

The association between socioeconomic status and utilisation of total knee joint replacement across Australia

Primary investigator: Dr Sharon L Brennan
Institution: NorthWest Academic Centre, The University of Melbourne
Grant: \$20,000

Background

In August 2011 the Arthritis and Osteoporosis Victoria Board approved the funding of the research project, *The association between socioeconomic status and utilisation of total knee joint replacement across Australia*, as part of our Project Grants for 2010-2011.

The researchers began with the hypothesis, or theory, that there may be differences in utilisation of knee joint replacements for people with osteoarthritis between different socioeconomic groups, and across gender and age groups.

These differences exist in countries such as England, USA and Italyⁱ. However, with little Australian information available it wasn't known if these differences would be present in the Australian setting.

Information gathered through this project would provide insight into the equality or inequality of access to joint replacement in Australia and provide information on how to improve access.

What is a joint replacement and what is socioeconomic status?

A [joint replacement](#), or arthroplasty, involves the removal of damaged surfaces of the joint. These surfaces are then replaced with metal, ceramic or plastic parts. The entire joint can be replaced (total arthroplasty) or just one part of the joint (hemiarthroplasty). Joint replacements can be performed on knees, hips, shoulders, elbows, fingers, ankles, toes and even the spine.ⁱⁱ

Joint replacement surgery is common in Australia and the numbers are rising. The rate of knee replacements over the 10 years to 2010-11 rose by 56%; over the same period hip replacements rose by 22%.ⁱⁱⁱ

[Socioeconomic status](#) is the social standing or class of an individual or group. A combination of education, income and occupation are often used to measure this.^{iv}

The project

This project focused on total knee replacement for osteoarthritis in people 30 years and older performed in Australia - in both the public and private sector - in the period 2003-2010.

Researchers at NorthWest Academic Centre at The University of Melbourne began this project by accessing information from the Australian Orthopaedic Association National Joint Replacement Registry (AOA NJRR) and the Australian Bureau of Statistics (ABS).

The AOA NJRR is funded by the Commonwealth Department of Health and Ageing and is an initiative of the Australian Orthopaedic Association (AOA). It provides the best available evidence about the effectiveness of joint replacement operations in Australia and collects information on more than 99% of all joint replacement surgeries and revisions^v.

Australian census data were used to determine the level of social disadvantage. Based on this information, residential addresses were categorised into deciles; decile 1 being the most disadvantaged and decile 10 the most advantaged in terms of social advantage/disadvantage.

Working with data from both sources, researchers analysed the information to see if there were any differences in the use of total knee replacement between people from different socioeconomic groups over time, as well as differences based on gender.

Findings

Researchers found that when they combined all years (2003-2010), the number of total knee replacements for both sexes was approximately 30% higher in the most disadvantaged group (decile 1) than those in the most advantaged (decile 10).

Women – in all ages groups – were more likely than men to have a total knee replacement.

From the data gathered in this project it is not possible to know if there were differences in the waiting time for surgery or symptoms experienced between people of different socioeconomic status.

The findings of this project are important as they add to the body of knowledge about knee replacements in Australia, particularly as they relate to socioeconomic status. This information will assist in addressing inequalities in access to appropriate treatment. The findings also point to the importance of providing people with information about prevention and management of OA, particularly consumers in lower socioeconomic areas.

Find out more about arthritis and joint surgery

At Arthritis and Osteoporosis Victoria, we have a range of services and programs to help you. You can:

- Talk with one of our nurses if you have osteoarthritis and you want more information about joint surgery and your options; if you need assistance navigating the complex health, disability and social services systems; or if you need information on community resources in your area. Call 1800 263 265 weekdays, or email msk@arthritisvic.org.au.
- Enrol in one of our courses and seminars to learn practical ways to live with osteoarthritis and other musculoskeletal conditions. Visit our website for more information about upcoming events: <http://www.arthritisvic.org.au/Courses-and-Events>
- Check out our library and our collection of books on osteoarthritis, joint surgery, exercise, pain management and more. You can access the library catalogue to see what the library has available - <http://www.arthritisvic.org.au/Useful-Information/Our-Services/Library>. Or contact the librarian on 03 8531 8031 (toll free for country callers on 1800 011 041).
- Join a peer support group and meet with people who understand what you are going through. Many of these people will have experienced joint replacement or other surgery for their arthritis. Go to the Arthritis Map - <http://www.arthritismap.com.au> - to find the details of groups in Victoria.
- Access up-to-date information about osteoarthritis and musculoskeletal conditions, surgery, managing pain and fatigue, and more on our website – <http://www.arthritisvic.org.au>

October 2014

ⁱ Brennan, S, Stanford, T, Wluka, A, et al. 2012. *Cross-sectional analysis of association between socioeconomic status and utilization of primary total hip joint replacements 2006–7: Australian Orthopaedic Association National Joint Replacement Registry*. *BMC Musculoskeletal Disorders*, 13 (1), pp. 1-7. Available from: <http://www.biomedcentral.com/1471-2474/13/63> [Accessed: 26 Nov 2013].

ⁱⁱ Arthritis Australia. 2013. *Surgery for arthritis*. [online] Available at: <http://www.arthritisvic.org.au/Medical-Management/Surgery-for-Arthritis>. [Accessed: 26 Nov 2013].

ⁱⁱⁱ Australian Institute of Health and Welfare. 2013. *Rise in hospitalisations for osteoarthritis leads to rise in joint replacements (AIHW)*. [online] Available at: <http://www.aihw.gov.au/media-release-detail/?id=60129543357> [Accessed: 25 Nov 2013].

^{iv} American Psychological Association. 2013. *Socioeconomic status*. [online] Available at: <http://www.apa.org/topics/socioeconomic-status/> [Accessed: 25 Nov 2013].

^v Brennan SL, Stanford T, Wluka AE, et al. *Utilisation of primary total knee joint replacements across socioeconomic status in the Barwon Statistical Division, Australia, 2006–2007: A cross-sectional study*. *BMJ Open* 2012;2(5), pp e001310. Available from: <http://bmjopen.bmj.com/content/2/5/e001310.full> [Accessed: 17 February 2014].