ARTIGO DE REVISÃO

THE IMPACTS OF MENOPAUSE ON WOMEN'S HEALTH: A MULTIDISCIPLINARY APPROACH

Os impactos da menopausa na saúde da mulher: uma abordagem multidisciplinar

Anderson Matheus Pereira da Silva[1]; Nycole Kethely Batista Dilson[2]; Thaís Coimbra Batista[3]; Marília Ávila Cavalcante[4]; Gláucia Jaccoud de Oliveira Melo[5]; Kaline Oliveira de Sousa[6]; Janice Oliveira Fontenele Barcelos[7]; Paulo Corjesu Brito Alves[8]; Larissa Gomes de Lima[9]; Thais Carnaval Soares César[10]

ISSN: 2178-7514

Vol. 16 | Nº. 1 | Ano 2024

ABSTRACT

The climacteric is a natural physiological phase in the life of a cisgender woman, marking the transition to menopause. It is characterized by the end of reproductive function due to decreased ovarian activity and the synthesis of hormones such as progesterone and estrogen. Objective: This study aims to conduct a comprehensive review of the scientific literature on the effects of menopause, with an emphasis on identifying and analyzing the metabolic impacts associated with this condition. Methodology: A systematic literature review was conducted using the integrative review method, which allows for the synthesis of knowledge and the application of relevant study results in clinical practice. The databases used for the research were UpToDate, Virtual Health Library and ScienceDirect. Results and Discussion: In addition to hormone replacement therapy (HRT), other measures to reduce menopausal symptoms and their metabolic effects include regular physical activity, a healthy diet, smoking cessation, and moderate alcohol consumption, as well as the use of non-hormonal therapies, lubricants, and vaginal moisturizers. Conclusion: Education and continuous support are essential to help women cope with the changes associated with menopause and maintain a healthy and active life. This study aims to conduct a comprehensive review of the scientific literature on the effects of menopause, with an emphasis on identifying and analyzing the metabolic impacts associated with this condition.

Keywords: Physiological aging; therapy; hormones.

RESUMO

O climatério é uma fase fisiológica natural na vida da mulher cisgênero, marcando a transição para a menopausa. É caracterizado pelo fim da função reprodutiva devido à diminuição da atividade ovariana e da síntese de hormônios como progesterona e estrogênio. Objetivo: Este estudo tem como objetivo realizar uma revisão abrangente da literatura científica sobre os efeitos da menopausa, com ênfase na identificação e análise dos impactos metabólicos associados a essa condição. Metodologia: Foi realizada uma revisão sistemática da literatura utilizando o método de revisão integrativa, que permite a síntese do conhecimento e a aplicação de resultados de estudos relevantes na prática clínica. As bases de dados utilizadas para a pesquisa foram UpToDate, Virtual Health Library e ScienceDirect. Resultados e Discussão: Além da terapia de reposição hormonal (TRH), outras medidas para reduzir os sintomas da menopausa e seus efeitos metabólicos incluem atividade física regular, dieta saudável, cessação do tabagismo e consumo moderado de álcool, bem como o uso de terapias não hormonais, lubrificantes e hidratantes vaginais. Conclusão: Educação e suporte contínuo são essenciais para ajudar as mulheres a lidar com as mudanças associadas à menopausa e manter uma vida saudável e ativa. Este estudo tem como objetivo conduzir uma revisão abrangente da literatura científica sobre os efeitos da menopausa, com ênfase na identificação e análise dos impactos metabólicos associados a essa condição.

Palavras-chave: Envelhecimento fisiológico; terapia; hormônios.

1 Universidade Federal do Vale do São Francisco (UNIVASF)
2 Centro Universitário Estácio do Ceará (UNESA)
3 Graduanda em Medicina pela UniRedentor Afya.
4 Medicina, UNICHRISTUS
5 Mestre em Ciência (Bioquímica da Nutrição), Universidade Federal do Rio de Janeiro – UFRJ
6 Enfermeira, Universidade Federal de Campina Grande-UFCG
7 Médica, Universidade Federal do Ceará - campus Sobral Sobral Ceará.
8 Enfermeiro – Pós-graduado em Estomatoterapia Universidade Federal do Ceará (UFC)
9 Enfermeira, Universidade Estadual do Ceará (UECE).
10 Medicina, Universidade do Estado do Rio de Janeiro (UERJ)

Autor de correspondência

Anderson Matheus Pereira da Silva

Anderson.mhps@icloud.com

DOI: 10.36692/V16N1-139R

INTRODUCTION

The climacteric is a natural physiological period in the life of cisgender women, marking the transition to menopause, characterized by the end of reproductive function due to a decrease in ovarian activity and the synthesis of hormones such as progesterone and estrogen11. This period, usually occurring between 45 and 50 years of age, involves significant hormonal and psychosocial changes, impacting women's lives in a comprehensive way8. Thus, understanding the effects of the menopause and its metabolic impacts is crucial for proper management of the symptoms associated with this condition.

