Appetitive trait measurements in infants
Evaluación de los rasgos del apetito en lactantes

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Declaración de Intereses:

No tengo ningún interés que declarar / I declare no competing interests.

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HUMAN BODY WEIGHT HAS A STRONG GENETIC BASIS

Introduction

Identical twin pairs

Non-identical twin pairs

THE OBESITY EPIDEMIC

Paradox?

Body weight is both highly genetic and highly environmental
Behavioural Susceptibility to Obesity

- **Social Factors**: e.g. food availability
- **Metabolic Factors**: e.g. satiety hormones
- **Appetitive Traits**: e.g. high energy intake
- **Positive Energy Imbalance**: e.g. high energy intake
- **Body weight

AN APPETITE PATHWAY FOR ‘OBESITY GENES’: BEHAVIOURAL SUSCEPTIBILITY TO OBESITY

Method - Twin studies

Gemini – Health & Development in Twins

Prospective birth cohort

2402 twin pairs born 2007

Anthropometrics: 3-monthly

Appetite: 3 mths, 15 mths

Diet and dietary behaviours: 21 mths

Twins tell us about genes & the environment for appetitive traits

- **Twin studies**: Natural experiment to study variation in a trait
- Requires monozygotic (identical) and dizygotic twins (fraternal twins)
- Identical twins are genetically the same & non-identical twins only share 50% of their segregating genes
- Both types of twins share their environments to a similar extent

‘Heritability’
GEMINI’S OBJECTIVES

Establish genetic and environmental contributions to infant appetite
MEASURING INFANT APPETITE

BABY EATING BEHAVIOUR QUESTIONNAIRE (BEBQ)

These questions are about your baby’s appetite over his/her first few months of life. We are specifically interested in the period during which your baby is fed milk only, i.e. no solid foods or pre-prepared baby food yet.

How would you describe your baby’s feeding style at a typical daytime feed?

1. Even when my baby has just eaten well he/she is happy to feed again if offered

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2. My baby can easily take a feed within 30 minutes of the last one

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3. My baby gets full up easily

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4. My baby finds it difficult to manage a complete feed

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- 17 items
- 4 appetitive dimensions
- Parent-reported measure

LARGE VARIATION IN INFANT APPETITE
(BEBQ at ~3 months)

RESULTS

Satiety Responsiveness

Food Responsiveness

GENETIC INFLUENCE ON INFANT APPETITE IS STRONG, AND 1/3 OF THE GENES ARE SHARED WITH WEIGHT

RESULTS

TAKE AWAY MESSAGES

- Genes influence weight partly through effects on appetite
- Genetic influence on appetite is strong
- Infants with ↑ FR & ↓ SR may be poorer at self-regulating their energy intake (↑ risk of obesity)
- Appetitive traits offer potential targets for obesity prevention efforts
  → Develop & test interventions to upregulate appetite regulation
Gracias!

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