



Invited Editorial

COVID-19, osteoarthritis and women's health



ARTICLE INFO

Article history:
Received 14 April 2020
Accepted 20 April 2020

Keywords:
COVID 19
Osteoarthritis
Women's health
Exercise
Diet

A novel coronavirus, named 2019-nCoV, has been linked to COVID-19, a new and deadly illness that affects the lungs and airways [1]. On 11 March 2020, the World Health Organization (WHO) declared COVID-19 a pandemic, the worldwide spread of new disease with major public health implications. The COVID-19¹ pandemic is an emerging, rapidly evolving situation. However, the latest official health guidance is for everyone to stay at home and away from others, thus exercising the new norm known as “social distancing” [2]. Social distancing is a central aspect of plans to limit the global spread of the virus and “flatten the curve” is the expression used to refer to community isolation measures that keep the daily number of disease cases at a manageable level and reduce the likelihood of healthcare systems being overwhelmed [3]. Essentially, the current advice is for everyone to stay at home and practice social distancing. However, the advice to stay at home presents people with arthritic diseases, especially those with osteoarthritis, with a unique set of challenges.

Osteoarthritis is the most common form of arthritis, affecting more than 20% of the population [4]. It is a disease that affects all the tissues of the joint, including the cartilage, bone, ligaments and muscles. Osteoarthritis can develop in any joints, but most commonly affects the knees, hands and hips. Osteoarthritis typically occurs later in life, usually after age 50, although may start earlier in the case of joint injury.² However, the prevalence, incidence and severity of osteoarthritis are markedly different in men and women. A higher proportion of women, especially post-menopausal women, have symptomatic disease [5]. The incidence of symptomatic knee osteoarthritis has been estimated

to be 10% in men but 13% in women aged 60 years or more [4]. Therefore, the disease preferentially discriminates against women, who are more likely to suffer more severe knee osteoarthritis [6]. Also, women tend to have more severe and more painful knee osteoarthritis after menopause [7].

There are several published treatment guidelines for osteoarthritis. The Osteoarthritis Research Society International (OARSI) has recently updated and expanded its guidelines by developing patient-focused treatment recommendations for individuals with knee, hip and polyarticular osteoarthritis (i.e. osteoarthritis in multiple joints) that are derived from expert consensus and based on objective and unbiased review of high-quality published data [8]. The core treatments for knee osteoarthritis include arthritis education and structured land-based exercise programs with or without dietary weight management. The core treatments for hip and polyarticular osteoarthritis also include arthritis education and structured land-based exercise programs. Exercise has positive benefits for joint tissues in addition to its other health benefits [9]. Even the most recent (2019) American College of Rheumatology/Arthritis Foundation guidelines for the management of hand, hip and knee osteoarthritis have made strong recommendations for exercise and weight loss in patients with knee and/or hip osteoarthritis, especially those who are overweight or obese [10]. These two organizations have also made conditional recommendations for balance exercises, Tai chi and yoga to improve joint function and proprioception in osteoarthritis patients.

Given that exercise and weight management are the only hope of managing the symptoms of the disease, we are now advising people (especially women who suffer more with osteoarthritis) to exercise as often as possible as a core treatment, irrespective of age, comorbidity, pain severity or disability. However, the worldwide closure of gyms, swimming pools and parks, and the curb on the use of open spaces to promote social distancing means that patients with osteoarthritis must keep moving and exercise at home or close to home (i.e. going for a walk while maintaining social distancing) and eating healthy a healthy diet [11] and taking dietary supplements [12], some of which have been shown to benefit people with osteoarthritis. The best advice for patients is to keep moving and realistically evaluate what exercises they can do from the comfort of their front room. There are lots of choices out there, from walking to yoga, Tai chi, Pilates and chair-based sessions. Some gyms have streaming services for fitness classes on demand. Even the old Nintendo Wii Fit balancing board gathering dust in the loft or attic may come in handy. However, it is important that exercise and a balanced diet go hand in hand. In summary, the best advice for women at this time is to stay at home, keep safe and remain healthy by exercising and eating a healthy diet.

¹<https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-11-march-2020>

²<https://www.oarsi.org/what-osteoarthritis>

Contributors

Ali Mobasheri contributed exclusively to the preparation of this editorial.

Conflict of interest

The author is President of the Osteoarthritis Research Society International (OARSI). He has no conflict of interest regarding the publication of this editorial.

Funding

No specific funding was sought or secured in relation to this editorial.

Provenance and peer review

This editorial was commissioned and not externally peer reviewed.

References

- [1] C. Huang, et al., Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China, *Lancet* 395 (2020) 497–506.
- [2] R. Stein, COVID-19 and rationally layered social distancing, *Int. J. Clin. Pract.* (2020) <https://doi.org/10.1111/ijcp.13501> e13501.
- [3] A. Shander, et al., The essential role of patient blood management in a pandemic: a call for action, *Anesth. Analg.* (2020) <https://doi.org/10.1213/ANE.0000000000004844>.
- [4] Y. Zhang, J.M. Jordan, Epidemiology of osteoarthritis, *Clin. Geriatr. Med.* 26 (2010) 355–369.
- [5] D.T. Felson, et al., The prevalence of knee osteoarthritis in the elderly. The framingham osteoarthritis study, *Arthritis Rheum.* 30 (1987) 914–918.
- [6] M.I. O'Connor, Sex differences in osteoarthritis of the hip and knee, *J. Am. Acad. Orthop. Surg.* 15 (Suppl. 1) (2007) S22–S25.
- [7] V.K. Srikanth, et al., A meta-analysis of sex differences prevalence, incidence and severity of osteoarthritis, *Osteoarthr. Cartil.* 13 (2005) 769–781.
- [8] R.R. Bannuru, et al., OARSI guidelines for the non-surgical management of knee, hip, and polyarticular osteoarthritis, *Osteoarthr. Cartil.* 27 (2019) 1578–1589.
- [9] D.J. Hunter, F. Eckstein, Exercise and osteoarthritis, *J. Anat.* 214 (2009) 197–207.
- [10] S.L. Kolasinski, et al., 2019 American College of Rheumatology/Arthritis Foundation guideline for the management of osteoarthritis of the hand, hip, and knee, *Arthritis Rheum.* 72 (2020) 220–233.
- [11] S. Thomas, H. Browne, A. Mobasheri, M.P. Rayman, What is the evidence for a role for diet and nutrition in osteoarthritis? *Rheumatology* 57 (2018) iv61–iv74.
- [12] V.X. Guan, A. Mobasheri, Y.C. Probst, A systematic review of osteoarthritis prevention and management with dietary phytochemicals from foods, *Maturitas* 122 (2019) 35–43.

Ali Mobasheri

Research Unit of Medical Imaging, Physics and Technology, Faculty of Medicine, University of Oulu, Oulu, Finland
Department of Regenerative Medicine, State Research Institute, Centre for Innovative Medicine, Santariskiu 5, LT-08406 Vilnius, Lithuania
University Medical Center Utrecht, Departments of Orthopedics, Rheumatology & Clinical Immunology, 508 GA Utrecht, the Netherlands
Centre for Sport, Exercise and Osteoarthritis Versus Arthritis, Queen's Medical Centre, Nottingham, United Kingdom

Corresponding author at: Research Unit of Medical Imaging, Physics and Technology, Faculty of Medicine, University of Oulu, Oulu, Finland.
E-mail addresses: ali.mobasheri@oulu.fi, ali.mobasheri@imcentras.lt, a.mobasheri@umcutrecht.nl