Journal of
Obesity & Weight Loss Therapy

Liu, J Obes Weight Loss Ther 2025, 15:4

Perspective Open Access

A Closer Look at Osteosarcopenic Obesity: Risk Factors and Recent Advances

Ying Liu*

Department of Anatomy, Guangxi Medical University, Guangxi, China

Abstract

Osteosarcopenic Obesity (OSO) is a multifaceted condition characterized by the concurrence of osteopenia/osteoporosis, sarcopenia and obesity. This commentary extends the findings of Liu et al.'s meta-analysis by discussing recent updates and analyzing critical risk factors such as gender, physical inactivity, hypertension and frailty. Emphasizing the importance of early identification and intervention, particularly among high-risk groups, this commentary aims to contribute to the understanding and management of OSO.

Keywords: Osteosarcopenic obesity; Risk factors; Gender; Physical inactivity; Hypertension; Frailty; Meta-analysis

Introduction

Osteosarcopenic Obesity (OSO) represents a convergence of osteopenia/osteoporosis, sarcopenia and obesity, leading to increased morbidity and mortality [1]. As the global population ages, understanding the risk factors contributing to OSO is essential for developing effective interventions [2,3]. Liu et al.'s meta-analysis sheds light on key risk factors, including gender, physical inactivity, hypertension and frailty, offering valuable insights for further exploration [4].

Recent updates in research

Recent studies have continued to explore the pathophysiological mechanisms underlying OSO. Advances in imaging techniques and biomarkers have improved the detection and understanding of the interactions between bone, muscle and fat tissue. Additionally, research on the genetic predispositions and molecular pathways involved in OSO is progressing, potentially leading to more personalized treatment approaches [5].

Description

The study by Liu et al., provides a comprehensive meta-analysis of risk factors associated with OSO, revealing significant insights into this condition. This commentary delves deeper into the implications of these findings, exploring recent developments and ongoing research that could further inform prevention and management strategies for OSO [6].

Analysis of key issues

Gender and OSO: Liu et al.'s meta-analysis highlights a significantly higher risk of OSO in women, particularly post-menopausal women, due to estrogen loss. Recent studies have suggested that Hormone Replacement Therapy (HRT) could mitigate some of these risks, although the long-term effects and suitability for all patients remain under investigation [7].

Physical inactivity: The detrimental impact of a sedentary lifestyle on bone and muscle health is well-documented. Liu et al. emphasize physical inactivity as a significant risk factor for OSO. Recent intervention studies have shown that tailored exercise programs, including resistance and weight-bearing exercises, can effectively improve musculoskeletal health and reduce the risk of OSO.

Hypertension: Hypertension's association with OSO, as noted by Liu et al., underscores the importance of cardiovascular health in managing OSO. Recent clinical trials are investigating the effects of antihypertensive medications on bone and muscle health, which could provide new avenues for integrated treatment strategies.

Frailty: Frailty presents a particularly high risk for OSO, with Liu et al., reporting an odds ratio of 6.091. Addressing frailty through comprehensive geriatric assessment and targeted interventions, such as nutritional support and physical therapy, is crucial. Recent research is exploring multi-component intervention strategies to enhance resilience and reduce OSO risk in frail individuals.

Conclusion

Liu et al.'s meta-analysis provides a robust foundation for understanding the risk factors associated with OSO. This commentary extends their findings by incorporating recent research and emphasizing the importance of early identification and targeted interventions. Future research should continue to unravel the complex interactions between these risk factors and develop personalized prevention and management strategies for at-risk populations.

References

1. Liu Y, Hao Q, Zhou J, Wu J (2024) A comprehensive meta-analysis of risk factors associated with osteosarcopenic obesity: A closer look at gender, lifestyle and comorbidities. Osteoporos Int 35: 759-773.

***Corresponding author:** Ying Liu, Department of Anatomy, Guangxi Medical University, Guangxi, China; E-mail: liuyinghx@sina.com

Received: 05-Jul-2024, Manuscript No. JOWT-24-140811; **Editor assigned:** 08-Jul-2024, PreQC No. JOWT-24-140811 (PQ); **Reviewed:** 23-Jul-2024, QC No. CPB JOWT-24-140811; **Revised:** 01-Aug-2025, Manuscript No. JOWT-24-140811 (R); **Published:** 08-Aug-2025, DOI: 10.4172/2165-7904.1000791

Citation: Liu Y (2025) A Closer Look at Osteosarcopenic Obesity: Risk Factors and Recent Advances. J Obes Weight Loss Ther 15: 791.

2. Kelly OJ, Gilman JC, Boschiero D, Ilich JZ (2019) Osteosarcopenic obesity: Current knowledge, revised identification criteria and treatment principles. Nutrients 11: 747.
3. Ahmadinezhad M, Mansournia MA, Fahimfar N, Shafiee G, Nabipour I, et al. (2023) Prevalence of osteosarcopenic obesity and related factors among Iranian older people: Bushehr Elderly Health (BEH) program. Arch Osteoporos 18: 137.
4. Guimarães GC, Coelho JBC, Silva JGO, de Sant'Ana ACC, de Sá CAC, et al. (2024) Obesity, diabetes and risk of bone fragility: How BMAT behavior is affected by metabolic disturbances and its influence on bone health. Osteoporos Int 35: 575-588.
5. Yang JM, Ye H, Zhu Q, Zhang JH, Liu QQ, et al. (2022) Effects of resistance training on body composition and physical function in elderly patients with osteosarcopenic obesity: A systematic review and meta-analysis. Arch Osteoporos 17: 82.
6. Micale C, Golder S, O'Connor K, Weissenbacher D, Gross R, et al. (2024) Patient-reported reasons for antihypertensive medication change: A quantitative study using social media. Drug Saf 47: 81-91.
7. Bernabei R, Landi F, Calvani R, Cesari M, Del Signore S, et al. (2022) Multicomponent intervention to prevent mobility disability in frail older adults: Randomised controlled trial (SPRINTT project). BMJ 377: e068788.