



Promoting People's Awareness and Health Literacy about Osteoporosis through 'the World Osteoporosis Day'

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ABSTRACT

Osteoporosis, which is known as a silent epidemic, is the most common bone disease in humans, representing a major public health problem worldwide. At least, 1 in 3 women and 1 in 5 men over the age of 50 will suffer a fracture resulting by weak bones impacting the quality of life and the independence of millions of people. Osteoporosis is considered a health problem in the Middle East countries including Iran. The level of awareness about osteoporosis among people and health care professionals are estimated not enough in many countries. Considering the importance of awareness about prevention and self-care behaviors of osteoporosis and in order to promote people's health literacy about this issue, the World Osteoporosis Day (WOD) was launched on October 20th by the International Osteoporosis Foundation (IOF). The WOD marks the launch of a year-long campaign to raising health literacy and awareness of the prevention, diagnosis, and treatment of osteoporosis and metabolic bone disorder. It aims at putting bone health on the global health agenda and reaching out to policymakers, health providers and experts, the media, and the public. These campaigns involve patient societies around the world and have played an important role in raising public health literacy and awareness of bone health and the importance of preventing osteoporosis and fracture. Despite recording WOD in Iranian official calendar and public awareness programs regarding the prevention, self-care, diagnosis, and management of osteoporosis and fragility fractures of it in our country, they need to be strengthened.

Keywords Osteoporosis; Health Literacy; Awareness; World Osteoporosis Day; International Osteoporosis Foundation

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Introduction

Osteoporosis, which is known as a silent epidemic of the present century, is the most common bone disease in humans, representing a major public health problem worldwide [1-3].

Osteoporosis is a disease characterized by low bone mass, deterioration of bone tissue, and disruption of bone microarchitecture; it is able to result in compromised bone strength and an increase in the risk of fractures [4]. Worldwide, an osteoporotic fracture happens every 3 seconds and a vertebral fracture every 22 seconds [1].

It is more common in women, Caucasians, and older people and it is a risk factor for fracture. Osteoporosis impacts an enormous number of people, of each sex and all races, and its prevalence will increase as the population ages. It is a silent disorder until fractures happen, which causes important secondary health problems and even death [3].

This disease is estimated to affect the health status of 200 million women in the world; approximately, one-tenth of women aged 60, one-fifth of women aged 70, two-fifths of women aged 80, and two-thirds of women aged 90. It also influences 75 million people in Europe, USA, and Japan [5].

Osteoporosis affects 1 in 4 women and more than 1 in 8 men over the age of 50 years, with 1 in 4 women and men having evidence of a vertebral fracture. In Canada; nearly 30,000 hip fractures occur every year. By the year 2030, the number of hip fractures is predicted to quadruple [5].

Gathering statistics from 17 countries in the Middle East and Africa shows the highest rates of rickets worldwide. Low levels of vitamin D are prevalent in the region [1]. In Turkey, because the number of older people is increasing, it was estimated that about the age of 50 years, the possibility of having a hip fracture in the remaining lifetime was 14.6% in women and 3.5% in men [6]. In some countries of this region (e.g. Jordan, Lebanon, and Syria), the number of hip fractures is projected to quadruple by 2050 [1].

It has accounted for 0.85% of the global burden of hip fracture and 12.4% of the burden of hip fracture in the Middle East [7].

Mortality rates post hip fracture reported higher in this region than those from western populations. While such rates vary between 25%-30% in western populations, they are 2-3 fold higher in people from the Middle East and Africa [1].

Osteoporosis is considered a health problem and priority in Iran. Despite the high prevalence of osteoporosis and osteopenia in Iran, there is not enough and accurate information regarding the prevalence of osteoporosis-related fractures and the different dimensions of burden of disease. Previous studies conducted in the field of osteoporosis have revealed that the prevalence of osteoporosis and

osteopenia in at least 1 measured site in the Iranians aged 50 years or older is 22.2% and 59.9% in women and 11.0% and 50.1% in men, respectively. Among the samples younger than 50 years, about 33.0% of women and 31.6% of men have reduced bone mass. In Iran, there were approximately 50,000 hip fractures in 2010, and 62,000 are predicted for 2020 [1].

