

The Role of Lifestyle Changes in Osteoarthritis Management in West Africa

Mugo Moses H.

School of Natural and Applied Sciences Kampala International University Uganda

ABSTRACT

Osteoarthritis (OA) is an increasingly prevalent non-communicable disease in West Africa, driven by demographic shifts, urbanization, and changing lifestyle patterns. Despite the rising burden of OA, limited healthcare infrastructure, low awareness, and economic constraints hinder effective diagnosis and management. Lifestyle changes such as physical activity, weight management, joint protection, and nutritional improvements have emerged as cost-effective, non-pharmacological strategies for OA care, especially in resource-limited settings. This review explores the role of lifestyle interventions in OA management within the unique social, economic, and cultural contexts of West Africa. It examines the epidemiology of OA in the region, identifies key lifestyle-based approaches to disease management, and evaluates barriers such as low health literacy, poverty, cultural beliefs, and gender roles that affect intervention adoption. Additionally, the review highlights opportunities for integrating lifestyle modification into primary healthcare through community health initiatives, culturally sensitive programs, and strengthened health systems. The findings underscore the urgent need for region-specific research, healthcare provider training, and policy frameworks that promote sustainable, community-based lifestyle strategies to mitigate OA's impact and enhance quality of life across West African populations.

Keywords: Osteoarthritis, West Africa, lifestyle interventions, non-communicable diseases.

INTRODUCTION

Osteoarthritis (OA) is the most prevalent form of arthritis globally and a leading cause of chronic disability, particularly among older adults. Characterized by the gradual degeneration of joint cartilage and underlying bone, OA primarily affects weight-bearing joints such as the knees, hips, and spine, resulting in pain, stiffness, reduced mobility, and impaired quality of life [1]. The World Health Organization (WHO) estimates that approximately 10% of men and 18% of women over 60 years suffer from symptomatic OA worldwide [2]. Although often perceived as a problem of high-income nations, the burden of OA is increasingly recognized in low- and middle-income countries, including those in West Africa, where demographic and lifestyle transitions are influencing its epidemiology and clinical management [3].

In recent decades, West Africa has experienced profound socioeconomic and demographic transformations. Urbanization, changing dietary patterns, increasing sedentary lifestyles, and a shift in occupational structures from manual to less physically demanding jobs have contributed to a growing burden of non-communicable diseases (NCDs), including OA [4]. Concurrently, improvements in healthcare systems and public health interventions have led to longer life expectancy, resulting in an aging population more susceptible to age-related degenerative diseases. Despite the growing prevalence of OA, healthcare infrastructure across much of West Africa remains underdeveloped. Many communities lack specialized rheumatologic or orthopedic services, and access to diagnostic tools such as radiography and MRI is often limited. Consequently, the diagnosis and management of OA are frequently delayed or inadequate. In response to these challenges, non-pharmacological and non-surgical approaches, particularly lifestyle modifications, are being increasingly advocated as feasible and cost-effective alternatives to conventional medical therapies [5].

Lifestyle interventions such as weight management, physical activity, joint protection techniques, and dietary modifications have been shown to reduce pain, improve joint function, and enhance quality of life in OA patients [6]. These strategies are particularly appealing in resource-limited settings where pharmacologic and surgical options may be inaccessible or unaffordable. Moreover, lifestyle changes align well with broader public health goals by simultaneously addressing other NCD risk factors such as obesity, hypertension, and diabetes [7]. However, the implementation and effectiveness of lifestyle-based interventions for OA in West Africa remain underexplored. Cultural beliefs, limited awareness, socioeconomic constraints, and healthcare provider practices may influence the adoption and sustainability of such interventions. There is a pressing need to better understand the role of lifestyle changes in OA management within the unique social, economic, and healthcare contexts of West African countries [8].

While osteoarthritis is increasingly recognized as a public health concern in West Africa, current management strategies remain insufficient to address the growing burden of the disease. A significant gap exists between the availability of conventional treatment modalities such as medications, physiotherapy, and surgical interventions and the needs of the affected population [9]. Most patients rely on symptomatic relief through over-the-counter analgesics or traditional medicine, which may provide temporary relief but do not address the underlying causes or long-term progression of the disease. Moreover, lifestyle interventions, despite being globally acknowledged as first-line strategies in OA management, are not systematically integrated into healthcare practices in West Africa. Public awareness about OA and the benefits of lifestyle modifications remains low, and healthcare providers often lack the training or resources to counsel patients on such interventions [10]. Consequently, patients miss out on effective, affordable, and sustainable options that could significantly improve their quality of life and reduce the burden on the healthcare system.

