ISRCTN56753033 https://doi.org/10.1186/ISRCTN56753033

Intervention to test the feasibility and effectiveness of sweetness preference reduction in relation to hot beverages

Submission date
12/12/2016

Recruitment status
No longer recruiting

Registration date
14/12/2016

Overall study status
Completed

Last Edited
14/12/2016

Condition category
Nutritional, Metabolic, Endocrine

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

Plain English summary of protocol

Background and study aims
Sugar-sweetened drinks are a major source of sugar intake in children and adults, and contribute to obesity and its associated illnesses. A neglected and underestimated source of sugar intake is the widespread and frequent drinking of hot beverages such as sweetened teas and flavoured coffees. Many young adults and adults are consumers of hot drinks such as tea, and these are often sweetened with sugar. Drinks high in sugar are highly palatable and people find it hard to decrease their intake. Evidence from studies in children suggests that preferences for foods and drinks can be changed by repeated taste exposure. Exposure to a taste increases familiarity and acceptance of the flavour, which eventually leads to changes in drinking habits. Reducing sugar and sweetener consumption may therefore reduce preferred sweetness levels. The aim of this study is to find out whether gradually reducing or immediately stopping adding sugar to tea increases young adults' liking for unsweetened tea.

Who can participate?
Students aged over 18 at University College London

What does the study involve?
Participants complete an online questionnaire and are randomly allocated to one of three groups. The first group are told to gradually reduce the sugar they add to their tea over 31 days. The second group are told to completely stop adding sugar to their tea from day 1 of the 31 days. The third (control) group are told to maintain their usual tea sweetness levels for the first 4 weeks, after which they are randomly allocated to either gradually or completely stop adding sugar. Participants are sent a study pack containing information sheets, a booklet and a tailored plan based on data collected in the questionnaire (e.g. number of cups of tea they consume on an average week day and on an average weekend day, the average size of each cup of tea, and the average amount of sugar added to each cup). Participants are sent clear instructions on how to complete the regular data collection schedule and receive a calendar to remind them of the schedule to keep track of their progress. Daily tea consumption, liking of the reduced sweetness level of their tea, reduction of grams of sugar per cup of tea/per day, and the acceptability of the intervention are all measured using a mobile phone application which sends daily reminders

to complete a short questionnaire. Participants also receive a booklet with tips and techniques and the researchers' contact details should they require further information.

What are the possible benefits and risks of participating?
Participants will receive a guidance booklet that will instruct them on how to cut out sugar from their tea. All participants will also be given access to a free app to track their sugar intake from sugar in hot drinks. Participation is rewarded with a £10 Amazon voucher. No risks are expected for participants completing this study.

Where is the study run from?
University College London (UK)

When is the study starting and how long is it expected to run for?
December 2016 to April 2017

Who is funding the study?
Medical Research Council (UK)

Who is the main contact?
Andrea Smith
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
V12016

Study information

Scientific Title

Pilot study of an intervention to test the feasibility and effectiveness of sweetness preference reduction in relation to hot beverages: the REduction of Sugar In tea STudy (RESIST)

Acronym
RESIST

Study objectives
Compared with those in the no treatment control group, participants in the intervention groups will show increased liking for the taste of unsweetened tea after completion of the 31-day active intervention phase.

Ethics approval required
Old ethics approval format

Ethics approval(s)
UCL Ethics Committee, 24/11/2016, ref: 10005/001

Study design
Three-arm parallel randomised control trial design

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
Adolescent nutrition

Interventions
All participants will be invited to complete a detailed baseline questionnaire on their current tea drinking behaviour, general drink and sweetness preferences. A subset will be asked to undergo an objective chemosensory test to ascertain an objective measure of baseline sweetness preferences (one pre-intervention and one post-intervention).

Participants will be randomly assigned to one of three conditions.
1. 'Gradual reduction' intervention condition (n~30): follow a gradual sugar reduction schedule
2. 'Immediate cessation' intervention condition (n~30): completely cease the addition of any sugar to tea from day 1 of the intervention
3. Waiting control group (n~30): maintain their usual behaviour throughout the intervention

Both intervention groups will receive a tailored intervention e-mail containing an information letter and a mailed RESIST pack. The RESIST pack will include the RESIST instruction booklet, and three measuring spoons (to accurately measure 1 teaspoon, ½ teaspoon and ¼ teaspoon of sugar). All participants will be instructed to download a free smartphone application ('PACO') which will enable them to log the amount of tea consumed and their liking of their tea on a daily basis.

The three arms will follow a similar timeline:
1. A 2-day adjustment phase to standardize the baseline: Participants will be instructed to

maintain their usual behaviours but to start using the measuring spoons to sweeten their tea with sugar and to complete the daily sweetness preferences questionnaires in the PACO application on their phone
2. The 4-week intervention period
3. The completion of a follow-up questionnaire (4 weeks' post-intervention)

After completion of the 31-day intervention period, all participants will be instructed to complete a further online questionnaire. Individual assigned to the control group will be randomised to either of the active intervention arms and will receive the respective complete intervention materials.

A subgroup of individuals that have completed the 31-day intervention will be invited for a qualitative interview to answer questions in a semi-structured interview about their experience, the acceptability and their appraisal of the intervention. Participants will be rewarded with Amazon vouchers for their time.

Intervention Type
Behavioural

Primary outcome(s)
1. Tea intake (number of cups of tea on a scale of 1-10), measured using an online questionnaire at baseline, at completion of the study and at the 1-month follow-up data collection wave
2. Liking of daily tea, measured on 9-point Likert scale using a smartphone app daily during the 1-month active intervention phase
3. % reduction of grams of sugar per cup of tea/per day (questionnaire-based data), measured using a smartphone app daily during the 4-week active intervention phase

Key secondary outcome(s))
1. Drink preferences (9-point Likert scale) and drink Food Frequency Questionnaire (FFQ), measured using an online questionnaire at baseline, at completion of the study and at the 4-week follow-up data collection wave
2. What is consumed alongside with tea, measured using a smartphone app daily during the 4-week active intervention phase
3. Acceptability of the intervention, measured using a semi-structured qualitative interview post-intervention

Completion date
01/04/2017

Eligibility

Key inclusion criteria
1. Adolescent (>18 years)
2. Student at UCL or other UK-based university
3. Consume sugar-sweetened tea daily

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Pregnancy
2. A diagnosis of diabetes (type 1 or 2)

Date of first enrolment
01/12/2016

Date of final enrolment
01/01/2017

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
University College London
1-19 Torrington Place
London
United Kingdom
WC1E 6BT

Sponsor information

Organisation
University College London

ROR
https://ror.org/02jx3x895

Funder(s)

Funder type
Research council

Funder Name
Medical Research Council

Alternative Name(s)
Medical Research Council (United Kingdom), UK Medical Research Council, Medical Research Committee and Advisory Council, MRC

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Data sharing statement to be made available at a later date