In a systematic and meta-analytical review in Iran on total 50 studies with 38,161 samples, the prevalence of osteoporosis in postmenopausal women in Iran was reported 32% (95% CI, 26-39%), and the prevalence of low bone density was estimated at 51%. The prevalence of osteoporosis was reported to be 32% in the lumbar spine, 25% in the femoral neck, 21% in the spine, and 21% at the hip. In addition, the prevalence of low bone density in the lumbar spine, spine, femoral neck, and hip was 39%, 29%, 26%, and 39%, respectively. In fact, it can be revealed that half of the Iranian menopausal women have low bone density, which is a serious alarm [2].

Osteoporosis has direct and indirect costs. It was estimated that 17% of men and 21% of women over the age of 65 were resident in long-term care facilities following an osteoporosis-related. In 2010, the cost of osteoporosis in Canada was €2.3 billion or 1.3% of Canada's health care expenditures [8].

As Europe's population ages, the incidence and contribution of fragility fractures to the overall health care spend to continue to increase. Every year, 2.7 million fractures occur throughout the EU6 nations (Germany, France, Italy, Spain, Sweden, and the UK) with an associated healthcare cost of €37 billion. This annual expenditure is projected to increase by 23% (to €47 billion) by 2030 [9].

Pain caused by fracture, debilitation and loss of quality of life, lose the ability to live independently, the number of days missed from work due to osteoporosis-related fractures, days spent in the clinic and hospital or receiving home care services, and caregivers salary loses are from indirect costs examples. In addition to losing the quality of life of patients with osteoporosis, at least, 1 in 5 who has bone fracture will die within the year after fracture [8, 10, 11].

The level of awareness among people, primary health care professionals, and somehow specialists are estimated as not enough in many countries [1, 12]. The results of a research in Malaysia has revealed significant gap of knowledge about osteoporosis among students in health occupation academic programs [12]. The findings of another KAP study among female medical school entrants in Pakistan has shown insufficient knowledge about the osteoporosis and also needs for awareness about practices and attitudes related to the disease [13].

The result of a study has shown that Iranians have a low knowledge regarding the importance of calcium

and vitamin D consumption in improving bone health [14].

Considering the importance of awareness about prevention and self-care behaviors of osteoporosis and in order to educate and promote people's health literacy about this issue, the World Osteoporosis Day (WOD) was launched on October 20th, 1996 via the United Kingdom's National Osteoporosis Society and supported by the European Commission. Since 1997, the awareness day has been organized by the International Osteoporosis Foundation (IOF). Then, in 1998 and 1999 the World Health Organization (WHO) acted as co-sponsor of WOD [10, 15].

IOF is an international non-governmental agency, which is a global alliance of patient, healthcare professionals, scientists, researchers, medical societies, and the health industry. The vision of the IOF is 'a world without osteoporotic fractures'. IOF works with its members and other organizations around the world to increase awareness, improve early prevention and diagnosis, and also appropriate care of osteoporosis. This organization has more than 200 member societies in 93 locations worldwide. IOF member societies represent almost 5.33 billion people, which is about 82% of the world's population [1, 5].

The WOD marks the launch of a year-long campaign to raising health literacy and awareness of the primary and secondary prevention, diagnosis, and treatment of osteoporosis and metabolic bone disorder. It aims at putting bone, muscle, and joint health on the global health agenda and reaching out to policymakers, health experts, health care professionals, the media, and the public. These campaigns involve patient societies around the world with activities in over 90 countries [10, 15].

This day (October 20th) has been recorded on the official calendar of our country concurrent with 28th Mehr in Iranian (Solar) year.

Since 1999, these campaigns have featured a special theme. 'Love Your Bones - Protect Your Future' is the theme of this international day from 2016 to 2018 [10, 15] (Table1).

The WOD campaign calls on the general public to take action and movement to protect their bone health in order to enjoy a better quality of life and independence in the future. Further, it calls on health authorities, physicians, and specialist to protect their communities' bone health. In spite of the many effective treatment options, osteoporosis frequently remains undiagnosed and untreated. By 'closing the care gap,' through proper assessment and treatment, health professionals, governmental health authorities, hospitals, and clinics can work together to decrease the human and socio-economic and other aspects of burden of fragility fractures [15]. In particular, the 2018 WOD campaign aimed at:

- Promoting worldwide awareness and attention of osteoporosis and fragility fractures.
- Inspiring and encouraging people to recognize risk

factors, and seeking checkup and testing and treatment if required.

