



# Telehealth for fighting the novel coronavirus: review of activities on Diabetes and Osteoporosis management in outbreak

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Received: 6 April 2020 / Revised: 23 May 2020 / Accepted: 1 June 2020 / Published online: 9 June 2020  
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Today, the Coronavirus (2019-nCoV) pandemic is considered a great threat to the global health, and numerous deaths are attributed to this deadly virus all across the world during the last months. Morbidity and mortality have been reported all across the world during the last two months [1]. As documented in details elsewhere, everybody is susceptible to this newly-emerged coronavirus, but people with underlying conditions such as hypertension and diabetes are more apt to develop serious and life-threatening complications [2]. Although people with osteoporosis and those taking osteoporosis medications are neither at a greater risk for contracting the disease nor more susceptible to develop serious complications, prevention from osteoporotic fractures in the present situation is of utmost importance [3]. However, seeking medical attentions including treatment and monitoring services by osteoporotic patients makes them at a higher risk for the infection. As a matter of fact, in today's resource-constrained health systems both in developing and developed world, placing extra burden on health systems is quite irresponsible. Moreover patients with osteoporosis and diabetes can exponentially increase their risk of contracting the disease by exposing themselves to hospitals and other healthcare facilities. This can be potentially remedied through promoting usage of digital health technology, and

patients with osteoporosis and diabetes should be encouraged to use telehealth services as far as they can, and avoid exposing themselves to the high-risk clinical environments [4].

Iran is, unfortunately, among the countries with the higher numbers of both contracted and diseased corona virus cases both in the globe and the Middle East [5]. Endocrinology and Metabolism Research Institute (EMRI) of Tehran University of Medical Sciences (TUMS) has been assigned as a World Health Organization (WHO) Collaborating Centre for research and education on management of diabetes and osteoporosis since 2007, and this collaboration continued until 2019 [6]. In such capacity, EMRI regularly designs and carries out different national and international events with the objective of promoting the knowledge and skills of Iranian clinicians and scientists about latest advances in the field of endocrinology and metabolic diseases. Many of these educational events and sessions are designed and implemented under direct supervision of globally-renowned organizations such as WHO (World Health Organization) and IOF (International Osteoporosis Federation).

During the past few months, in collaboration with other domestic and international organizations concerned, scientist at the EMRI have been meticulously following the Covid-19

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pandemic developments as they unfold with the main objective of delivering the best possible prevention and management service to people with diabetes and osteoporosis. These activities include design and publication of treatment protocols as well as professional and public educational materials (books, booklets, videos) in Persian language. All published materials are freely accessible to all Iranian and Persian-speaking patients and clinicians all across the world.

In the early beginnings of the outbreak, EMRI published a booklet entitled “*Diabetes Management during the Sick Days*” which aimed at easing psychological burden imposed on patients with diabetes and their caregivers. This publication is freely available on the official website of the Institute. Moreover, simultaneously, an educational video clip in Persian language entitled “*Diabetes Management in Coronavirus*” was produced and published on EMRI website.

Initially, with the view of development a robust infrastructure, Iranian Diabetes Academy (IDA) [7] was formed as a platform for production and dissemination of valid and credible information about diabetes and its complications for both healthcare providers and patient through e-learning technology. Addressing the current epidemics, an instruction pamphlet for patients with diabetes and their caregivers entitled “*COVID-19 Outbreak: Guidance for People with Diabetes*” was published. Moreover, based on the information provided by the International Diabetes Federation (IDF), a booklet entitled “*Professional Guideline for Management of Patients with Diabetes during the Coronavirus Pandemic*” was adapted for the use of Iranian health care providers and made accessible for all interested individuals and organizations. It is noteworthy, moreover, that there are several CME modules in Persian about diabetes management on the IDA website which can be of immense benefit to health care providers. All interested individuals can freely access these online modules and promote their knowledge and skills about diabetes management during the current pandemic.

Similarly, International Osteoporosis Foundation (IOF) has published a set of general recommendations for people with osteoporosis entitled “*COVID-19 and Osteoporosis*” to encourage patients to continue taking medications and avoid fracture risks. Also, IOF has produced and informative material entitled “*Delays to Medication*” which aims to inform

patients about continuation or modification of the medicine they currently use. Likewise, the other material of IOF about “*Vitamin D and coronavirus*” was translated to provide applied information about taking Vitamin D supplements and sunlight during stay home. All aforementioned materials were translated in Persian and uploaded on the official website of the EMRI, and this invaluable information is all accessible free of charge. Moreover, EMRI is working to develop an online course for education of health care professionals on the management of osteoporosis during the pandemic period.

Concerning to the WHO global strategy on digital health, the success of the digital transformation of the health-care sector requires all stakeholders to think of new ways to contribute to conquering national and global health goals.

### Compliance with ethical standards

**Conflict of interest** There is no conflict of interest.

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