the World Health Initiative showed that women taking hormone replacement therapy have an increased risk of invasive breast cancer, the focus has been on finding alternative therapies (Trial, 2020). Physical activity (PA) is one such alternative and has been shown to have physical, psychological, and social health benefits among the general (Mikkelsen



Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
 Journal Homepage: <https://jurnal.agdosi.com/index.php/IJHS/index>
 Volume 2 | Number 2 | June 2024 |

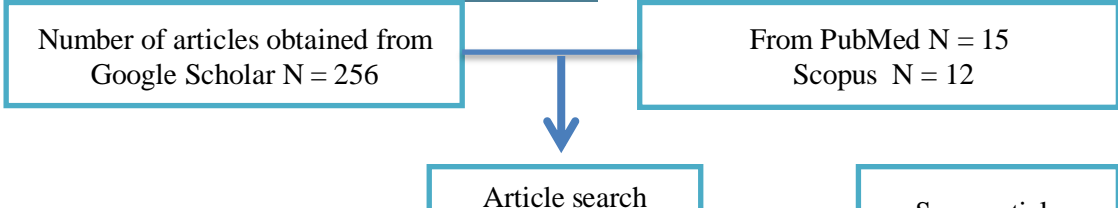



et al., 2017). The last two decades have seen several research projects addressing the relationship between PA and psychological aspects of menopause. Several systematic reviews have described the relationship between PA and perceived stress, depression (Pérez-López et al., 2017) and Quality of Life (QoL) (Andersen et al., 2019). However, this review only looked at studies that used randomized controlled trials. When trying to understand the complexity of menopause as a cultural life cycle transition, as well as the potential of PA to improve psychological and social health in practice, we cannot simply include randomized controlled trial studies that address menopause as a physical condition that must be treated with a temporary PA intervention. To be able to combine various research findings based on different research designs, such as cross-sectional studies, longitudinal cohort studies, mixed methods, and qualitative exploratory studies, a scoping review design is needed (Nguyen et al., 2020). The aim of this scoping review was to identify and map the research literature that addresses the psychological and social health impacts of PA around menopause.

Research Methods To map existing research findings and identify potential research gaps in the current literature, a scoping review was conducted following the steps. This method was chosen because it offers a broader approach and the option to combine research findings based on different research designs. An explicit and systematic approach – consisting of identification, selection, extraction and summary – minimizes the risk of bias and ensures rigor. In line with the above, the final search process is guided and outlined in the PRISMA-ScR Flow Diagram (Fig. 1).



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Identification
Screening



2. Results And Discussions

a. Results

1. Health outcomes and measures

Health outcomes and measures The included publications assessed 7 different psychological and social health outcomes. Psychological menopause symptoms symptoms (N = 34), quality of life (N = 33), satisfaction with life (N = 7) and self-esteem (N = 5) were the most common. The studies employed a range of different outcome measures complicating comparison across studies which will be addressed in the discussion.





2. Physical activity and menopause measures

The included studies used several different measures to report PA. Twenty-five studies measured PA through objective measures such as heart-rate monitors or accelerometers. Fifty-seven studies used self-reporting data from questionnaires. Thirty-three of these used validated questionnaires from earlier studies, of which the different versions of the International Physical Activity Questionnaire was the most common. Time engaged in light (6 METs) together with total PA time per week were usually included in these studies. Twenty-four studies used self-reporting data from self-developed questionnaires, with relatively varied quality across the studies in terms of the reported amount, type and/or intensity of PA. Furthermore, six studies did not report any measures of PA level. In terms of measuring menopausal status, most studies used self-reporting data from questionnaires addressing the different stages related to menopause. Fourteen studies used the Stages of Reproductive Aging Workshop criteria (Lawley et al., 2024), whereas 46 used corresponding self-developed categories. Eleven studies used follicle-stimulating Hormone levels for supplementary verification or as a sole measure for menopausal status. Despite reporting on menopausal status, 16 studies did not satisfactorily describe how it was measured. Since the present scoping review does not include a quality assessment of the included studies, the different measures used will not be further clarified.

3. Overall psychological menopausal symptoms

Most of the included cross-sectional and longitudinal cohort studies as well as intervention studies addressing menopausal symptoms find that women with higher levels of regular PA report fewer and/or less severe psychological menopausal symptoms (such as depression, anxiety, and exhaustion) than women with low levels of PA. Nevertheless, the relationship seems quite complex. For example, it is not necessarily linear since relatively active women report fewer symptoms and





less distress than more active women (Lum & Simpson, 2021). Furthermore, different modes of PA seem to influence menopausal symptoms differently. For example, sport and exercise behaviors tend to reduce psychological symptoms, while household caregiving activities increase them. This outcome also seems to be influenced by cultural background (Chang et al., 2013). Finally, one longitudinal cohort, two cross-sectional and two intervention studies find no significant association between PA and psychological symptoms around menopause.