Without targeted efforts to understand and promote lifestyle interventions within the regional context, the prevalence and impact of OA are likely to escalate, further straining already fragile healthcare systems. There is a critical need for region-specific research and policy development aimed at integrating lifestyle changes into mainstream OA management in West Africa [11]. This study aims to investigate the role of lifestyle changes in managing osteoarthritis in West Africa. It aims to assess the prevalence and risk factors associated with osteoarthritis in selected communities, evaluate the awareness and adoption of lifestyle-based interventions among OA patients, identify barriers and facilitators to the implementation of lifestyle modifications, examine the role of healthcare providers in promoting lifestyle changes, and recommend context-specific strategies for integrating lifestyle interventions into national and community-level OA management programs. The research questions include the current prevalence and burden of osteoarthritis in West Africa, the extent to which lifestyle modifications are being utilized by OA patients, the main barriers preventing the adoption of lifestyle changes, the role of healthcare providers in educating and supporting OA patients to adopt lifestyle changes, and how lifestyle-based interventions can be better integrated into the existing healthcare framework for effective OA management. The study is significant for several reasons. First, it contributes to a growing body of literature on the epidemiology and management of osteoarthritis in low-resource settings, filling a vital knowledge gap regarding the effectiveness and feasibility of lifestyle-based interventions in a region undergoing rapid demographic and lifestyle transitions. Second, the findings can inform policymakers and healthcare practitioners about the need to prioritize non-pharmacological interventions in OA care, as evidence supports the efficacy of lifestyle changes in improving OA outcomes. Third, the study highlights the importance of culturally sensitive and community-based approaches to health education and behavior change. Finally, the study has the potential to benefit OA patients by promoting strategies that empower individuals to manage their condition proactively, leading to better health outcomes, increased functional independence, and enhanced quality of life.

Epidemiology of Osteoarthritis in West Africa

Osteoarthritis (OA) is a growing public health concern in West Africa, with its prevalence steadily rising due to demographic, occupational, and lifestyle transitions [12]. The condition primarily affects the knees, hips, and hands, with knee OA emerging as the most common and debilitating form in the region. The high prevalence of knee OA is largely attributed to the widespread engagement in physically demanding labor, such as farming, carrying heavy loads, squatting, and prolonged walking activities that place repetitive stress on the knee joints. Epidemiological studies conducted in Nigeria, Ghana, and other West African countries have consistently shown that women are disproportionately affected, particularly postmenopausal women, likely due to a combination of hormonal changes, anatomical differences, and social roles involving physically intensive household and caregiving duties. Age is another critical risk factor, with the incidence of OA increasing significantly in individuals over 50 years. As the population in West Africa continues to age due to improved life expectancy, the burden of OA is expected to rise correspondingly [13]. Additionally, obesity, which is becoming increasingly prevalent in urban centers due to

dietary changes and sedentary lifestyles, contributes significantly to OA risk by exerting excessive mechanical stress on weight-bearing joints and promoting systemic inflammation.

Genetic predisposition, cultural practices, and limited access to healthcare further shape the epidemiological profile of OA in West Africa. Traditional diets low in anti-inflammatory nutrients and the widespread reliance on alternative medicine may also influence disease progression and reporting [14]. Despite its growing impact, OA remains underreported and underdiagnosed, highlighting the urgent need for comprehensive surveillance and targeted public health interventions in the region.

The Role of Lifestyle Changes in OA Management

Osteoarthritis (OA) is an increasingly prevalent health concern in West Africa, largely driven by demographic shifts, urbanization, and changing lifestyle patterns. As populations in the region age and become more sedentary, the burden of OA particularly knee and hip OA continues to rise, contributing to disability, reduced productivity, and a decline in quality of life [15]. In response to limited access to specialized medical care, lifestyle interventions are gaining attention as practical and cost-effective strategies for OA management. Physical activity and exercise, especially low-impact activities such as walking, swimming, and traditional dance, have been shown to enhance joint mobility, strengthen periarticular muscles, and alleviate stiffness and pain. Community-based programs incorporating culturally relevant forms of movement have demonstrated promise in improving function among OA sufferers. Weight management is another crucial intervention, as obesity significantly increases mechanical load on joints and promotes systemic inflammation. With rising obesity rates in both urban and rural West African populations, dietary counseling and local weight-loss initiatives are essential [16]. Nutrition plays a vital role, with anti-inflammatory diets emphasizing fruits, vegetables, whole grains, and traditional foods like moringa and okra offering potential benefits, although food insecurity and cultural eating habits may complicate adherence. Additionally, reducing smoking and alcohol consumption can support joint health, even though these factors are less explored in OA-specific research. Lastly, traditional and complementary therapies remain deeply rooted in OA care, necessitating collaboration between biomedical practitioners and traditional healers to ensure safety, efficacy, and culturally sensitive care for OA patients across the region.

