

Diabetes, previous joint pain and overall physical health predicts arthritis pain

March 24 2015

Diabetes and previous joint pain, along with a patient's overall physical health status, may predicts arthritis pain with nearly 100 percent accuracy, in new research presented today at the 2015 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS).

An estimated one out of five adults is living with an [arthritis](#) diagnosis, according to the U.S. Centers for Disease Control and Prevention (CDC), and the number is expected to rise from 52.5 to 67 million by 2030. Arthritis means "inflammation of a joint." In osteoarthritis, the most common type of arthritis, inflammation occurs when the smooth covering (articular cartilage) on the ends of bones become damaged or worn, often due to normal aging. With [rheumatoid arthritis](#), the joint lining becomes inflamed as part of a disease process that affects the entire body.

In this study, researchers created an algorithm, based on data from the 2011-2012 Medical Expenditure Panel Survey, to determine factors and patterns that contribute to [pain](#) for a national representative sample of 5,721 U.S. adults with arthritis. The sample's mean age was 60.14 years and the [average household income](#) was \$52,275. The study authors looked at more than 1,000 variables pertaining to demographics, medical claims, laboratory tests, patient-reported outcomes, employment history, health insurance, medical expenditures and socio-behavioral characteristics. Patient [health status](#) was determined through use of the SF-12 Health Component Survey, which assesses whether or not a person's pain or overall health limits him or her from completing daily

activities, such as climbing stairs.

Patients were asked whether or not their pain limited normal work. Responses were divided into a "no effect" group, for those who responded "not at all" and "a little bit;" and, an "effect" group for respondents who stated that they experienced pain "moderately," "quite a bit" or "extremely."

The study found that specific combinations of [physical health](#), mental health and general health status, as well as diabetes, previous joint pain and a patient's education level, predicted pain for individuals diagnosed with arthritis, with physical health status the greatest predictor of pain that limited work. The research did not find a link between [arthritis pain](#) and a body mass index (BMI) above 30kg/m² (the threshold for obesity). One of the several algorithms that the researchers developed is able to predict pain at an accuracy rate of 98.6 percent.

"Our results indicate that physical [health](#) along with a number of conditions can significantly distinguish individuals with and without pain," said Man Hung, PhD, assistant professor in the Department of Orthopaedic Surgery Operations at the University of Utah School of Medicine. "The algorithms generated in the study offer new insights into pain and should help in the development of cost-effective care management programs for those experiencing arthritis."

Provided by American Academy of Orthopaedic Surgeons

Citation: Diabetes, previous joint pain and overall physical health predicts arthritis pain (2015, March 24) retrieved 26 April 2024 from <https://medicalxpress.com/news/2015-03-diabetes-previous-joint-pain-physical.html>

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