

## EDITORIAL

### Physical activity and healthy aging

Physical inactivity is a global phenomenon. The *Lancet* Series publication on physical activity, issued some days before the 2012 Olympic Games in London, reported that countries in which inactive population exceeded 40% were numerous. The list, which included the United States and several European countries, increased only when women were considered.<sup>1</sup> There is substantial evidence that physical inactivity has an adverse impact on health. Indeed, the World Health Organization has selected physical inactivity as a risk factor with a potential similar to hyperglycemia or hyperlipemia in losing disability-adjusted life-years.<sup>2</sup>

Physical activity, in contradistinction, has been linked with various health effects. There is considerable literature confirming the favorable impact on the cardiovascular system, bone metabolism, cognition, and other organ systems.<sup>3</sup> Moreover, the myriad benefits of physical activity extend beyond health alone to strongly contribute to one's physical and mental well-being. The mechanisms set in motion by physical activity are still poorly understood, although there are data showing the release of endorphins, insulin-sensitizing hormones like irisin, and others.<sup>4</sup>

The array of benefits of physical activity has raised interest on its impact on the health of women at midlife. Menopause is viewed as an important midlife event by most women. There are changes affecting important issues, like fertility, the monthly hormonal cycle and menstruation, and some metabolic rearrangements. Moreover, the drastic depletion of estrogens often induces symptoms, which may affect quality of life. Interestingly, it all occurs at a moment that is critical in the initiation of some important noncommunicable diseases associated with aging. There is now consensus that several noncommunicable diseases develop subclinically over a number of years, in which biological processes at the specific organs set conditions for later clinical events. The development of atherosclerosis at the vessel walls and the loss of bone mass secondary to increased resorption are good examples.

Effective intervention against that deteriorating process is most welcome. Indeed, there is a substantial group of drugs of proven efficacy against those subclinical mechanisms. Advances linked to the availability of risk calculators, like the Framingham risk score<sup>5</sup> for coronary disease or the World Health Organization-developed Fracture Risk Assessment Tool (FRAX) for osteoporotic fracture,<sup>6</sup> however, have reduced the use of drugs for primary prevention if one follows the guidelines. It seems, therefore, that one should hold back therapy until the pernicious process arrives at a certain drug

intervention threshold. Hormone therapy (HT) used to be considered an option in that regard. It is not only efficacious against symptoms, but also preserves bone mass in younger women. The use of HT, however, has dramatically fallen in most world areas. Moreover, HT has lost the indication of disease prevention in many countries as a result of the Women's Health Initiative (WHI) trial. Consequently, a tremendous gap has arisen in the prevention strategies at midlife in women. Perhaps, physical activity can be the substitute? Even more, can physical activity have some efficacy beyond disease prevention, for example, in symptom control?

The article by Blümel et al<sup>7</sup> in the present issue of *Menopause* offers some answers to those questions. Studying a wide urban population of Latin American midlife women, the authors found that sedentary lifestyle was associated with obesity, a finding that might have been expected, and with severe symptoms, including insomnia and depressed mood. The potential mechanisms involving the association remain speculative. Authors debate on findings from experimental models and on some clinical evidence showing changes in opioids and some neurotransmitters, particularly serotonin, during exercise.

This study adds to the previous literature examining the impact of physical inactivity on menopausal symptoms and quality of life. The conclusions have not always been unanimous. The added value of the present study is that the authors use specific and validated scales to assess menopausal symptoms.

The study by Blümel et al<sup>7</sup> brings attention to a particular impact of sedentary lifestyle. But there is much more, a wealth of evidence that puts physical activity as a key factor in every strategy for healthy aging. This does not necessarily require intensive exercising sessions in specific facilities because important health gains can be obtained even if activity is moderate. Therefore, the integration of physical activity in everyday life is optimal as an option.

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Antonio Cano, MD, PhD  
Department of Pediatrics, Obstetrics and Gynecology  
University of Valencia, Hospital Clínico Universitario  
Valencia, Spain

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