Barriers to Lifestyle Modification in West Africa

In West Africa, implementing lifestyle modifications as a core strategy for managing osteoarthritis (OA) faces several significant barriers rooted in systemic, socioeconomic, and cultural factors [10]. A key obstacle is the limited access to health education; many communities lack sufficient information about OA, its preventable aspects, and the potential benefits of lifestyle changes such as regular exercise, weight management, and healthy eating. Health literacy remains low in rural and underserved urban areas, where public health campaigns are either absent or inadequately targeted. Socioeconomic constraints further complicate intervention efforts. High poverty levels, food insecurity, and under-resourced healthcare systems limit the capacity of individuals to make consistent and sustainable lifestyle changes [17]. Even when individuals are aware of healthier practices, limited financial resources can restrict their ability to afford nutritious food or participate in structured physical activity programs. Cultural beliefs and stigma also play a crucial role; OA is often regarded as a natural consequence of aging, leading to resignation rather than active management. This belief diminishes the perceived value of lifestyle modifications. Additionally, gender roles and responsibilities pose unique challenges, especially for women who may have limited autonomy, time, or support to engage in self-care practices. Collectively, these barriers necessitate context-sensitive approaches to promoting lifestyle change in OA care.

Opportunities and Recommendations

Osteoarthritis (OA) is emerging as a significant public health issue in West Africa, with prevalence steadily rising due to demographic shifts such as aging populations, increasing rates of obesity, sedentary lifestyles, and urbanization [18]. Traditionally overshadowed by infectious diseases, OA and other non-communicable diseases (NCDs) are now receiving greater attention due to their growing contribution to disability and reduced quality of life. However, the true burden of OA in West Africa remains underreported due to limited surveillance systems, scarce epidemiological data, and inadequate health infrastructure for diagnosis and management. To address these challenges and improve OA outcomes, several strategic opportunities and recommendations have been identified.

One key opportunity lies in leveraging existing community health initiatives. Community health workers and local NGOs already engaged in maternal health, immunization, and infectious disease control can be trained to incorporate OA education, including awareness on joint health, weight management, and safe physical activity [19]. Integrating OA management into primary healthcare is also essential. Primary care providers, who often serve as the first and only point of contact for most patients, should be trained in basic OA screening and lifestyle counseling. Additionally, culturally sensitive interventions that respect local beliefs, traditional diets, and activity patterns are crucial for improving program acceptance and adherence. Finally, governments and academic institutions must

invest in epidemiological research and routine data collection to assess OA prevalence, monitor interventions, and inform evidence-based health policies. These recommendations offer a sustainable pathway for enhancing OA management and reducing its growing impact across West African communities.

CONCLUSION

In conclusion, lifestyle changes hold significant promise in the management of osteoarthritis (OA) in West Africa, particularly within the context of limited access to pharmacologic and surgical treatments. Interventions such as regular physical activity, weight management, and dietary modifications have demonstrated potential in alleviating symptoms, improving joint function, and enhancing overall quality of life. However, the successful implementation of these strategies is challenged by systemic barriers including low health literacy, poverty, cultural perceptions, and limited healthcare infrastructure. To address these obstacles, a multifaceted and culturally sensitive approach is essential. This includes integrating OA education into community health programs, training primary care providers in lifestyle counseling, and engaging traditional healers to bridge gaps between biomedical and traditional practices. Strengthening public awareness and investing in region-specific research will also be critical to understanding the evolving epidemiology of OA and tailoring interventions accordingly. Ultimately, empowering individuals and communities through informed, accessible, and sustainable lifestyle interventions can play a pivotal role in reducing the OA burden across West Africa.

