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Does an education intervention on taste qualities, taste test performance, and scale use modify the taste perception score and taste preferences?

Submission date
18/12/2018

Recruitment status
No longer recruiting

Registration date
27/12/2018

Overall study status
Completed

Last Edited
20/11/2019

Condition category
Digestive System

[X] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] Record updated in last year

Plain English summary of protocol

Background and study aims
How people perceive the 5 basic tastes (bitter, sweet, salty, sour and umami [savoury]) is thought to affect food preferences and choices. It is not known whether there is a link between taste perception and obesity and it would be useful to conduct research into a potential link. However, it is difficult to measure taste perception consistently across a group of people. This study aims to investigate whether educating people on the basic tastes and the taste preference test improves how consistently they are able to express their taste preferences.

Who can participate?
Healthy adults aged 18 to 80 years

What does the study involve?
Participants will be randomly allocated to one of two groups. At the first visit, all participants will be asked to taste some liquids one by one and score them for the basic tastes and how much they like tasting them. One group will receive a short explanation minimal explanation of the taste perception test, scales and preferences. The other group will receive a more in-depth education on taste preference testing. After 1 to 3 weeks, all participants will repeat the taste preference test.

What are the possible benefits and risks of participating?
There are no benefits and risks expected.

Where is the study run from?
The University of Valencia School of Medicine (Spain)

When is the study starting and how long is it expected to run for?
October 2018 to December 2019

Who is funding the study?
The University of Valencia

Who is the main contact?
José V. Sorlí, sorli@uv.es

Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Protocol serial number
PCT1E_18

Study information

Scientific Title
Effect of an educational intervention on taste perception, taste test performance, and scale use on precision and validity of taste perception scales and scales taste preference: a randomized and controlled trial

Acronym
TASTETEST

Study objectives
The hypothesis of the study is that the perception of the 5 basic tastes (sweet, salty, bitter, acid and umami), as well as their sum in a “total taste score”, is different in different people and in addition, a lower taste perception score is associated with higher body mass index (BMI). However, the measurement of taste perception is difficult, having been described different techniques for this, including categorical scales for taste rating, as well as the more complex labelled magnitude scales (LMS) (as a continuous scale). The use of one type or another of scales, the age of the participants, their educational level and the time spent in explaining the completion of taste perception tests, will influence the taste perception score, resulting in greater or lower validity and precision of the scale used, as well as in the subsequent association between the score obtained in the taste perception taste(s) and the body mass index. In this general context, the trialists hypothesize that an intensive educational intervention explaining in great detail the types of tastes, the performance of the taste tests and the use of each type of scale (categorical or LMS), will increase the validity and precision of the scales used in comparison with a control group without intensive educational intervention (standard

procedure). The trialists also hypothesize that the effect on the scale validity and precision will be greater in the use of the LMS, affecting to a lesser extent the categorical scales for the perception of taste as well as in the use of similar scales to evaluate the preferences for the different tastes.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Institutional review board of Valencia University (human subjects), 14/12/2018, ref: H1544387108892

Study design
Randomised controlled trial

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Taste perception

Interventions
Intensive educational intervention in the intervention group consisting of group and individual intervention on taste qualities, taste function, taste perception, taste tests, types of taste perception scales and taste preference scales.

In the control group a minimal explanation of the performance of taste perception test, scales and preferences will be carried out.

In both groups taste perception tests will be carried out with the same tastants and concentrations as well as with the same scales (categorical versus Labeled Magnitude Scale) will be undertaken. The tastants and concentration will be as follows: Each tastant wil be presented to subjects independently. Five series of concentrations (concentrations I, II, III, IV and V, respectively) will be used for bitter, sweet, salty, sour and umami. Six representative tastants (two tastants for bitter and one tastant for the other tastes) will be used: for PROP and PTC (0.055, 0.17, 0.55, 1.7, and 5.5 mM); for sucrose (100 mM, 150 mM, 200 mM, 300 mM and 400 mM), for NaCl (25 mM, 50 mM, 75 mM, 100 mM and 200 mM); for citric acid (1 mM, 5 mM, 10 mM, 17mM and 34 mM) and for MPG (25 mM, 50 mM, 75 mM, 100 mM and 200 mM).

Intervention Type
Behavioural

Primary outcome(s)
1. Taste perception (for individual tastes and the total taste score) at baseline and after 1-3 weeks
2. Body mass index (BMI) at baseline and after 1-3 weeks

Key secondary outcome(s))

1. Taste preferences at baseline and after 1-3 weeks
2. Adherence to the Mediterranean diet measured by the 14-item Mediterranean diet adherence PREDIMED scale at baseline
3. Physical activity measured by the Minnesota physical activity questionnaire at baseline
4. Sleep quality measured by the Pittsburgh Sleep Quality Index at baseline
5. Chronotype assessed using the Horne and Östberg morningness–eveningness questionnaire (MEQ) at baseline

Completion date
31/12/2019

Eligibility

Key inclusion criteria
1. Volunteers recruited from the general population
2. Both sexes
3. Between 18 and 80 years old

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Diseased
2. Allergic or intolerance to the different substances of the tests (PROP, PTC, sucrose, NaCl, MPG)
3. Immunodeficiency or HIV-positive status
4. Liver cirrhosis or chronic renal failure
5. Serious psychiatric disorders: schizophrenia, bipolar disease, eating disorders, depression, etc
6. Any severe co-morbid condition
7. Alcohol abuse or addition
8. History of major organ transplantation
9. Concurrent therapy with immunosuppressive drugs or cytotoxic agents
10. Current treatment with systemic corticosteroids
11. Current use of weight loss medication
12. Patients with an acute infection or inflammation
13. Any other condition that may interfere with the completion of the study protocol

Date of first enrolment

27/12/2018

Date of final enrolment
17/12/2019

Locations

Countries of recruitment
Spain

Study participating centre
University of Valencia. School of Medicine
Avda. Blasco Ibanez 15
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Study participating centre
CIBER OBN
Instituto de Salud Carlos III. Calle Sinesio Delgado 10
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Sponsor information

Organisation
University of Valencia

ROR
https://ror.org/043nxc105

Funder(s)

Funder type
University/education

Funder Name
Universitat de València

Alternative Name(s)
University of Valencia, UV

Funding Body Type
Private sector organisation

Funding Body Subtype
Universities (academic only)

Location
Spain

Results and Publications

Individual participant data (IPD) sharing plan
Data will not be available outside the core research group. Researchers who are interested in this study can contact the main investigator (Dr JV Sorlí, sorli@uv.es) if they have any questions regarding the data or are interested in further collaborations. The participants will receive written information about what the study involves and sign a consent form before entering the study. In the informed consent form, the participant is informed that the individual level data will not be publicly avalaible.

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes