

Rheumatic Diseases: The Unnoticed Elephant in the Room



The idiom “elephant in the room” refers to something everyone knows is there, but no one talks about¹. The group of conditions known as rheumatic diseases, or musculoskeletal (MSK) disorders, is indeed an elephant, given the magnitude of their impact on the population. These conditions also fit the description, as nobody, particularly influential people who “matter” — not politicians, policymakers, opinion leaders, or government in general — talks about them. But do they know that they are there?

The article by Loza, *et al* in this issue of *The Journal* aims to describe the extent to which rheumatic diseases (the term they use) affect health-related quality of life and functional ability and to compare their influence with that of other chronic diseases². The authors hope to increase recognition of rheumatic diseases to be on a par with “cardiovascular, pulmonary, or even neurological diseases.”

The curious thing about the neglect of MSK disorders, such as arthritis, is that the evidence consistently shows their impact is high. As with the elephant as pictured by the blind man³, there are a number of ways to describe the effects of health conditions in the population. There is the “bean-counting” approach: determining how many people are affected. The Loza report uses data from a Spanish national health survey and shows that self-reported rheumatic diseases (various types of arthritis, back pain, and osteoporosis) are frequent. When chronic diseases were grouped and ranked by frequency, rheumatic diseases ranked number one, with almost a quarter of the Spanish population affected by at least one of these conditions. This high prevalence and ranking is similar to results in studies from other countries⁴⁻⁷.

However, counting alone does not take into account severity of influence, which can be measured in a variety of ways. One can rank chronic conditions based on the prevalence of an outcome, such as disability or pain, associated with the condition. When this is done, MSK disorders consistently emerge as leading causes of physical disability and pain in the population⁴⁻⁸.

Building on this approach, one can use statistical methods to look at the relative contribution of different conditions to a measure of impact. The Loza study takes this approach and looks at the contribution of a variety of chronic diseases to disability and physical and mental functioning, as measured by the Health Assessment Questionnaire (HAQ) and physical and mental functioning subscales of the Medical Outcomes Study Short-Form 36 (SF-36), respectively². Coefficients, controlling for the presence of other conditions, showed that in terms of physical functioning, rheumatic diseases had an effect similar to neurological diseases (a mixed bag including dementias, migraines, epilepsy, multiple sclerosis, Parkinson’s disease, and so on). In addition, rheumatic diseases had a somewhat greater effect on physical functioning versus cardiac disorders, diabetes, and pulmonary diseases, conditions that are well recognized in discussions about the high impact of chronic conditions in the population. Although the influence of rheumatic diseases on mental functioning was somewhat less, a significant decrement in function was reported. It is also noteworthy that a stratified analysis of the individual rheumatic diseases showed that not only rheumatoid arthritis and fibromyalgia, but also knee osteoarthritis and low back pain, had large effects on physical function. These Spanish findings confirm the overall high impact of rheumatic diseases on quality of life. This is consistent with evidence from other studies and countries, which show that individuals with MSK disorders have poorer levels of physical functioning and worse quality of life compared to those with most other chronic conditions⁹⁻¹¹.

While the above approach speaks to a condition’s severity, it does not fully account for effects on the population, i.e., the number of people affected. The Loza article features a graphic representation that plots the size of the regression coefficient in a circle whose area represents the prevalence of a condition — thus giving an impression of weight of impact². Thus rheumatic diseases stand out with a visual impression of a similar, if not greater, population effect versus arterial hyper-

See Burden of disease across chronic diseases: a health survey that measured prevalence, function, and QOL, page 159

tension or hypercholesterolemia, and a greater effect versus cardiac diseases and diabetes mellitus.

A more sophisticated approach is to combine both effect and prevalence in an estimate of population-associated fraction (an indicator similar to population-attributable risk), which estimates the proportion of the population effect, such as disability, that is accounted for by particular conditions, statistically adjusting for age and sex distribution and also comorbidity. A recent Canadian article confirms that compared to other chronic conditions, arthritis has by far the highest population-associated fraction for activity limitation (disability) and for poor self-rated health⁵. Based on population-attributable risk, MSK disorders account for a quarter of all disability in the Dutch population¹². A further approach to integrating effect and prevalence data is to calculate loss of quality-adjusted life-years for aspects of morbidity: once again, arthritis and back conditions rank highly compared to other conditions¹³.

The aspect of health conditions that tends to dominate perceptions of importance is mortality. Generally, and thankfully, MSK disorders as a whole are associated with relatively low mortality. While it is difficult to directly compare the population effect of conditions associated with mortality to those associated with disability, these aspects are combined in disability-adjusted life-years (DALY). In developed regions of the world, osteoarthritis is ranked sixth for men and fourth for women for loss of number of years likely to be lived in good health¹⁴.

Finally, and particularly for policymakers and populations, there is the financial bottom line. The data on the economic costs of MSK conditions have been estimated to account for up to 1% to 2.5% of the gross national product in developed countries¹⁵. In Canada, MSK disorders are the second most costly disease group, after cardiovascular diseases: the former is the most costly group for women, and third most costly group for men¹⁶. About four-fifths of the costs relate to disability and lost productivity. These costs are likely underestimated, as these estimates do not take into account out-of-pocket expenditures, which can be substantial¹⁷.

So when looked at from a number of perspectives — different methods, different outcomes, in whatever combination, and with whatever label (MSK disorders, rheumatic diseases, arthritis, back pain) — compared with other chronic conditions, MSK disorders have high population impact. This has been shown many times in a variety of studies, only some of which are mentioned above. The Loza study adds further to this evidence².

Given the magnitude of the burden of MSK disorders and their potential implications for health and social spending, it might be understandable that policymakers and politicians do not want to talk about the “elephant.” However, it is disturbing that they do not even seem to appreciate that it exists. We therefore have to ask ourselves as a community, why is there worldwide blindness to the elephant that is musculoskeletal disorders? Why do the policymakers, politicians, and general public not see it is there? The Loza report is one further contribution to help make apparent this burden to individuals and to society.

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