

The two articles that I chose to research are the “Effectiveness of physical exercise in the treatment of depression in older adults as an alternative to antidepressant drugs in primary care” and “Effects of aquatic exercise on mental health, functional autonomy and oxidative stress in depressed elderly individuals: A randomized clinical trial.” Both of these articles touch on the subject of the physiology of exercise and how it can help the older people who experience depression.

The article “Effectiveness of physical exercise in the treatment of depression in older adults as an alternative to antidepressant drugs in primary care” was written by Jesus Lopez-Torres Hidalgo. This article dives into the topic of using physical exercise as an alternative to traditional antidepressant drugs in treating depression among older adults within primary care settings. The primary findings of this research underscore the effectiveness of physical exercise as a viable and potentially preferable option for managing depression in the elderly population. Numerous studies highlighted in the article consistently demonstrate a positive correlation between regular physical exercise and a reduction in depressive symptoms among older adults. The evidence suggests that engaging in exercise can be a powerful and natural mood enhancer that offers a tangible alternative to antidepressant medications. This finding is particularly significant given the concerns surrounding the side effects and interactions associated with pharmacological interventions in the elderly. Biological mechanisms underpinning the positive impact of exercise on depression are explored in-depth. Exercise is shown to stimulate the release of endorphins, the body's natural mood-regulating chemicals. This neurobiological response not only contributes to an immediate uplift in mood but also promotes neuroplasticity, fostering the growth of new neurons. Such neurogenesis is

linked to improved mental health outcomes and resilience to stress, factors that are particularly relevant to the older adult population. The anti-inflammatory effects of exercise are also highlighted as a crucial component of its therapeutic impact. Inflammation has been implicated in depression among older adults, and regular physical activity appears to mitigate this inflammatory response. This dual-action, involving both neurobiological and anti-inflammatory pathways, contributes to the holistic effectiveness of exercise in managing depression. Psychological benefits further support the case for exercise as a treatment option. The sense of accomplishment derived from engaging in regular physical activity can significantly influence an individual's perception of well-being. Moreover, exercise interventions often incorporate social elements, addressing the issue of social isolation commonly observed in older adults. Group exercise or outdoor activities provide opportunities for social interaction, enhancing mental health through interpersonal connections. The feasibility and cost-effectiveness of implementing exercise interventions in primary care settings emerge as key factors in favor of this approach. Exercise programs tailored to the specific needs and capabilities of older adults can be seamlessly integrated into routine care, offering a holistic and patient-centric approach to managing depression. The economic considerations, particularly in comparison to the long-term use of antidepressant medications, make exercise interventions an attractive option for healthcare providers and policymakers. The role of healthcare providers in promoting physical activity as part of depression management is emphasized. A collaborative and interdisciplinary approach, involving physicians, nurses, and physical therapists is crucial in ensuring that exercise programs align with the individual health status and

address any potential contraindications. This teamwork approach optimizes the effectiveness of exercise interventions within the primary care context. Patient education is identified as a fundamental aspect of successful exercise interventions. Clear communication about the mental health benefits of physical activity, guidance on appropriate exercise types and intensities, and ongoing support are crucial for fostering adherence. Empowering older adults with the knowledge and tools to engage in regular exercise not only enhances treatment outcomes but also promotes a sense of agency in managing their mental health. Despite the robust evidence supporting the efficacy of exercise, the article acknowledges the importance of recognizing individual variability. Some older adults may prefer or benefit from a combination of exercise and traditional antidepressant medications. Therefore, a personalized and patient-centered approach, taking into account individual preferences and medical history, is essential in tailoring treatment plans to optimize outcomes.

In the article “Effects of aquatic exercise on mental health, functional autonomy and oxidative stress in depressed elderly individuals: A randomized clinical trial,” it investigates the impact of aquatic exercise on mental health, functional autonomy, and oxidative stress in depressed elderly individuals through a randomized clinical trial. All the primary findings found in the study reveals that there are significant positive effects associated with aquatic exercise interventions. Firstly, the study demonstrates a notable improvement in mental health among depressed elderly individuals engaging in aquatic exercise. Participants experienced a reduction in depressive symptoms, suggesting that aquatic exercise serves as an effective intervention for addressing mental health challenges in this demographic.

Then aquatic exercise emerges as a beneficial factor in promoting functional autonomy among depressed elderly individuals. Engaging in water-based activities contributes to improved physical functioning, independence, and overall mobility. This finding underscores the holistic benefits of aquatic exercise beyond mental health, encompassing broader aspects of functional well-being. The study highlights a positive impact on oxidative stress levels in depressed elderly individuals participating in aquatic exercise. Oxidative stress, often associated with various health issues, was mitigated through the intervention. This suggests a potential protective effect of aquatic exercise against cellular damage linked to oxidative stress, which is particularly relevant in the context of aging. The randomized clinical trial design adds strength to the study's findings, ensuring a rigorous and controlled approach to evaluating the effects of aquatic exercise. Randomization helps minimize bias and enhances the reliability of the observed outcomes, strengthening the credibility of the reported positive effects. Given that the study focuses on elderly individuals, the findings hold particular significance for an aging population. The positive outcomes in mental health, functional autonomy, and oxidative stress reduction suggest that aquatic exercise could be a valuable and tailored intervention for addressing the unique health challenges faced by older individuals, especially those dealing with depression. The results of the study have practical implications for developing intervention strategies for depressed elderly individuals. Aquatic exercise could be considered as part of a comprehensive approach to managing mental health issues in this demographic, with potential benefits extending beyond psychological well-being to encompass physical and cellular health.

In conclusion, both of these articles talk about the significance of physical exercise as a viable therapeutic approach for addressing depression in older adults. Both studies provide compelling evidence that engaging in regular physical activity, whether in traditional or aquatic forms, can yield positive outcomes in terms of mental health, functional autonomy, and oxidative stress reduction among the older population. The findings not only highlight the potential of exercise as an alternative to traditional pharmacological interventions but also emphasize the diverse modalities through which physical activity can positively impact the holistic well-being of older individuals grappling with depression.

## Work Cited

López-Torres Hidalgo, J., & DEP-EXERCISE Group. (2019, January 14). Effectiveness of physical exercise in the treatment of depression in older adults as an alternative to antidepressant drugs in primary care. BMC psychiatry.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6332682/>

Silva LAD; Tortelli L; Motta J; Menguer L; Mariano S; Tasca G; Silveira GB; Pinho RA; Silveira PCL; (n.d.). Effects of aquatic exercise on mental health, functional autonomy and oxidative stress in depressed elderly individuals: A randomized clinical trial. Clinics (Sao Paulo, Brazil).

<https://pubmed.ncbi.nlm.nih.gov/31271585/>