

STUDY PROTOCOL: A Proof-of-Concept study investigating the prevalence of fat mass and obesity associated genes (FTO) and Melanocortin 4 Receptor (MC4R) in people with severe obesity attending a weight management service in Wales, UK.

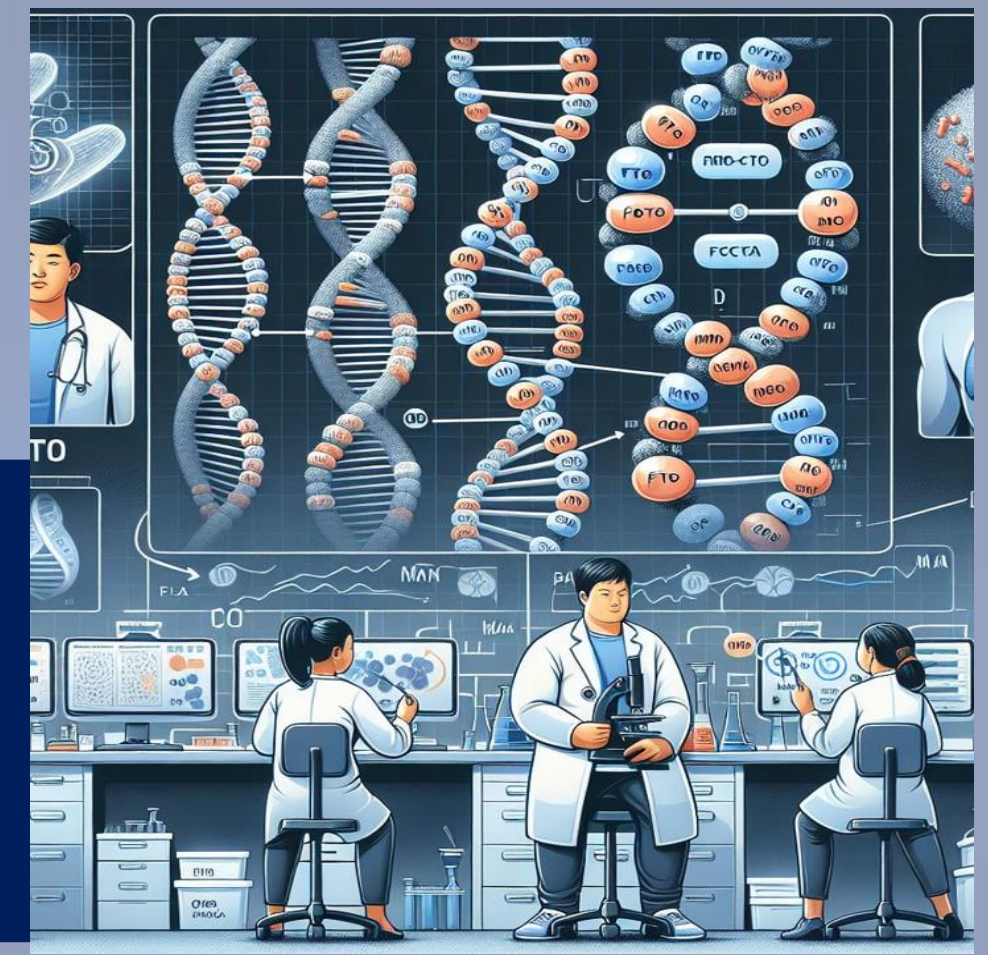
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BACKGROUND

26%

of people in the UK live with obesity

FTO and MC4R gene variants are associated with obesity-related behaviours and treatment responses



FTO and MC4R gene variants contribute towards more severe obesity (BMI ≥ 40 kg/m²) but their prevalence in Wales populations is unknown.

AIM

Determine the prevalence of FTO and MC4R genetic variants in a cohort of 150 people with severe obesity attending a tier 3 adult weight management service in Wales. Understanding their prevalence will inform future studies and enhance personalised treatments.

METHOD AND ANALYSIS

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150 people ≥ 18 years old



Quantitative Protein C Resistance (qPCR) assays will be used to determine the genotypes of the relevant Single Nucleotide Polymorphism (SNP) within FTO and MC4R gene variants of each participant.

STUDY FINDINGS AND FUTURE DIRECTIONS

1. This proof of concept study will inform a potential stream of research regarding genetic polymorphisms and obesity, and personalised interventions.
2. Additional work will consist of qualitative investigations to understand what participants perceptions and experiences are of learning about certain genetic polymorphisms and how this might influence their willingness to engage with future interventions and/or research studies.
3. Future research will also involve regression analysis to evaluate how these variants predict wellbeing and anthropometric outcomes over the participant follow-up period at the weight management service.