

Physical activity reduces the effect of the obesity gene in adolescents

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Physical activity reduces the effect of the obesity gene in adolescents. Credit: SINC

The FTO gene is obesity's main ally. Several studies are now attempting to reveal the factors that play a key role in fighting against it. A new study led by Spanish researchers shows that a physically active lifestyle during adolescence can reduce the effect of a mutation in this gene which predisposes someone to becoming overweight or obese.

Among the [genes](#) correlated to [obesity](#), the FTO (or fat mass gene) is one of the genes responsible for the accumulation of fat in humans.

"Each copy of the mutation of this gene is associated with an increase of 3.3 lbs. This means that people who have two copies can weigh 6.6 lbs more than those who have no copies", Jonatan Ruiz, leader of the study and researcher at the Karolinska Institute in Stockholm (Sweden),

explains to SINC.

The authors based their research on data collected in the European study HELENA, led by the University of Zaragoza, which analyses the effect of the FTO gene on weight and [body fat](#) in adolescents from nine European countries, among them, Spain. Furthermore, the new work records if the effect of this gene is independent of the level of physical activity performed by adolescents.

The results, published in the journal *Archives of Pediatrics & Adolescent Medicine*, reveal that in Europe, 37% of the assessed adolescents did not have any copy of the mutation, 47% had one copy and 16% had two. The research project appears among the five finalists for the Award for Scientific Excellence organised by the International Association for the Study of Obesity (IASO).

"Although the genetic mutation is linked to a higher rate of body mass, fat, and waist circumference, what is interesting is that its effect practically disappears among adolescents who perform the daily recommended amount of physical activity", highlights the expert.

It's not all in the genes

For this reason, "performing the recommended amount of physical activity can counteract a genetic predisposition to become overweight or obese", stresses Ruiz. The study also challenges "the widespread belief and fear that genetics determine the risk of developing a disease and that we can't do anything about this".

In this regard the work demonstrates that modifying lifestyle can cancel the negative effect some genetic mutations have on health. "For young people, one hour of sport per day is enough to reduce the potential risk of this genetic mutation", he adds. However, the study observed that

almost 60% of European [adolescents](#) do not comply with these recommendations.

The fat mass gene and the Mediterranean diet

Obesity is a disease influenced by both genetic factors and lifestyle (nutrition and [physical activity](#)). Another research project, led by Amelia Martí from the University of Navarra, analyses the effects of the rs9939609 variant of the FTO gene on weight change, as well as its modification through consuming a Mediterranean diet.

This study, published recently by the *International Journal of Obesity*, was performed on 776 subjects with high cardiovascular risk, aged between 55 and 80 years old. The samples were taken from the Predimed trial and the results revealed that people with the rs9939609 mutation had a higher body weight. They also confirmed that the Mediterranean diet offers protection against the adiposity associated with this mutation.

More information:

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