

Women's perception about hydrotherapy in postmenopause: a qualitative study

Percepção de mulheres sobre a fisioterapia aquática na pós-menopausa: um estudo qualitativo

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Abstract

Introduction: The transition from reproductive to post-reproductive life is part of the female life cycle that impacts well-being, with menopause as a significant milestone. Regular physical activity should be encouraged to mitigate the symptoms of menopause and prevent age-related problems. Hydrotherapy is one such alternative, since immersion in heated water facilitates exercises that would be difficult to perform on land. **Objective:** Assess women's perception about the effect of hydrotherapy on the signs and symptoms of postmenopause. **Methods:** A qualitative study in which participants underwent 48 hydrotherapy sessions and answered a semistructured interview. **Results:** The participants were eight women, aged 55.75 ± 8.55 years, menopausal for 8.5 ± 7.98 years, with vasomotor symptoms (100%), mood swings (87.5%), sleep disorders (87.5%), vaginal dryness (62.5%), low sex drive (62.5%) and chronic pain (100%). **Conclusion:** Women's perception about the effects of hydrotherapy on the signs and symptoms of postmenopause include less pain and muscle tension, a decline in the signs and symptoms, better quality of life and sexual pleasure, and an improvement in biopsychosocial factors such as anxiety and stress through better social interaction.

Keywords: Hydrotherapy. Physical therapy modalities. Postmenopause. Women's health.

Resumo

Introdução: A transição da vida reprodutiva para a pós-reprodutiva é considerada um dos ciclos da vida feminina que gera impactos no bem-estar da mulher, sendo a menopausa o marco significativo. A prática regular de atividade física deve ser encorajada para reduzir os sintomas da menopausa e prevenir alterações associadas ao envelhecimento. Assim, a fisioterapia aquática é uma opção de atividade física, pois a imersão em água aquecida possibilita a realização de exercícios que seriam difíceis de serem executados no solo. **Objetivo:** Evidenciar a percepção de mulheres sobre a fisioterapia aquática nos sinais e sintomas da pós-menopausa. **Métodos:** Trata-se de um estudo qualitativo, com participantes que realizaram 48 sessões de fisioterapia aquática e responderam a uma entrevista semiestruturada. **Resultados:** Participaram do estudo oito mulheres, 55,75 ± 8,55 anos, menopausadas há 8,5 ± 7,98 anos, com referência de alterações vasomotoras (100%), do humor (87,5%), do sono (87,5%), secura vaginal (62,5%), diminuição da libido (62,5%) e dor crônica (100%). **Conclusão:** A percepção das mulheres sobre os efeitos da fisioterapia aquática nos sinais e sintomas da menopausa aponta para uma diminuição do quadro algico e da tensão muscular, diminuição dos sinais e sintomas da pós-menopausa, melhora da qualidade do sono, bem como do prazer sexual, e melhora nos fatores biopsicossociais como ansiedade e estresse, através da melhora da interação social.

Palavras-chave: Hidroterapia. Modalidades de fisioterapia. Pós-menopausa. Saúde da mulher.

Introduction

There are specific periods in the female life cycle that warrant special attention due to their impact on health and well-being.^{1,2} One such cycle is the transition from reproductive to post-reproductive life, with menopause as a significant milestone. Characterized as the natural cessation of the menstrual cycle, menopause is diagnosed after 12 consecutive months of amenorrhea and typically occurs between the ages of 45 and 52 years.^{3,4}

Although menopause is directly related to ovarian aging, it also influences the hypothalamic-pituitary-ovarian-uterine axis, triggering signs and symptoms that characterize the onset of menopause (climacteric)⁵

and can persist for up to 10 years after the cessation of menstrual cycles.³ Irregular menstrual cycles, vasomotor symptoms such as night sweats and a sudden feeling of heat (hot flashes), difficulty sleeping or insomnia, vaginal dryness, low sex drive and mood swings are the most commonly reported signs and symptoms.^{3,6}

Muscle and joint pain are also typical during this time; however, it is important to consider the influence of lifestyle and aging-related factors in these body changes and complaints, making it difficult to pinpoint a single factor.^{4,7} Thus, measures aimed at controlling weight, engaging in physical exercise and improving sleep quality are considered first-line strategies for pain management in these cases.⁷

Regular physical activity should be encouraged to mitigate the signs and symptoms of menopause and prevent and treat age-related problems.³ Previous studies have highlighted the importance of regular physical activity, reporting that worse physical performance is related to more intense climacteric symptoms and low physical activity levels.^{1,8} Nguyen et al.⁹ observed improvements in the psychological, sexual and vasomotor aspects of menopausal yoga practitioners and highlighted the need for quality studies that assess other exercise modalities.

