

CASE STUDY

The role of satiety mechanisms in genetic risk of obesity

CATEGORISING

Kind

Research project involving living people

Type

Research project involving people that does not count as a clinical trial

Subtype

BACKGROUND

Obesity is heritable, and researchers are identifying the specific genes involved. Discovering the mechanisms through which obesity-related genes influence weight will help pinpoint novel targets for intervention. This study tested the hypothesis that satiety responsiveness is an intermediate behavioural phenotype associated with genetic predisposition to obesity in children.

METHODS

This was a population-based twin birth cohort that included twins born in 1996 (National Twins Cohort). Participants were children, one randomly selected child from each twin pair. Buccal swabs were used to extract DNA. Genome-wide genotyping was done with SNP array using a standard experimental protocols. A polygenic risk score (PRS) comprising 28 common obesity-related single-nucleotide polymorphisms identified in a meta-analysis of obesity-related genome-wide association studies was created. The primary outcome was the association between the PRS, adiposity, and satiety responsiveness.

SOURCE

<http://www.ncbi.nlm.nih.gov/pubmed/24535189>

QUESTIONS OF THE CATEGORISER

Does the research project come under the scope of application of the Human Research Act?

Yes

BECAUSE

This project was based on a study protocol that defined the exact procedures to be used. It included a relatively large number of persons and was not based on individual cases ("method-driven search for generalizable knowledge", defined as research by HRA). We included children ("persons"), one per twin pair, born in 1996. We collected DNA from buccal swabs for genome-wide genotyping ("genetic data"). We examined the association between the polygenic risk score (PRS), adiposity, and satiety responsiveness ("research concerning the structure and function of the human body").

Is the research project a project involving living persons?

Yes

BECAUSE

We selected one child randomly from a set of twin pairs ("persons") and included them in this study.

Is the research project a clinical trial as defined by ClinO or ClinO-MD?

No

BECAUSE

We collected DNA from buccal swaps of children for genome-wide genotyping. Buccal swaps were a procedure to collect the data. We sought to determine the association between polygenic risk score (PRS), adiposity, and satiety responsiveness. We made no health related interventions (according to ClinO) during the course of the project.

Does the research project involve measures that involve minimal risks and stress for the participating persons?

Yes

BECAUSE

We collected DNA from buccal swaps of children for genome-wide genotyping. The study determined the association between polygenic risk score (PRS), adiposity, and satiety responsiveness. Our data collection procedures (buccal swaps) caused participants no more than minimal risk or stress.