

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	☐ Prospectively registered
		☐ Protocol
Registration date 14/12/2016	Overall study status Completed	☐ Statistical analysis plan
		☐ Results
Last Edited 14/12/2016	Condition category Nutritional, Metabolic, Endocrine	☐ 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

Contact name

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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

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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