Hydrotherapy is one such modality and has gained ground, since immersion in heated water facilitates exercises that would be difficult or impossible to perform on land.¹⁰ The mechanical and thermal properties of water allow the body to relax and improve joint mobility, motor coordination, pain and blood flow.^{9,11} Additionally, aquatic activities in a group setting contribute to improving the self-esteem and social interaction of the participants, positively affecting their physical and psychological aspects¹² and thus helping them to cope with stages of life that require specific strategies, such as postmenopause.

Given the association between the physiological changes of aging and the chronological process of menopause and postmenopause, there is an urgent need for research on nonpharmacological therapies to help manage these issues. In this respect, the present study aimed to assess women's perception regarding the effect of hydrotherapy on the signs and symptoms of postmenopause, provide support for health professionals and promote future research by expanding scientific discussion.

Methods

This study used a qualitative approach, whereby participants were chosen for the representativeness rather than to satisfy a certain sample size, allowing the issue to be addressed in multiple dimensions. This approach favors participants who have traits that the researcher is interested in studying, characterizing intentional sampling.¹³

Participants were women who had attended hydrotherapy for at least six months, reported no menstruation for at least 12 consecutive months and complained of two or more of the following symptoms: vasomotor symptoms (sudden feelings of heat with no apparent cause and intense night sweats capable of interrupting sleep), sleep disturbances (difficulty sleeping, insomnia or poor-quality sleep), mood swings (irritability, anxiety or sadness), vaginal dryness, hair loss or low sex drive.

The hydrotherapy sessions were conducted during the practical activities of a supervised internship in primary healthcare as part of the physiotherapy course of the University of West Santa Catarina (UNOESC). Eight women were invited to participate in the study, all of whom were part of a Hydrotherapy for Women's Health group aimed at relieving pain, improving blood flow, joint mobility and muscle activation, cardiovascular endurance and relaxation exercises. The 60-minute sessions were conducted in a heated pool, twice a week over a 24-week period, as follows: 5-minute warm-up, 15 minutes of resistance exercises, 15 minutes of mobility exercises, 20 minutes of cardiovascular endurance exercises and 5 minutes of relaxation techniques.

A semistructured interview of open-ended and closed-ended questions was applied in order to understand women's perception of the effect of hydrotherapy on postmenopausal signs and symptoms. According to Minayo,¹³ an interview is a conversation between two or more people aimed at compiling information relevant to an object of study. In semistructured interviews, interviewees have an opportunity to speak freely on the issue under study without following formulated questions and reflect on their experiences during a particular time.¹³

The script for the interview was compiled by the authors and contained questions on the identity of the participants, the presence of pain and chronic diseases, use of medication, reason for seeking hydrotherapy,

a brief description on lifestyle habits, social life and religious activities, participants' experience in hydrotherapy, their perceptions about the effects of immersion and physiotherapy on the body, and their mood, social relations, disposition, sleep quality, sexual activity, vasomotor symptoms (hot flashes and night sweats), in order to understand physical symptoms and postmenopausal symptoms during the study period. The 32 to 56-minute interviews (average of 44 minutes) were previously scheduled by telephone according to participants' availability and conducted in a private room next to the physiotherapy laboratory. Data were collected in November 2020 and all the necessary measures to minimize the risks of COVID-19 transmission were adopted.

For the purpose of greater accuracy, all the interviews were recorded. Next, they were transcribed, eliminating grammar mistakes, linguistic errors and semantic weight. Codes were used to identify the participants in order to protect their identities, as follows: P1, P2, P3, P4, P5 and so on. The interviews were validated by email, requesting that participants confirm the information within 15 days. Data from the empirical material were analyzed by the researchers in three stages, using content analysis:

1. Pre-analysis: according to Minayo,¹³ skimming requires direct intense contact with the material, engaging with the content; studying and organizing the material to respond to questions of validity such as completeness, representativeness, homogeneity and relevance; formulating and reformulating hypotheses and objectives based on exhaustive reading and initial questions. Pre-analysis includes establishing the recording units (keywords or sentences), context units (outlining the context of understanding the recording unit), relevant excerpts, categorization format, coding format and more general concepts guiding the analysis.¹³

2. Analyzing the material: the second stage of thematic analysis is examining and understanding the text. The information was categorized by separating the text into recording units.