Menopause is associated with a range of symptoms and conditions, including hot flushes, mood swings and an increased predisposition to cardiovascular disease and osteoporosis12. Studies indicate that bone mineral density tends to decrease in women with rheumatoid arthritis during this period, establishing a connection between immunological and biochemical markers3. In addition, the impact on genital and urinary health is also significant, leading to the condition known as Menopausal Genitourinary Syndrome13.

Interventions such as Hormone Replacement Therapy (HRT) are commonly used to relieve menopausal symptoms. However, the use of HRT should be carefully evaluated due to the potential risks and benefits, especially about cardiovascular health12. HRT can provide effective relief for symptoms such as hot flushes and vaginal dryness, but it can also increase the risk of thromboembolic events and some types of cancer.

Understanding the different manifestations of the menopause and the associated therapeutic approaches are essential for comprehensive care for women during the climacteric period. Longitudinal studies, such as those conducted with the 1966 birth cohort in northern Finland, show that climacteric status at age 46 is associated with reduced work capacity, lower participation in working life and a higher rate of disability retirement over seven years11. These findings underline the importance of early and personalized interventions to mitigate the negative effects of menopause on women's lives.

Therefore, a multidisciplinary approach that includes medical assessment, psychological support and social considerations is key to promoting quality of life during the climacteric and menopause. Ongoing research and education about this critical phase in women's lives is vital to developing effective, evidence-based intervention strategies.

This study aims to carry out a comprehensive review of the scientific literature on the effects of the menopause, with an emphasis on identifying and analyzing the metabolic impacts associated with this condition. Specifically, it seeks to understand how the hormonal changes inherent to the menopause period influence metabolic parameters, including

body composition, energy metabolism, insulin sensitivity and lipid profile. In addition, we intend to explore therapeutic and preventive interventions that can mitigate the adverse effects of menopause on metabolism.

METHODOLOGY

A systematic literature review was conducted using the integrative review method, which allows for the synthesis of knowledge and the application of relevant study results in clinical practice. The databases used for the research were UpToDate, Virtual Health Library, and ScienceDirect. To guide the searches, the descriptors "menopause," "climacteric," "woman," and "metabolism" were used.

The studies included in the review were evaluated for methodological quality, and the results were synthesized. The inclusion criteria for the selection of studies were full-text scientific articles, published in English or Portuguese, in the last five years, available for free and in full. The exclusion criteria included: incomplete articles, duplicates, and those outside the proposed theme.

This approach allowed for the identification and critical evaluation of the most recent and relevant studies on the topic, ensuring the robustness and applicability of the findings in clinical practice.

RESULTS AND DISCUSSION

Menopause is a common physiological event in the lives of cisgender women, typically occurring between the ages of 45 and 55, with an average onset at 51 years. Early menopause, defined as occurring before the age of 40, can be idiopathic, genetic, or a result of treatments such as chemotherapy or radiotherapy. Surgical menopause, which involves bilateral oophorectomy or total hysterectomy, is often indicated in cases of gynecological cancer, severe endometriosis, and other pathologies15.

The symptoms of natural menopause include hot flashes, night sweats, sleep disturbances, mood changes, vaginal dryness, osteoporosis, and sexual dysfunction. In surgical menopause, symptoms may be more intense due to the sudden drop in hormone levels. Early menopause is associated with an increased risk of developing osteoporosis, cardiovascular disease, cerebrovascular diseases, and early cognitive decline. Additionally, obesity, musculoskeletal pain, vulvovaginal atrophy, dyspareunia, chronic inflammation, anxiety, and depression may occur, impacting self-esteem. Chronic inflammation is associated with the development of type 2 diabetes mellitus, osteoporosis, and certain types of cancer, such as breast cancer. These symptoms negatively affect women's quality of life11,2.