4. Quality of life

QoL was reported as Health-Related QoL, Menopause-Specific QoL and Global QoL across the included studies. Since there appear to be no differences between study outcomes, the present summary will draw no distinctions, and therefore QoL will encompass all three definitions. Overall, most cross-sectional studies addressing QoL report that regularly active women report better QoL scores than women who are not regularly active. Distinctive findings include, among others, that peri- and postmenopausal women who engaged in PA during COVID-19 confinement had higher QoL than those who reduced PA level (Lum & Simpson, 2021), that greater PA levels (especially of vigorous PA) are associated with better QoL, that significant determinants of QoL beside intensity of PA are climacteric symptoms, financial status, marital status, and BMI, and that the effect of PA might not be dose-dependent, since highly active women experience lower total QoL score than moderately active women. In addition, one study finds that cardiorespiratory fitness explains a larger proportion of the variance in overall QoL than PA. Finally, no significant association is found between PA levels and QoL in rural women. Likewise, most intervention studies find that a variety of forms of PA have a positive impact on QoL, specifically aerobic exercise, resistance exercise, walking, and nutrition/health education combined with aerobic exercise.

b. Discussion





This scoping review looked at 7 peer-reviewed articles, surveying a women around menopause, most of whom are Cauca-sian, relatively healthy, married and employed. Despite the relatively diverse designs and measures applied in the included 67 studies, as well as various countries of origin, there appear to be some overall tendencies in the reported psychological health outcomes. First, most studies show that participation in regular PA appears to positively influence overall psychological menopausal symptoms, QoL, depression, anxiety, mental wellbeing, perceived stress, satisfaction with life, self-esteem, and self-worth. Secondly, many studies report these improvements to be independent of menopausal status. Thirdly, the health outcomes are relatively complex phenomena involving several independent and associated variables other than PA, such as marital status, cultural background, social support, and BMI. At the same time, it may be argued that the menopausal transition also is a complex phenomenon involving physical, psychological, social, and cultural aspects, and therefore any simple understanding is neither sufficient nor possible. This complexity of real-life phenomena complicates the accurate reporting of the role of PA during menopause and thereby questioning the validity of definitive conclusions. Albeit the present review finds some general tendencies across the included studies it is important to emphasize that the specific diversities among the studies query the universal and certainty of these findings. Following this, the next paragraph will discuss the complexity of PA and the limitations of this complexity in the present review.

Like the menopausal transition, PA is a complex and multi-faceted phenomenon. This complexity is usually lost in quantitative studies that attempt to categorize PA into simple stereotypes, some involving a binary distinction between being physically active or not. Other studies offer more detailed classifications, which define both the frequency and intensity of different types of PA. For example, including household tasks as PA seems important when estimating women's total PA level since women are more likely to engage in household and caregiving tasks than leisure





PA(Kishida & Elavsky, 2017). Nevertheless, when trying to understand the psychological and social outcomes of PA among women, it seems almost misleading to incorporate household tasks in total PA level without distinguishing between the different types of PA. Participation in leisure PA, such as team sports, also implicates psychological and social health outcomes such as self-esteem, sense of belonging, camaraderie and social interaction, which are not common outcomes of household tasks. Furthermore, some studies indicate that the relationship between PA and psychological health outcomes is not dose dependent. It could be interesting to investigate in which degree other aspects, such as family and work obligations (Casimiro-Andújar et al., 2023), influence psychological health outcomes inversely when more time is used on PA and thereby taking time from other obligations. This makes it even more important to measure PA in a diverse way including differences in frequency, time, intensities, modes, and types are reported. In addition, none of the studies includes, compare or distinguish between the psychological and social effects of different types of exercise and sport. One could also question the lack of congruence in using specific measures for specific outcomes. Several measures had multiple purposes, such as the Short Form-36 Health Survey being used to assess health-related QoL in some studies and psychological wellbeing in others.

The purpose of a scoping review is to be as comprehensive as possible. It is, therefore, worth mentioning that some selection criteria (for reasons of time and competencies, e.g. only English language and peer-reviewed research articles were considered) most likely had only a limited impact. Furthermore, studies reporting on social outcomes are very limited in the present review. This could partly be because the literature search used “outcome” as a keyword and, as such, may have unintentionally excluded (qualitative) studies using more descriptive and theoretical terms than the ones applied in the current search string. Moreover, studies addressing women in midlife but without reporting menopausal status were excluded, even though





such studies might have involved potential findings regarding spouse, family, time, and work. The same applies to studies addressing women diagnosed with depression, cancer, osteoporosis, and hypertension, as well as those with weight, dietary or sexual issues. Lastly, one could criticize the variety in study design (intervention, cross-sectional and longitudinal cohorts) since this limits the comparisons to some degree. Subsequently, one could question if the breath of the present objective became too extensive for a single scoping review. Mapping the existing studies addressing relations between menopause, PA and psychological health outcomes have highlighted the difficulties in being sufficiently narrow to go in depth without compromising the complexities of these phenomena. As mentioned earlier several studies seem relatively limited in their understanding of one or more of the phenomena. Nevertheless, this scoping review was never intended to assess the quality of the included studies but to map and summarize the existing research knowledge addressing the relations between menopause, PA, and psychological health outcomes, and therefore it is important to incorporate a broad perspective including a range of different study designs.

3. Conclusion

This scoping review illustrates a need to discuss, develop and validate definitions and measures of PA and the involved outcomes, with a view to understanding the complexity of the issues women experience in this phase of life. Nevertheless, most of the included studies report a positive impact of PA on the psychological outcomes assessed, while none report a negative impact. As such, clinical practitioners should not hesitate to apply PA as a means of influencing psychological health outcomes among middle-aged women, e.g. to decrease depression, anxiety and perceived stress, and to enhance the QoL, mental wellbeing and satisfaction with life. However, it would be highly beneficial for clinical practice if future research were to investigate how interventions can be designed to optimize specific outcomes, ideally among different groups of relatively healthy women.

4. Compliance with ethical standards Acknowledgments





The authors would like to express their gratitude to everyone who participated in this piece of research. Institutional leadership in the facilitation of research assistance for the advancement of health research for the benefit of the general public.

Disclosure of conflict of interest

There is no potential for any stakeholder to have a conflict of interest in this research.

Statement of informed consent

In our capacity as writers, every action we perform constitutes a joint agreement or consent.

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Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)

Journal Homepage: <https://jurnal.agdosi.com/index.php/IJHS/index>

Volume 2 | Number 2 | June 2024 |



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