

Physical activity reduces the effect of the 'obesity gene'

November 1 2011

The genetic predisposition to obesity due to the 'fat mass and obesity associated' (FTO) gene can be substantially reduced by living a physically active lifestyle according to new research by a large international collaboration, led by Ruth Loos from the Medical Research Council Epidemiology Unit, in Cambridge, UK, and published in this week's *PLoS Medicine*. The researchers found that the effect of the FTO gene on obesity risk is nearly 30% weaker among physically active than in physically inactive adults.

This finding holds an important public health message relevant to <u>health</u> <u>care professionals</u> and the wider public as it challenges the widely-held view that obesity 'is in my genes' and not amenable to lifestyle changes. On the contrary, this study shows that even those genetically predisposed can reduce their risk of becoming obese by being physically active.

The authors performed a comprehensive literature search and invited all researchers who had reported on the FTO gene in the past to participate in their study. They used an extensive and innovative methodology to analyze data from over 218,000 adults, to show that, in general, carrying a copy of the FTO gene increases the risk of becoming obese. However, the effect of the FTO gene on obesity risk was 27% less pronounced in individuals who were physically active (1.22 fold) compared with those who were physically inactive (1.30 fold).

The authors say: "Our findings are highly relevant to public health. They emphasize that physical activity is an effective way of controlling body



weight, particularly in individuals with a <u>genetic predisposition</u> towards obesity. Thus, they contrast with the determinist view held by many that genetic influences are unmodifiable." The researchers believe that these findings will bring them a step closer to more personalised healthcare by identifying people who will benefit most from a targeted treatment.

In an accompanying Perspective, J. Lennert Veerman from the School of <u>Population Health</u> at the University of Queensland in Australia says: "testing for genetic traits that are associated with obesity makes no difference in the advice to overweight persons: increased physical activity and a healthy diet are indicated regardless of the genes." Dr Veerman continues: "A focus on individual genetic traits is a mere distraction and reinforces the popular view of obesity as a problem that individuals have to deal with, rather than one that requires societal action."

More information: Kilpeläinen TO, Qi L, Brage S, Sharp SJ, Sonestedt E, et al. (2011) Physical Activity Attenuates the Influence of FTO Variants on Obesity Risk: A Meta-Analysis of 218,166 Adults and 19,268 Children. PLoS Med 8(11): e1001116. <u>doi:10.1371/journal.pmed.1001116</u>

Perspective: Veerman JL (2011) On the Futility of Screening for Genes That Make You Fat. PLoS Med 8(11): e1001114. doi:10.1371/journal.pmed.1001114

Provided by Public Library of Science

Citation: Physical activity reduces the effect of the 'obesity gene' (2011, November 1) retrieved 28 April 2024 from <u>https://medicalxpress.com/news/2011-11-physical-effect-obesity-gene.html</u>



This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.