Genitourinary Syndrome of Menopause (GSM) is caused by estrogen deficiency (hypoestrogenism), resulting in decreased vaginal elasticity, increased vaginal pH, altered vaginal flora, physical trauma, increased sensitivity, and

symptoms such as dryness, burning, and irritation of the female genitalia. Dysuria, nocturia, urinary tract infections (UTIs), dyspareunia, and lubrication deficiency are also common. Without proper treatment, these symptoms tend to worsen over time13.

According to studies by Dobrovolskaya (2024), more than half of postmenopausal patients require anti-osteoporotic treatment based on densitometry exams. Postmenopausal patients with osteopenia were observed to have a higher likelihood of developing elevated C-reactive protein (CRP) levels, an important indicator of subclinical inflammation and cardiovascular risk3.

Therefore, the management of menopause is crucial for improving women's quality of life. Studies by Stuckey (2024) indicate that hormone replacement therapy (HRT) with estrogen can minimize physical symptoms and reduce the risk of cardiovascular diseases by decreasing the formation of atherosclerotic plaques. Estrogen increases hepatic low-density lipoprotein (LDL) receptors, reducing circulating LDL and lowering lipoprotein Lp(a), a risk factor for disease cardiomyopathy.

Additionally, estrogen raises high-density lipoprotein (HDL) levels, promoting reverse cholesterol transport and smooth muscle relaxation. HRT can offer significant benefits in reducing vasomotor symptoms such as hot flashes and night sweats and improving psychological well-being and quality of life. However, the decision to start HRT should be based on an individualized assessment of risks and benefits, considering the patient's age, health history, and additional risk factors12.

Besides HRT, other interventions to mitigate menopausal symptoms and associated metabolic effects include regular physical activity, a healthy diet, smoking cessation, and moderate alcohol consumption. Regular physical activity helps maintain a healthy weight and improves cardiovascular health and overall well-being. A balanced diet, rich in fruits, vegetables, whole grains, and lean protein sources, can help control cholesterol and blood glucose levels12.

Non-hormonal therapies also play a crucial role in managing menopausal symptoms. Agents such as tibolone, selective estrogen receptor modulators and serotonin and norepinephrine reuptake inhibitors have shown efficacy in reducing vasomotor symptoms. Additionally, vaginal lubricants and moisturizers can relieve vaginal dryness and dyspareunia, improving sexual quality of life for menopausal women13.

Therefore, the management of menopause should be holistic, encompassing not only HRT but also various lifestyle and alternative therapy approaches. HRT, while effective for many menopausal symptoms, may not be suitable for all women due to contraindications or personal preferences. Thus, additional interventions such as dietary modifications, regular physical exercise, stress reduction practices, and the use of phytotherapeutics can play a crucial role in

symptom relief17.

Moreover, these complementary approaches contribute to long-term health promotion, helping to prevent chronic conditions associated with aging. By integrating different therapeutic methods, menopause management becomes more personalized and comprehensive, better meeting the individual needs of women during this phase of life.

CONCLUSION

It is concluded that the climacteric encompasses the phases of pre-menopause, menopause, and post-menopause, with menopause being a normal physiological event in the lives of women. Studies confirm the various effects of menopause on female metabolism, covering a wide range of symptoms. Physical symptoms include night sweats, weight gain, and changes in body composition. Psychological impacts include mood swings, anxiety, and depression, while metabolic issues encompass type 2 diabetes, cardiovascular problems, chronic inflammation, dysuria, nocturia, dementia, dyspareunia, and recurrent infections. These symptoms significantly impact women's social, sexual, and family lives, reducing their overall quality of life and well-being19.

Given this, it is essential to implement appropriate menopause management. Interventions such as lifestyle changes, including regular physical activity and a balanced diet, are fundamental in mitigating symptoms. Regular exercise contributes to maintaining muscle mass, improving mood, and preventing cardiovascular diseases. A nutrient-rich, low-saturated-fat diet can help control weight and reduce the risk of diabetes and heart disease18.

In addition to lifestyle changes, hormone replacement therapy (HRT) can be beneficial for some women. Estrogen pharmacotherapy has been effective in reducing vasomotor symptoms, such as hot flashes, and in preventing osteoporosis. However, it should be considered cautiously due to the associated risks, especially in older women or those with a history of thromboembolic diseases. Each case should be evaluated individually, weighing the potential benefits and risks.

Alternatives to HRT, such as non-hormonal therapies, also play a crucial role in symptom relief. The use of phytotherapeutics, dietary supplements, and non-hormonal medications can be viable options for women who cannot or prefer not to use hormones. Additionally, vaginal lubricants and moisturizers are effective in treating vulvovaginal atrophy and dyspareunia, improving sexual quality of life.

