

Does bottle size influence how much wine people drink at home?

Submission date 08/11/2018	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 15/11/2018	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 03/01/2024	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Drinking too much alcohol can cause a number of health problems, including some cancers and heart disease. One possible way of helping people reduce their alcohol consumption is to reduce the sizes of the bottles in which alcohol is available. However, there is currently no evidence that this would work. The aim of this study is to find out whether purchasing a fixed volume of wine in smaller vs standard bottle sizes reduces consumption at home.

Who can participate?

Households in the UK that drink at least 2 standard bottles (75cl) of wine a week

What does the study involve?

During each of two, fortnightly study periods, one hundred and seventy-two households across the UK are requested to buy a pre-set amount of wine (based on how much they typically drink in a week), split into either 75cl or 50cl bottles. Participants order their wine online. On days 7 and 14 of each the two study periods, they are requested to send information regarding the date and time each bottle was opened and finished, as well as photographs of all their wine bottles.

What are the possible benefits and risks of participating?

The findings from this study will generate the best evidence to date of the impact of the size of bottles on wine consumption at home. This study is considered to be low risk and no adverse consequences are expected.

Where is the study run from?

The Behaviour and Health Research Unit at the University of Cambridge (UK)

When is the study starting and how long is it expected to run for?

October 2018 to July 2019

Who is funding the study?

National Institute for Health Research, Policy Research Programme (UK)

Who is the main contact?
Prof. Theresa Marteau
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Contact information

Type(s)
Scientific

Contact name
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Additional identifiers

Study information

Scientific Title
Impact of bottle size on in home consumption of wine: a randomised controlled trial

Study objectives
The impact on consumption of reducing the size of bottles in which wine is purchased is uncertain. The aim of the current study is to assess the impact of presenting a fixed volume of wine in 50cl vs 75cl bottles on consumption in homes.

The specific study hypothesis is: Purchasing the same volume of wine for home consumption in 50cl as opposed to 75cl bottles reduces the volume of wine consumed.

Ethics approval required
Old ethics approval format

Ethics approval(s)
University of Cambridge Psychology Research Ethics Committee, 17/09/2018; ref: Pre.2018.064

Study design
Within-subjects cross-over randomised controlled trial

Primary study design

Interventional

Study type(s)

Prevention

Health condition(s) or problem(s) studied

Alcohol consumption

Interventions

General population households will be exposed to two conditions over time, randomised in their order of presentation and separated by a wash-out period.

The two conditions comprise purchasing a given quantity of a wine, sub-divided into bottles of one of two different sizes:

1. 75cl
2. 50cl

Each of the two intervention periods will last two weeks (14 days), with an intervening 'wash-out' period of a maximum of two weeks, with exact duration determined by how long it takes each household to finish the wine ordered during the first intervention period.

During each intervention period, participants will be requested to purchase online three weeks' worth of wine (based on their normal weekly consumption amount) in their allocated bottle size, in multiples of two 75cl bottles (i.e. 1.5 litres), to ensure that amounts are fixed during both intervention periods. In order to confirm they have ordered the appropriate wines (amount and size), participants will be requested to send a copy of the order to the research team. Participants will be sent labels to stick on delivered bottles to record the date and time each bottle was opened and finished, the number of people, including non-household members, who drank from the given bottle, amounts of any non-study wine consumed at home and to rate their experience of drinking wine from each bottle. They will be prompted to send close-up photographs (via email, text or WhatsApp) of all the labels and their entire stock of wine bottles purchased as part of the study twice during this intervention period: at 7 days and 14 days post study wine delivery.

Primary analysis

Regression analysis will be used to predict total wine consumption (in ml) at 14 days from bottle size. Analyses will control for the amount of wine drunk by guests of participants, the amount of non-study wine consumed at home during each study period, the number of days spent in the wash-out period, value for money (£/L) and the order of the interventions.