REFERENCES

1. He, Y., Li, Z., Alexander, P.G., Ocasio-Nieves, B.D., Yocum, L., Lin, H., Tuan, R.S.: Pathogenesis of Osteoarthritis: Risk Factors, Regulatory Pathways in Chondrocytes, and Experimental Models. *Biology*. 9, 194 (2020). <https://doi.org/10.3390/biology9080194>
2. Autoimmune Diseases, <https://www.niehs.nih.gov/health/topics/conditions/autoimmune>
3. Yahaya, I., Wright, T., Babatunde, O.O., Corp, N., Helliwell, T., Dikomitis, L., Mallen, C.D.: Prevalence of osteoarthritis in lower middle- and low-income countries: a systematic review and meta-analysis. *Rheumatol Int*. 41, 1221–1231 (2021). <https://doi.org/10.1007/s00296-021-04838-y>
4. Juma, K., Juma, P.A., Shumba, C., Otieno, P., Asiki, G., Juma, K., et al: Non-Communicable Diseases and Urbanization in African Cities: A Narrative Review. In: *Public Health in Developing Countries - Challenges and Opportunities*. IntechOpen (2019)
5. Ferreira, R.M., Martins, P.N., Gonçalves, R.S.: Non-pharmacological and non-surgical interventions to manage patients with knee osteoarthritis: An umbrella review 5-year update. *Osteoarthr Cartil Open*. 6, 100497 (2024). <https://doi.org/10.1016/j.jocarto.2024.100497>
6. Gay, C., Chabaud, A., Guilley, E., Coudeyre, E.: Educating patients about the benefits of physical activity and exercise for their hip and knee osteoarthritis. Systematic literature review. *Annals of Physical and Rehabilitation Medicine*. 59, 174–183 (2016). <https://doi.org/10.1016/j.rehab.2016.02.005>
7. Alum, E. U. Ugwu, O. P. C. Nutritional Strategies for Rheumatoid Arthritis: Exploring Pathways to Better Management. *INOSR Scientific Research*. 2023; 10(1):18–26. <https://doi.org/10.59298/INOSRSR/2023/3.2.47322>
8. Latif, A.S.: The Importance of Understanding Social and Cultural Norms in Delivering Quality Health Care—A Personal Experience Commentary. *Trop Med Infect Dis*. 5, 22 (2020). <https://doi.org/10.3390/tropicalmed5010022>
9. Mortada, E.M.: Evidence-Based Complementary and Alternative Medicine in Current Medical Practice. *Cureus*. 16, e52041. <https://doi.org/10.7759/cureus.52041>
10. Owoyemi, T., Alonge, I., Adetunji, O., Ogbu, E., Ogunbanjo, A., White, S., et al.: Everyday living with osteoarthritis in the global South: A qualitative focus group inquiry in Nigeria. *Osteoarthr Cartil Open*. 7, 100555 (2024). <https://doi.org/10.1016/j.jocarto.2024.100555>
11. T, M., B, T., T, D.: Prevalence and risk factors of osteoarthritis in patients at a public hospital in Limpopo province. *PubMed*. (2024)
12. Ibiam, U.A., Ugwuja, E.I., Ugwu, O.P.C., Aja, P.M., Igwenyi, I.O., Alum, E.U., et al. Antioxidant effect of *Buchholziacoriacea* ethanol leaf extract and fractions on Freund's adjuvant-induced arthritis in albino rats: a comparative study. *Slovenian Veterinary Research*. 2022; 59 (1): 31–45. doi: 10.26873/svr-1150-2022.
13. Duong, V., Abdel Shaheed, C., Ferreira, M.L., Narayan, S.W., Venkatesha, V., Hunter, D.J., et al.: Risk factors for the development of knee osteoarthritis across the lifespan: A systematic review and meta-analysis. *Osteoarthritis and Cartilage*. (2025). <https://doi.org/10.1016/j.joca.2025.03.003>
14. Aloke, C., Ibiam, U. A., Aja, P. M., Alum, E. U. Obasi, N. A., Orji, O. U., et al Effect of ethanol and aqueous extracts of seed pod of *Copaifera salikounda* (Heckel) on complete Freund's adjuvant-induced rheumatoid

- arthritis in rats. *J Food Biochem.* 2019 Jul;43(7):e12912. doi: 10.1111/jfbc.12912. Epub 2019 May 23. PMID: 31353723.
15. Allen, K.D., Thoma, L.M., Golightly, Y.M.: Epidemiology of osteoarthritis. *Osteoarthritis Cartilage.* 30, 184–195 (2022). <https://doi.org/10.1016/j.joca.2021.04.020>
 16. Alum, E. U., Ibiam, U. A. Ugwu, O. P. C. A Comprehensive Review of Treatment Approaches and Perspectives for Management of Rheumatoid Arthritis. *INOSR Scientific Research.* 2023; 10(1):12-17. <https://doi.org/10.59298/INOSRSR/2023/2.2.13322>
 17. Odoms-Young, A., Brown, A.G.M., Agurs-Collins, T., Glanz, K.: Food Insecurity, Neighborhood Food Environment, and Health Disparities: State of the Science, Research Gaps and Opportunities. *Am J Clin Nutr.* 119, 850–861 (2024). <https://doi.org/10.1016/j.ajcnut.2023.12.019>
 18. Armin R, Fisher S I (2018). Lupus Erythematosus Cell. *Arthritis & Rheumatology*, 70, (7), 1101. DOI 10.1002/art.40489
 19. Alban, R., Gibson, E., Payne, J., Chihana, T.: Leveraging community health workers as vaccinators: a case study exploring the role of Malawi's Health Surveillance Assistants in delivering routine immunization services. *Human Resources for Health.* 21, 42 (2023). <https://doi.org/10.1186/s12960-023-00827-3>

CITE AS: Mugo Moses H. (2025). The Role of Lifestyle Changes in Osteoarthritis Management in West Africa. EURASIAN EXPERIMENT JOURNAL OF MEDICINE AND MEDICAL SCIENCES, 6(3):95-99