



*Dr. Anthony Perruccio, left, and Dr. Rajiv Gandhi are examining the concept of healthy aging.*

## Measuring the social impact of osteoarthritis

Joint pain often robs people of the ability to enjoy life and can lead to depression

*Daina Lawrence*

**B**etween 4.8 and 5.3 million Canadians live with osteoarthritis (OA), and many begin to pull away from their social circles and neighbourhood networks as a result of complications from the disease. It's painful or difficult to leave the house, so they choose not to.

Research surrounding OA has traditionally focused on the physical manifestations of the disease, severe joint pain and limited range of joint movement leading to difficulties performing day-to-day activities – but experts are realizing the need to investigate the disease's impact on one's quality of life within the broader social context.

Dr. Anthony Perruccio, an epidemiologist and scientist at the Krembil Research Institute, and Dr. Rajiv Gandhi, a Krembil clinician investigator and orthopaedic surgeon at Toronto Western Hospital, are currently looking at how OA can impact engagement in social activities, starting with examining

the concept of healthy aging.

“When people talk about healthy aging, they talk about how they feel physically and their mobility, but there is also an added component of engaging socially,” says Dr. Perruccio.

The research will focus on how pain in OA leads to daily activity limitations and, in turn, to social participation issues, and what factors may exacerbate or dampen these effects. These studies will gather information from national and provincial health studies currently underway, while others will rely on patient surveys detailing the social limitations experienced as a result of living with OA.

Not surprisingly, the researchers expect to find not only that joint pain leads to missed life activities, but also how often this can lead to depression.

“There's a pretty big overlap,” explains Dr. Gandhi. “As quality of life goes down, you're

not participating in usual social activities and you can become depressed. And depression itself can increase the physiological sensation of pain, so you can see a downward spiral.”

On the flip side, the society of convenience in which we currently live is contributing to a less active population. Everything from library books to groceries can be delivered to one's door, making it increasingly unnecessary for a person to leave home.

“There's just less reason to be physically active,” says Dr. Gandhi, adding that this lack of activity may lead to obesity and in turn to increased risk of OA.

So why focus the research on the social impact of OA? Declines in social participation can contribute to worse individual health and greater societal and economic burdens.

“It's costing an extraordinary amount of money to deal with this disease,” Dr. Perruccio says.

It's a disease that affects millions, and almost two-thirds of the costs associated with the disease are indirect to healthcare costs such as short- and long-term disability and lost work productivity. And it's only going to get more expensive, as people are now living longer.

“There are [extensive efforts] both in Canada and internationally to really understand healthy aging,” adds Dr. Perruccio. “We've done quite well in the past century in limiting the fatal diseases and, as a consequence, longevity has gone up.”

Indeed, at the turn of the 20th century, an individual in Canada had a life expectancy of 50 years, which grew to 82.2 years by 2009, according to the World Health Organization.

“The assumption, however, is that these extra years are ‘good’ years,” Dr. Perruccio says. “But the longer you live, the longer you can live with a disabling condition [like OA].”

In parallel research, Drs. Perruccio and Gandhi are endeavouring to identify subgroups of the disease, with a goal of achieving more personalized approaches to medicine to better the treatment of OA. This will limit pain and disability, with the ultimate goal of slowing or stopping disease progression.

Historically, OA was treated as a single disease entity, but studies suggest patient subgroups, such as ethnic backgrounds or sex, may manifest the disease differently and/or respond to and require different treatments or management strategies. In other words, OA is not one disease, but many. ■