

Nearly half of US adults will develop painful knee osteoarthritis by age 85: study

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Almost half of all U.S. adults and nearly two-thirds of obese adults will develop painful osteoarthritis of the knee by age 85, a study based at the University of North Carolina at Chapel Hill suggests.

The study also found that a person's lifetime risk rose as their body mass index or BMI increased, with the greatest risk found in those whose weight was normal at age 18 but were overweight or obese at 45 or older.

"These results show how important weight management is for people throughout their lives," said Dr. Joanne Jordan, principal investigator of the Johnston County Osteoarthritis Project and senior study author.

"Simply put, people who keep their weight within the normal range are much less likely to develop symptomatic knee osteoarthritis as they get older and thus much less likely to face the need for major surgical procedures, such as knee replacement surgery."

The study also sends an important message to physicians, said Jordan, director of the Thurston Arthritis Research Center and professor of medicine and orthopaedics in the School of Medicine at the University. "They need to include the risk of knee osteoarthritis in the discussion when counseling patients about weight management and they need to factor that risk into their treatment plans."

The results were published in the Sept. 15, 2008 issue of *Arthritis Care & Research*. Lead author of the report is Louise Murphy, Ph.D. of the Centers for Disease Control and Prevention in Atlanta. Murphy led the

data analysis and the CDC is the primary funder of the Johnston County Osteoarthritis Project.

In the study, researchers collected and analyzed data over a 13-year period from 3,068 men and women 45 years old and older who live in Johnston County, N.C. At two separate points during the study, each participant was interviewed at home and given a clinical exam that included taking X-ray images of their knees and measuring their BMI. They were interviewed a second time two weeks after the clinical exam. In addition, researchers calculated the subjects' BMI at age 18 based on their self report of height and weight at that age.

After all data were collected, researchers estimated the lifetime risk of symptomatic osteoarthritis in at least one knee using logistic regression models of statistical analysis. They found that the lifetime risk of symptomatic knee osteoarthritis was 44.7 percent.

There were no significant differences in risk related to a participant's sex, race or education level. However, obese participants had a significantly higher lifetime risk, 64.5 percent compared to 34.9 percent for normal weight and 44.1 percent for overweight participants. Those with a history knee injury also had a higher risk than those without, 56.8 percent compared to 42.3 percent.

A separate analysis of BMI across the span of participants' lives found that those who had a normal weight at age 18 and at their baseline and follow up visits had the lowest risk (29.2 percent) while those who reported a normal weight at 18 but were overweight or obese at the two later time points had the highest risk (59.9) percent.

Although the participants in this study all live in the same relatively rural county in the South, the lifetime risk of knee arthritis is likely high in the rest of the U.S. as well, the researchers wrote. They concluded that the

study "underscores the need for public health weight loss and management interventions" that would help decrease the risk.

Source: University of North Carolina

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