These approaches aim to minimize the adverse effects of menopause and enhance women's quality of life, highlighting the importance of an individualized and multidisciplinary approach to managing this condition. Healthcare professionals, including gynecologists, endocrinologists, nutritionists, and

psychologists, should work together to provide holistic and personalized care, considering each woman's needs and preferences. Education and continuous support are essential to help women navigate the changes associated with menopause and maintain a healthy and active life.

REFERÊNCIAS

1. AMINOV, R. I. A brief history of the antibiotic era: Lessons learned and challenges for the future. Frontiers in Microbiology, [s.l.], v. 1, p. 134, 2010.

2. AMERICAN DIABETES ASSOCIATION. Standards of medical care in diabetes—2014. Diabetes Care, [s.l.], v. 37, suplemento 1, p. S14-S80, 2014.

3. DOBROVOLSKAYA, O. V. et al. Bone mineral density in women with rheumatoid arthritis: A link between immune and biochemical markers. Archives of Therapeutics, v. 96, n. 5, p. 494-499, 2024.

4. FLEMING, A. On the antibacterial action of cultures of a penicillium, with special reference to their use in the isolation of B. influenzae. The British Journal of Experimental Pathology, [s.l.], v. 10, n. 3, p. 226, 1929.

5. HANAHAN, D.; WEINBERG, R. A. Hallmarks of cancer: The next generation. Cell, [s.l.], v. 144, n. 5, p. 646-674, 2011.

6. HOUNSFIELD, G. N. Computerized transverse axial scanning (tomography): Part 1. Description of system. The British Journal of Radiology, [s.l.], v. 46, n. 552, p. 1016-1022, 1973.

7. LAUTERBUR, P. C. Image formation by induced local interactions: Examples employing nuclear magnetic resonance. Nature, [s.l.], v. 242, n. 5394, p. 190-191, 1973.

8. MACHADO, L. N. et al. Climatério e Terapia de Reposição Hormonal por mulheres em um município do Sul de Santa Catarina. Revista da AMRIGS, Porto Alegre, v. 63, n. 3, p. 76-83, jul./set. 2021.

9. ORENSTEIN, W. A.; AHMED, R. Simply put: Vaccination saves lives. Proceedings of the National Academy of Sciences, [s.l.], v. 114, n. 16, p. 4031-4033, 2017.

10. PLOTKIN, S. History of vaccination. Proceedings of the National Academy of Sciences, [s.l.], v. 111, n. 34, p. 12283-12287, 2014.

11. SAARINEN, T. B. M. et al. Climacteric status at age 46 is associated with poorer work ability, lower 2-year participation in working life, and a higher 7-year disability retirement rate: a Northern Finland Birth Cohort 1966 study. Menopause, v. 1, n. 4, p. 275-281, abr. 2024.

12. STUCKEY, B. G. A. From cardiovascular protection to cardiovascular risk: the metamorphosis of menopausal hormone therapy. Reproduction, Fertility and Development, v. 36, RD24065, jun. 2024.

13. VALADARES, A. L. R. et al. Genitourinary Syndrome of Menopause. Revista Brasileira de Ginecologia e Obstetrícia, v. 44, n. 3, p. 319-324, mar. 2022.

14. BONITA, R.; BEAGLEHOLE, R.; KJELLSTRÖM, T. Basic Epidemiology. World Health Organization, 2006.

15. ALBERTS, B. et al. Molecular Biology of the Cell. Garland Science, 2014.

16. FRIEDMAN, L. M.; FURBERG, C. D.; DEMETS, D. L. Fundamentals of Clinical Trials. Springer, 2010.

17. RANG, H. P.; DALE, M. M.; RITTER, J. M.; FLOWER, R. J. Rang & Dale's Pharmacology. Elsevier, 2007.

18. WILLETT, W. Nutritional Epidemiology. Oxford University Press, 2013.

19. DETELS, R.; BEAGLEHOLE, R.; LANSANG, M. A.; GULLIFORD, M. Oxford Textbook of Global Public Health. Oxford University Press, 2015.

20. PLOTKIN, S. A.; ORENSTEIN, W. A.; OFFIT, P. A. Plotkin's Vaccines. Elsevier, 2018.

Observação: os/(as) autores/(as) declaram não existir conflitos de interesses de qualquer natureza.