

- 1) Tanphiriyakun T, Rojanasthien S, Khumrin P. Bone mineral density response prediction following osteoporosis treatment using machine learning to aid personalized therapy *Sci Rep* 2021 11:13811
- 2) Kong SH, Shin CS. Applications of Machine Learning in Bone and Mineral Research. *Endocrinol Metab (Seoul)* 2021 36:928–937
- 3) Ou Yang WY, Lai CC, Tsou MT, Hwang LC. Development of Machine Learning Models for Prediction of Osteoporosis from Clinical Health Examination Data *Int J Environ Res Public Health* 2021 18:7635
- 4) Dumic-Cule I, Oreskovic T, Brkljacic B, Kujundzic Tiljak M, Oreskovic S. The importance of introducing artificial intelligence to the medical curriculum—assessing practitioners' perspectives *Croat Med J* 2020 61:457–464

NSS62

THE CURRENT SITUATION IN THE APPROACH TO OSTEOPOROSIS IN OLDER ADULTS IN TURKEY: AREAS IN NEED OF IMPROVEMENT WITH A MODEL FOR OTHER POPULATIONS

G. Bahat¹, N. Muge Catikkas¹, D. G. Yavuz², P. Borman³, R. Guzel⁴, M. Esra Bozkurt¹, J.-Y. Reginster⁵

¹Istanbul University, Istanbul Medical School, Department of Internal Medicine, Division of Geriatrics, Istanbul, Turkey, ²Marmara University, Marmara Medical School, Department of Internal Medicine, Division of Endocrinology and Metabolism, Istanbul, Turkey, ³Professor of PMR and Algology, University of Health Science Ankara City Hospital, Department of Physical Medicine and Rehabilitation, Ankara, Turkey, ⁴Cukurova University, Cukurova Medical School, Department of Physical Medicine and Rehabilitation, Adana, Turkey, ⁵Director, World Health Organization Collaborating Center for Public Health Aspects of Musculoskeletal Health and Aging, University of Liege, Liège, Belgium

Objectives: The total number of older adults in Turkey is striking, amounting to around 8 million, and this translates into considerably higher numbers of cases of osteoporosis (OP) and fractures in older adults. We aimed to outline the current situation of OP in older adults in Turkey and investigate the differences between Turkey and a representative developed European country (Belgium), in terms of the screening, diagnosis, and treatment of OP. Our intention in this regard was to identify areas in need of improvement and subsequently to make a clear call for action to address these issues.

Material and Methods: Herein, considering the steps related to the OP approach, we made a complete review of the studies conducted in Turkey and compared with the literature recommendations.

Results: There is a need for a national osteoporotic fracture registry; measures should be taken to improve the screening and treatment of OP in older males, such as educational activities; technicians involved in dual-energy X-ray absorptiometry (DXA) scanning should undergo routine periodic training; all DXA centers should identify center-specific least significant change values; all older adults should be considered for routine lateral dorsolumbar X-ray imaging for the screening of vertebral fractures while ordering DXA scans; the inclusion of vertebral fracture assessment (VFA) software in DXA assessments should be considered; screening using a fracture risk assessment tool (FRAX) algorithm that is specific to Turkey should be integrated; the fortification of foods with vitamin D is required; the high fracture risk by country-specific FRAX algorithm and the presence of falls/high fall risk should be integrated in reimbursement terms; and finally, more “fracture liaison services” should be established.

Conclusion: We suggest that the practical consideration of our suggestions will provide considerable support to the efforts for combating with the adverse consequences of OP in society. This approach can be

subsequently modeled for other populations to improve the management of OP globally.

NSS63

VITAMIN D AND FIBROMYALGIA

L. Vidal¹

¹Centro Diagnóstico de Osteoporosis (CEDOR), Lima, Peru

Fibromyalgia is a chronic disorder of unknown etiology, characterized by widespread musculoskeletal pain, which is associated with a range of other symptoms such as fatigue, sleep disturbance, and somatic and cognitive symptoms. In contrast, signs on physical examination are scarce and are limited to the well-localized tender points on palpation.

Vitamin D has been suggested to be involved in pain processing and modulate cytokine production, and it is possible that the modulation of painful stimulus transmission may be altered by reduced levels of vitamin D.

The association of vitamin D deficiency with musculoskeletal pain has been highlighted by different authors; and at the present time, the serum measurement of 25 (OH) D is part of the initial study of all patients with an initial diagnosis of fibromyalgia.

Different studies reported lower vitamin D levels in FM patients when compared with healthy controls, however, there is conflicting evidence regarding vitamin D supplementation in these patients. However, the exact role of vitamin D supplementation in fibromyalgia remains to be defined.

NSS64

VITAMIN D IN RHEUMATIC DISEASES

O. D. Messina¹

¹Director IRO medical research centre, Buenos Aires, Argentina

Vitamin D levels are instrumental in several rheumatic diseases including fibromyalgia (FM), rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE).

Vit D has been suggested to be involved in pain processing and modulate inflammation and cytokines production in patients with RA and was associated with SLE activity levels.

Assurance of Vit D levels above 30 ng/ml is crucial in patients with chronic rheumatic disorders. This is particularly important in patients receiving long term glucocorticoid therapy more than 5 mg of prednisone or equivalent for more than 3 months. Moderate to severe Vit D deficiency correlates with chronic musculoskeletal pain that may worsen chronic pain and inflammation parameters. The same occurs in patients with SLE.

NSS65

THE CROSSTALK BETWEEN BONE, KIDNEY AND VASCULATURE: NEW INSIGHTS

K. A. Hruska¹

¹Departments of Pediatrics, Medicine, and Cell Biology, Washington University School of Medicine, St. Louis, Missouri, United States

Investigation into the chronic kidney disease-mineral bone disorder (CKD-MBD) has elucidated the disruption of a multiorgan systems biology produced by renal injury in early stages of kidney diseases. The disordered systems biology causes the CKD-MBD and contributes major components of increased cardiovascular risk for CKD