3. Processing and interpreting the results obtained: Interpreting the data, categorized according to the theoretical framework.

The project that gave rise to this study was approved by the UNOESC Research Ethics Committee under protocol number 4.250.630 and all the relevant ethical principles were followed.

Results

Participants were 8 women aged between 43 and 69 years. Of these, four were married and four divorced; one was on sick leave, two worked in general services and five were retired (Table 1). In regard to the presence of postmenopausal signs and symptoms, there were reports of vasomotor symptoms, sleep disturbances, mood swings, vaginal dryness, hair loss and low sex drive (Table 2).

Table 1 - Sample characterization (n = 8)

Variables	Mean ± standard deviation
Age (years)	55.75 ± 8.55
Time in postmenopause (years)	8.5 ± 7.98
Marital status	n (%)
Married	4 (50.0)
Divorced	4 (50.0)
Schooling level	n (%)
Elementary education	4 (50.0)
High school diploma	2 (25.0)
College degree	2 (25.0)
Physical activity	n (%)
Yes	3 (37.5)
No	5 (62.5)
Employment status	n (%)
General services	2 (25.0)
Retired	5 (62.5)
Sick leave	1 (12.5)

The empirical material obtained from the interviews was interpreted via content analysis and provided the following analytical categories: reduced pain and muscle tension; decline in postmenopausal signs and symptoms; better sleep quality; sexual pleasure and quality; improvement in biopsychosocial factors/social interaction.

Discussion

The first category related to perceptions about the effect of hydrotherapy on postmenopausal signs and symptoms was reduced pain and muscle tension, as indicated in the statements below:

Table 2 - Absolute and relative frequency of the presence of postmenopausal signs and symptoms (n = 8)

Symptoms	n (%)
Vasomotor symptoms	
Yes	8 (100)
No	0 (0)
Mood swings	
Yes	7 (87.5)
No	1 (12.5)
Sleep disturbances	
Yes	7 (87.5)
No	1 (12.5)
Vaginal dryness	
Yes	5 (62.5)
No	3 (37.5)
Low sex drive	
Yes	5 (62.5)
No	3 (37.5)
Hair loss	
Yes	4 (50.0)
No	4 (50.0)
Presence of chronic pain	
Yes	8 (100)
No	0 (0)
Continuous use medications	
Yes	1* (12.5)
No	7 (87.5)

Note: *Atenolol.

[...] with the suspension of hydrotherapy classes during the pandemic, my muscle and joint pain increased and my joints felt stiffer; once classes started again, all the aches improved [...] it was quite an ally in relieving my pain [...] (P1)

My sciatica cleared up completely; when I do feel pain, it's much milder and less intense [...] my pain has gone from 100% to 10 % [...] (P2)

After I started hydrotherapy, on a scale of 0 to 10, my pain was initially a 9 and then 2, and now I don't need pain medication anymore. (P7)

After I started hydrotherapy, my sciatica improved, and I went for month without an episode; the duration and intensity of the pain also improved. Now my sciatica is completely gone. (P8)

Women undergoing menopause complain of generalized musculoskeletal pain.^{4,7} Kozinoga et al.¹⁴ reported that perimenopause is associated with increased low back pain and heightened pain perception in relation to women from other age groups, with weight gain indicated as a risk factor. Although there seems to be a strong correlation between musculoskeletal pain and estrogen deficiency, a causal link has yet to be established,⁷ indicating the need for qualified research to determine the extent to which chronological aging and hormonal changes influence pain perception.