- Promoting life-time bone-healthy exercise and nutrition as a manner to help maintain strong bones.
- Advocating for preventive care around the world; enabling healthcare professionals and health authorities to close the persistent "care gap" by addressing important issues such as under-diagnosis and under-treatment, lack of Fracture Liaison Services (FLS) to identify and treat high-risk patients systemically, and poor adherence to treatment [15].

Table 1) The world osteoporosis days' themes (1996-2018)

Year	Theme
1996	Awareness
1997	Awareness
1998	Awareness
1999	Early Detection
2000	Building Bone Health
2001	Bone Development in Youth
2002	Preventing a First Fracture
2003	Quality of Life
2004	Osteoporosis in Men
2005	Exercise
2006	Nutrition
2007	Risk Factors
2008	Advocate for Policy Change
2009	Advocate for Policy Change
2010	Signs and Symptoms of Spinal Fractures
2011	3 Steps to Prevention: Calcium, Vitamin D and Exercise
2012	Stop at One: Make your First Break Your Last
2013	Strong Women Make Stronger Women
2014	Real Men Build Their Strength from within
2015	Serve up Bone Strength
2016	Love Your Bones - Protect your Future
2017	Love Your Bones - Protect your Future
2018	Love Your Bones - protect your future

The WOD 2018 campaign calls for global action to improve bone health and prevent fractures due to osteoporosis. All related organization, health care professionals, and the public, worldwide, were invited to join IOF and its member societies in raising awareness of bone health and calling for action on osteoporosis and fracture prevention in their societies [10].

In 2018, the key messages of WOD are as follow:

- Osteoporosis is the hidden, underlying reason of painful, disabling, and life-threatening fractures.
- The most common osteoporotic fractures are spine fractures, a major cause of pain, disability, and loss of quality of life.
- About 70% of the patients with vertebral fractures remain undiagnosed and unprotected against the high risk of more fractures.
- Back pain, height-loss, and bended back are all possible symptoms and signs of spine fractures.
- Timely checkup, testing, and treatment are required.

- An important sign for higher risk of osteoporosis is a positive family history.

- Advocate and join the IOF Global Patient Charter and in calling on health care providers to close the massive "care gap".

- Osteoporosis is an increasing global problem that respects no boundaries; worldwide, fractures affect 1 in 3 women and 1 in 5 men over the age of 50 [10].

The WOD website for 2018 has endorsed 5 effective strategies for preventing osteoporosis and fractures, including regular exercise, having a healthy lifestyle, having appropriate and rich of nutrient diet, paying attention to the risk factors of osteoporosis and referring to the physician and getting tested or treated if required [10].

At the same time, the knowledge of different kinds of students and professionals in the healthcare system should be promoted in the prevention of osteoporosis and in improving the patients' quality of life.

Conclusion

Osteoporosis is a major obstacle to healthy aging worldwide. At least, 1 in 3 women and 1 in 5 men over the age of 50 will suffer from a fracture resulting by vulnerable bones impacting the independence and quality of life of millions of men and women around the world.

With aging societies and converting disease patterns, the human, clinical, social, and economic costs and burden of osteoporosis will continue to rise in the world, the Middle East and Africa, and in our country.

Osteoporosis and its consequences can be avoided by education, prevention, on time diagnosis, self-care, and management of this problem.

Nomination and setting a world day in order to get the attention of policymakers, planners, health staff, people, and the media to a specific issue such as osteoporosis is very important.

Promoting people's health literacy and awareness as well as health educators, health workers, specialists of osteoporosis on the occasion of the WOD is one of the important strategies for this purpose.

WOD is observed annually on October 20th and starts up a year-long campaign in order to raise global awareness of the prevention, early diagnosis, and treatment of osteoporosis and metabolic bone disease. Campaigns are organized by the IOF; the WOD is accompanied by community events and local campaigns by national osteoporosis patient societies from around the world with activities in over 90 countries. WOD has played an essential role in raising public awareness of bone health and the importance of preventing osteoporosis and fracture. Recent campaigns have helped raise public awareness in many areas.

In recent years in Iran, there are also campaigns to celebrate this international day to attract the

attention of people, policymakers, health professionals, and the media.

Despite recording WOD in Iranian official calendar and public awareness programs regarding the prevention, diagnosis, self-care, and management of osteoporosis and fragility fractures of osteoporosis in our country, they need to be strengthened.

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