

Editorial

Update on Osteoporosis

Tommaso Greco ^{1,2,*}  and Carlo Perisano ¹

¹ Orthopedics and Trauma Surgery Unit, Department of Aging, Orthopedic and Rheumatologic Sciences, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, 00168 Rome, Italy; carlo.perisano@policlinicogemelli.it

² Department of Life Sciences, Health, and Health Professions, Link Campus University, 00165 Rome, Italy

* Correspondence: greco.tommaso@outlook.it

Osteoporosis remains a major public health concern, significantly impacting the quality of life of the elderly and those with conditions that are associated with reduced bone density [1]. In this first edition of the Special Issue of *Medicina* titled “Update on Osteoporosis”, scholars from around the world were invited to provide innovative contributions. The included articles provide an overview of the most recent developments in the management and understanding of osteoporosis, with a focus on gender and population differences, as well as innovative therapeutic strategies. To achieve the most up-to-date overview possible, the impact on osteoporosis of the recent COVID-19 pandemic was also considered [2].

Kim and Kong explored differences in femoral curvature in the Korean population, showing significant variations related to age and gender [3]. Their research underscores the importance of considering population-specific anatomical features in clinical approaches, particularly for surgical planning and fracture prevention. This study emphasizes and aims to direct attention to ethnic and gender differences in bone structure, a crucial aspect in personalizing treatment.

Kwon et al. compared the impact of Teriparatide and Denosumab on osteoporotic vertebral compression fractures, providing a detailed analysis of the clinical and radiographic outcomes [4]. This study highlights the importance of targeted pharmacological management to improve fracture healing and prevent recurrence, helping to outline more effective treatment strategies for patients with advanced osteoporosis.

Also analyzing vertebral fractures, Yoshimi et al. focused their attention on the challenge of pain assessment in hospitalized patients, especially those with cognitive impairment [5]. The introduction of observational assessment tools offers new possibilities for pain monitoring and management in this vulnerable population, improving clinical practices and, potentially, long-term outcomes.

Nozaki et al. showed that the COVID-19 pandemic did not reduce the incidence of hip fractures among the elderly in Niigata Prefecture [6]. This study highlights the resilience of public health dynamics and the importance of maintaining epidemiological surveillance, even during global crises, to ensure an adequate and timely health response.

Osteoporosis is a disorder that affects the female sex most frequently, although it can impact the male sex with effects that are equally devastating. Nishimoto et al. analyzed the incidence of osteoporosis in men undergoing androgen deprivation therapy for prostate cancer [7]. The authors highlight the need to actively monitor and treat bone density loss in this population and propose specific preventive and therapeutic interventions.

This Special Issue points out the complexities of osteoporosis and the need for individualized approaches to managing the disease, helping not only to broaden our understanding of the disease but also proposing practical solutions to address the associated clinical challenges.



Received: 21 January 2025

Accepted: 22 January 2025

Published: 6 February 2025

Citation: Greco, T.; Perisano, C. Update on Osteoporosis. *Medicina* **2025**, *61*, 275. <https://doi.org/10.3390/medicina61020275>

Copyright: © 2025 by the authors. Published by MDPI on behalf of the Lithuanian University of Health Sciences. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Looking ahead, it is essential to promote further large-scale longitudinal studies to better understand the genetic and environmental variations that influence the osteoporosis risk in different populations. In addition, the development of new biomarkers and advanced imaging technologies could improve early diagnosis and monitoring of disease progression. Innovation in drug treatments, with a focus on combination therapies and personalization based on a patient's genetic profile, could revolutionize the way in which we manage this disease.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Srivastava, M.; Deal, C. Osteoporosis in elderly: Prevention and treatment. *Clin. Geriatr. Med.* **2002**, *18*, 529–555. [[CrossRef](#)] [[PubMed](#)]
2. Mascio, A.; Greco, T.; Comisi, C.; Cinelli, V.; De Gasperis, N.; Candelli, M.; Franceschi, F.; Covino, M.; Maccauro, G.; Perisano, C. Foot and Ankle Trauma: Epidemiology Before, During, and Post COVID-19 Pandemic in a Level I Trauma Center: A 5-Year Experience and Data Analysis. *J. Clin. Med.* **2024**, *13*, 7585. [[CrossRef](#)] [[PubMed](#)] [[PubMed Central](#)]
3. Kim, J.-Y.; Kong, G.-M. Age- and Gender-Related Femoral Bowing Analysis in the Korean Population and Features for Clinical Applications. *Medicina* **2024**, *60*, 1930. [[CrossRef](#)]
4. Kwon, B.-T.; Ham, D.-W.; Park, S.-M.; Kim, H.-J.; Yeom, J.S. Impact of Teriparatide and Denosumab on Clinical and Radiographic Outcomes in Osteoporotic Vertebral Compression Fractures. *Medicina* **2024**, *60*, 1314. [[CrossRef](#)]
5. Yoshimi, Y.; Matsuura, T.; Miyazato, K.; Takahashi, S.; Tanaka, N.; Morinaga, H.; Hayata, A.; Onishi, M.; Nagano, Y.; Ohnishi, H. Availability of Observational Pain Assessment Tools in Hospitalized Patients with Osteoporotic Vertebral Fractures. *Medicina* **2024**, *60*, 1217. [[CrossRef](#)] [[PubMed](#)]
6. Nozaki, A.; Imai, N.; Shobugawa, Y.; Horigome, Y.; Suzuki, H.; Kawashima, H. Hip Fractures in Elderly Individuals Did Not Decrease during the Coronavirus Disease 2019 Pandemic: Insights from the 2015 and 2020 Niigata Prefecture Fragility Hip Fracture Surveys. *Medicina* **2024**, *60*, 573. [[CrossRef](#)]
7. Nishimoto, H.; Inui, A.; Mifune, Y.; Yamaura, K.; Bando, Y.; Okamura, Y.; Hara, T.; Terakawa, T.; Kuroda, R. Treatment of Osteoporosis in Men on Androgen Deprivation Therapy in Japan. *Medicina* **2024**, *60*, 551. [[CrossRef](#)] [[PubMed](#)]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.