Regardless of the association or not with causal factors, participants' statements indicate a decline in perceived pain, muscle tension and joint stiffness as effects of hydrotherapy. Physical exercise stabilizes muscles, with a positive effect on muscle pain and tension, generating a feeling of relief.¹⁵⁻¹⁹

Reduced pain is a therapeutic effect achieved by hydrotherapy even in chronic cases.^{20,21} The physiological effects of immersion, buoyancy and the thermal capacity of water increase the pain threshold, facilitating joint movement and reducing painful muscle spasms.^{17,22,23} The analgesic action of hydrotherapy is based on higher dopamine levels in the central nervous system, which persist for several hours after immersion, resulting in less pain and a feeling of well-being.²⁴ As such, hydrotherapy improves cases of chronic pain, positively interfering in the feedback loop between pain and increased muscle tension, and can be used as a resource in women's health.

As indicated in the statements below, a decline was also reported in the signs and symptoms of postmenopause, a milestone in the female aging process:

[...] before hydrotherapy I had them every day (referring to menopausal symptoms); after I started the classes my symptoms improved, only emerging every fifteen days or so and then not for several months at a time. (P1)

[...] when I started hydrotherapy, I still had hot flashes that would come out of nowhere for no apparent reason, and vaginal dryness, but these symptoms improved a lot afterwards.(P3)

I was experiencing hot flashes, mood swings, insomnia and poor sleep when I started hydrotherapy [...] the classes really helped to reduce the intensity of my menopausal symptoms [...](P4)

[...] I started experiencing signs and symptoms of

menopause in early 2019, including hot flashes, severe night sweats that interrupted my sleep, insomnia, vaginal dryness, hair loss and low sex drive, but these improved over time [...] Hydrotherapy really helped me, even in controlling the intensity of the symptoms. Now I only experience them once a month. (P8)

Regular exercise has a positive effect on controlling postmenopausal signs and symptoms and is one of the most widely recommended nonpharmacological resources in the literature.^{3,7,9,25,26} Berin et al.²⁷ observed a decline in the frequency of moderate-to-severe hot flashes among postmenopausal women after 15 weeks of resistance training. The authors suggested that central beta-endorphin production triggered by exercise stabilizes women's thermoregulation during this period. In a systematic review, Manojlović et al.²⁸ reported that training combined with resistance and aerobic exercise reduces arterial stiffness in postmenopausal women, improving cardiovascular function.

A qualitative study that aimed to investigate the experience of menopausal women with physical exercise demonstrated that it can mitigate menopausal symptoms and provide other health benefits; the women also reported that physical activity was their preferred strategy for treating these symptoms.²⁹ Thus, hydrotherapy can contribute to improving the characteristic signs and symptoms of menopause and the group setting favors mental well-being and age-related aspects, providing physical and functional benefits.³⁰ Follow-up studies should be conducted to verify these outcomes.

In addition to mitigating menopausal signs and symptoms, participants also reported better sleep quality:

I noticed a substantial improvement in sleep quality after hydrotherapy [...](P3)

After hydrotherapy my sleep quality really improved. (P6)

I suffered from poor sleep quality because of the pain, but since starting hydrotherapy my sleep has really improved [...](P8)

My anxiety really affected my sleep quality; physiotherapy helped me to control my anxiety and now I sleep much better [...] but after starting hydrotherapy my anxiety really improved. (P6)

Sleep difficulties increase as women approach menopause, since vasomotor symptoms generally interfere in sleep and may be associated with reports of sleep disturbances.³¹ Regular physical exercise can

contribute to improving sleep quality.³² The present study demonstrated that sleep quality improved after participants began group hydrotherapy sessions, indicating that this resource contributes to mitigating this symptom, as observed in previous studies.^{21,22,33}

Hormonal changes may be responsible for insomnia during menopause and the high prevalence of this sleep disorder may be influenced by psychological changes or other regulatory system disturbances (circadian rhythms), which are often related to aging.³⁴ Poor sleep can interfere in the routine and activities of daily living of women, negatively affecting their overall health; thus, seeking strategies to control this symptom is essential in helping women navigate menopause in a healthy way.

The women also reported that regular hydrotherapy fosters sexual pleasure and quality, as illustrated in the statements below:

In terms of my sexual activity, I noticed a substantial improvement in hip mobility [...] after hydrotherapy, my hip movements during sexual activity improved. (P1)

Sexual relations also improved, my hip and spinal mobility and sexual pleasure are better because the hydrotherapy helped control my pain, which made a real difference. (P3)

Today I enjoy sex more because I feel less pain and that's also helped improve my sexual pleasure because my hip mobility is better. (P6)

For women, in addition to physical limitations and social difficulties, aging can also result in a loss of body image, sexuality and desire, permeated by the prejudice and myths that surround the aging process.^{1,35}

One of the hydrotherapy effects mentioned by participants is the recovery of range of motion, improving their execution of daily activities and providing physical, social and emotional benefits. Thus, it was concluded that hydrotherapy can restore women's physical function, improve their self-esteem and revitalize their femininity and sexual pleasure, ensuring better quality of life.

