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**Title:** Osteoporosis: Unawareness or Ignorance?

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Osteoporosis is defined as a skeletal disorder characterized by low bone mass, compromised bone strength and microarchitectural deterioration of bone tissue. It results in an increased risk of fracture, mainly vertebral and hip fractures, which leads to increased morbidity and mortality (1). Although the prevalence of osteoporosis related fractures vary among different populations, it has been shown that more than 8.9 million fractures annually occurs in Europe (2). Fragility fractures itself does not only affect the patient but carry an important economic and other health related effects due to prolonged hospitalizations, surgical treatments and limitations in daily activities of the individuals.

During the past century, a dramatically increased life expectancy and an increased number of elderly in the population led to an increased prevalence of osteoporosis. Osteoporosis associated frailty fractures requires a prompt need for awareness and education of these patients since this disorder is asymptomatic and a fracture may be the first symptom. All over the world, different societies try to give information and warns regarding bone diseases including osteoporosis. In this volume of the journal, Ramli et al.(3) investigated the knowledge, attitude and practice regarding osteoporosis among young students in a public university in Malaysia. The authors concluded that those young students had moderate/fair level of knowledge and attitude but poor practice regarding osteoporosis. This is probably to be due to the fact that osteoporosis usually affects relatively older ages and the young people may not be interested in this condition since it does not affect them at their ages. On the other hand, for the prevention of osteoporosis and more importantly fractures, proper education and make awareness on this topic among young people is very important since young people may improve the bone health of their family as a caretaker of their parents.

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In addition to postmenopausal osteoporosis, which can be considered as a natural cause of osteoporosis, there are some changeable factors including increased alcohol consumption and smoking. Additionally, chronic glucocorticoid therapies, untreated or undiagnosed hypogonadism, diabetes mellitus, and rheumatoid arthritis are secondary causes of osteoporosis and patients should be warned regarding the secondary causes of osteoporosis (4-6). Thus, osteoporosis can not be considered as the sole problem of postmenopausal women. Langer et al (7) evaluated the concordance between self-perception of osteoporosis and their fracture risk within 10 years and the authors reported that approximately 17 and 20 % of participants are considered themselves to be at a high risk of osteoporosis and fractures, respectively, among 1557 postmenopausal women. Furthermore, although 80% of the women were found with a high risk of osteoporotic fractures, those women perceived themselves as low risk patients. A better understanding of osteoporosis and related fractures and an appropriate estimation of fracture risk among postmenopausal women have a great importance since they could potentially involve in screening programs and also more willing in the treatment of osteoporosis. Conversely, unawareness about osteoporosis risks and associated conditions may delay its diagnosis and treatment, thus raising the social and economic burden of the disease.

Ngozi et al (8) investigated the awareness of osteoporosis among 500 women and surprisingly, only 187 (37.4%) women had heard about osteoporosis, and among them, only 34 (18.2%) of those women knew the correct meaning of osteoporosis. For effective treatment of osteoporosis and related fractures, extensive education programs are needed to provide disease-related knowledge to all women and perhaps in men who are under the risk of male osteoporosis. The role of education programs in reducing the risk factors for osteoporosis have been shown several times.

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Unfortunately, unawareness is also present in our country. Okumus et al (9) evaluated 126 pre- and 180 postmenopausal women and only 50% of the women reported having some awareness of osteoporosis, however, their level of knowledge regarding the risk factors associated with osteoporosis and its complications was not adequate. Having knowledge about the osteoporosis and a better understanding the consequences of the disease among both men and women at risk are important since both issues may play a major role in affecting an individual's osteoporosis-preventing behaviors. Similarly, in an another study from Turkey, Gemalmaz et al (10) evaluated 768 randomly selected women, with a mean age of approximately 54 years, were interviewed by their primary care providers in three rural towns. A detailed questionnaire was applied by their experienced nurses and among those women, 60.8% had heard of and 44.9% had the exact meaning of osteoporosis. It is interesting that television was the most common source of knowledge at a rate of 55%, where the health providers (doctors and nurses) were the second and third sources, respectively. When evaluated as a maximum score of 20, knowledge of osteoporosis was a mean score of 5.5. It is amazing that less than 20% of patients with osteoporosis related fracture receive therapy against osteoporosis after their first episode. Therefore, appropriate educational and nutritional programs should be planned and presented by experienced health providers particularly on the less educated and older women.

Most of the studies mention that there are some assumptions regarding osteoporosis indicating that it is an inevitable part of ageing but not considered as an important disease. Most of the people also believe that some other disorders, such as diabetes mellitus, coronary artery diseases and hypertension have more serious impact on their health in comparison to osteoporosis. The current literature shows that the knowledge and awareness of young adults

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on osteoporosis depend on their appropriate education, however, the above mentioned studies and the many others show that television and internet is still the leading facilities to learn about osteoporosis. Thus, a multidisciplinary approach is needed for osteoporosis prevention and also aiming to prevent the progression of disease starting at younger ages. It is well known that nutrition and lifestyle affect bone health and osteoporosis and the related fractures may be prevented by supplying adequate/appropriate nutrition and age adjusted physical activities. Lifestyle habits are usually learned in earlier ages and may be carried throughout the life. In addition to elderly, an urgent need to raise osteoporosis awareness is necessary also in the younger generation. Creating awareness among the young generations has paramount importance because, in addition to supporting positive lifestyle changes to prevent osteoporosis among their age groups, they may also serve as agents to create awareness among their parents and in their community.

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