

Changing trends in hip fracture incidence around the world

April 12 2011

Osteoporosis constitutes a major public health problem through its association with age-related fractures, most notably those of the hip. As life expectancy rises around the world, along with the number of elderly people in every geographic region, the incidence of hip fractures is estimated to reach 6.3 million in 2050 - assuming a constant age-specific rate of fracture in men and women. A new review paper by a scientific working group of the International Osteoporosis Foundation (IOF) shows however that age-specific hip fracture rates have changed during recent decades – decreasing in some countries or regions while increasing in others. The review examines some possible reasons for these trends and calls for further research.

The authors examined published literature which addressed trends in the incidence of hip and other fragility fractures around the world and concluded that studies in western populations (including North America, Europe and Oceania) have generally reported clear increases in [hip fracture](#) incidence until around 1980, with rates then reaching a plateau or decreasing during the following decades. In contrast, the fewer studies in Asia suggest that age-specific rates may be increasing in the region.

Published today in *Osteoporosis International*, the review also examines the mechanisms which might explain the worldwide trends in fracture incidence. What demographic or environmental factors have caused changes to trends in age-adjusted hip fracture rates in Western countries? The potential contributors could be a change in the frequency of risk factors for fracture which affect people in later life; a change in

the frequency of risk factors influencing bone strength in early life; and changes in the demographic structure of the population. For example, the increase in age-adjusted hip fracture rates in the second half of the last century seen in certain countries may be explained by changes in pattern of physical inactivity, vitamin D insufficiency and increasing survival of the frail elderly. However the reasons for a plateau or decrease in rates are still not clear and require further investigation.

Professor Cyrus Cooper, director of the MRC Lifecourse Epidemiology Unit at the University of Southampton and Professor of Musculoskeletal Science at the NIHR Musculoskeletal Biomedical Research Unit at the University of Oxford (UK) emphasized the importance of the review and the need for further research. "It is interesting to see that, in recent decades, the incidence rate of hip fractures have been reported to increase, plateau or decrease in different countries. There is evidently a need for further research to pinpoint the reasons for the decline in rates observed in some regions, as this may help us understand ways to reduce rates of hip fracture worldwide. Data on continuing trends in fragility fracture need to be collected and evaluated as the trends will impact on worldwide economic evaluations of the future burden of [osteoporosis](#) and its related fractures."

More information: Cooper C, Cole, ZA, Holroyd CR et al (2011) Secular trends in the incidence of hip and other osteoporotic fractures. *Osteoporosis International*. Volume 22, Number 5, 1277-1288, [DOI: 10.1007/s00198-011-1601-6](https://doi.org/10.1007/s00198-011-1601-6)

Provided by International Osteoporosis Foundation

Citation: Changing trends in hip fracture incidence around the world (2011, April 12) retrieved 17 April 2024 from

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