In addition to the participants' perceptions, the relationship between exercise and sexual function has been widely studied, since exercise is a particularly appealing treatment for sexual dysfunctions because it does not carry the stigma often associated with sexual and pharmacotherapy.³⁶

Sexual dysfunctions during menopause are typically characterized by unique determinants and risk factors that go beyond estrogen deficiency. However, sexual problems in menopause are underdiagnosed and

undertreated. Educating health professionals and patients is vital to improving and maintaining overall genitourinary and sexual health. Treatment should consider symptom severity, effect on quality of life, potential adverse effects and personal preferences,³⁷ with exercise as an important tool in treating the sexual dysfunctions that affect postmenopausal women.

Some women do not cope well with menopause because they associate it with aging, which in most Western cultures has very negative connotations.⁴ Another category mentioned by participants was the improvement in biopsychosocial factors/motivation and social interaction due to hydrotherapy:

Hydrotherapy also helped control my depression [...] I noticed a significant improvement in my mood and general disposition [...] I used to be an independent, active person, but after my surgery I had to depend on others and started to feel depressed, so I looked into group activities, and they helped me a lot [...] (P1)

Not only did it help improve my everyday anxieties and stress, but it also helped maintain this balance [...] (P4)

My relationship with my husband improved because before I never felt like doing much, I complained and felt stressed, and that really affected our relationship [...] it also encourages interaction, making us happier and more energetic. (P7)

It encourages interaction with others, people whose problems are different from mine, and also motivates me to look after and improve myself, and it's fun. (P2)

[...] we can chat with others and get to know them, their problems and different views, and it motivates us to be better and try and improve ourselves. (P4)

This study demonstrates the beneficial effects of hydrotherapy on the mental health of the participants, since the combination of the water and group setting promotes positive effects, a sense of well-being and better quality of life.^{21,35,38,39}

Silva et al.⁴⁰ investigated the effects of aquatic exercise on mental health and oxidative stress parameters in depressed older adults, concluding that a low intensity aerobic exercise program can contribute to reducing anxiety and depression scores, improving functional autonomy and reducing oxidative stress. Given that aquatic and group activities can minimize the effects of stress or anxiety, clinical trials and follow-up studies are needed to analyze practically applicable biomarkers of measurements and effects.

Hydrotherapy provides practitioners with greater social contact. Contact with different personalities, difficulties and pathologies improves interaction and awakens feelings of satisfaction, contributing to self-esteem and promoting wellness and a better quality of life, with a resulting improvement in biopsychosocial factors.

Although the natural aging process causes a physiological decline in hormonal functions in women, hydrotherapy improves their perception of these aspects, making them easier to manage. Moreover, given the physical properties of water, which promote relaxation, analgesia and less impact on joints, hydrotherapy enhances body movement and is used to improve pathological conditions, such as preventing exacerbation and promoting health and well-being.

Limitations of this study include difficulty measuring the effects of the variables due to its design, as well as the reliability of self-reported sleep quality measures and biopsychosocial markers. Randomized clinical trials are needed to assess the physiological effects of hydrotherapy on women, with a longer follow-up period to demonstrate the long-term causal impact, in addition to studies that consider the possible confounding effect on outcomes.

Conclusion

This study demonstrated the perception of women about the effects of hydrotherapy on the signs and symptoms of postmenopause, including reduced pain and muscle tension and an improvement in the signs and symptoms. Hydrotherapy also improved sleep quality and sexual pleasure and mitigated biopsychosocial symptoms such as anxiety and stress through better social interaction. In light of the satisfactory results presented and the aquatic setting, this study could encourage further research in the field of women's health.

Authors' contributions

RB and APMG were responsible for the study design, methodology, data collection, analysis and interpretation, and writing the article. VJBA and ELJ contributed to the methodology, data analysis and interpretation and

critical review of the article. All the authors contributed substantially to the conception of the manuscript and approved the final version.

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