Secondary analysis

Regression analysis will be used to predict the time taken (in days) to consume each unit of 1.5 litres of wine from each bottle size averaged over the 14 day period. Analyses will control for the amount of wine drunk by guests the amount of non-study wine consumed at home during each study period, the number of days spent in the wash-out period, value for money (£/L) and the order of the interventions.

Intervention Type

Behavioural

Primary outcome(s)

Volume of wine in millilitres consumed by day 14 of each of the two intervention periods. This will be estimated through photographs of all wine bottles (completed & any partially finished) purchased as part of the study, sent by participants to the researchers. Estimates from partially finished bottles will be based on the following procedures:

1. Each wine bottle available on the study wine list will be purchased and filled in l increments, taking a photo of the bottles at each known volume. Smaller increments (10cl) will be used at the top (neck) & bottom (dimple) of the bottles where the relationship to height is non-linear.
2. Photographs with *known* volumes will be used to measure the height of the liquid and the height of bottle, to account for the bottle being at different distances from the camera.
3. Information regarding the height of the liquid, the height of the bottle and the known volume will be collated into a spreadsheet, in which height values will be expressed as a percentage (height liquid: height glass).
4. Either a model per bottle will be created based on the height percentage and volume values. (e.g. using an arcTan transformation), or numerical approximation using linear interpolation between lookup values will be used if no suitably fitting model is discovered. Preliminary estimates of error will be calculated, to inform the participant instructions on photography & choice of modelling. These models will be used to estimate the volume of leftover wine from the height percentage estimated from participants' photographs.

Added 22/07/2019:

Main covariates for primary outcome:

1. Variables for i) the bottle type used, ii) the order in which participants were allocated to the two bottle sizes (i.e. sequence effect), and iii) the period in which a measurement was taken
2. Amount of wine consumed by participants' guests, assessed by participant self-report
3. Amount of non-study wine consumed at home during study period, assessed by participant self-report
4. Amount of wine consumed by participants outside the home, assessed by participant self-report
5. Number of wine drinkers in a household
6. Duration taken (in days) for the washout period, per household
7. Amount of wine consumed at baseline, assessed by participant self-reporting pre-enrolment.
8. Average value for money (Cost of all bottles (£)/L).

Additional covariates in sensitivity analyses

A variable (coded from -1 to 1) for self-reported mitigating factors for each 7 day period in an intervention phase (i.e. any highly noteworthy 'event/circumstances' external to the study) impacting on consumption, will be totalled to gain a single total variable per fortnightly period (ranging from -2 to 2)

Key secondary outcome(s)

Rate of wine consumption during each intervention period. This will be reported as the time taken (in days) to consume units of 1.5 litres, estimated through self-reported times at which each bottle of wine was started and finished and photographs of the wine bottles purchased as part of the study.

Completion date

07/07/2019

Eligibility

Key inclusion criteria

Eligible participants are adults meeting the following criteria:

1. Purchase wine at a minimum rate of 2 x75cl bottles/week (1.5 litres) for their household
 2. Usually purchase wine online or are willing to purchase wine online
 3. Willing to consume wine(s) exclusively from the study wine list and order a total of approximately six weeks' worth of wine
 4. Live within a 3-mile radius of a retailer store that stocks the study wine in both target sizes (Appendix II)
 5. Have a smartphone or similar device from which to send photographs of wine consumed
- Recruited participants will represent households due to them purchasing for their household. The trialists will not recruit more than one participant representing any one household

Participant type(s)

Healthy volunteer

Healthy volunteers allowed

No

Age group

Adult

Sex

All

Total final enrolment

186

Key exclusion criteria

1. Take medications for which there is a recommendation against alcohol consumption
2. Have a history of becoming ill after alcohol consumption, requiring hospitalisation
3. Have a history of alcoholism or a serious mental illness (including paranoid and other psychotic disorders, bipolar disorders and schizoaffective disorders)

Added 20/06/2019:

4. If households drink more than 8 x bottles of 75cl wine a week (in the home) they would not be eligible to take part in the study

Date of first enrolment

22/10/2018

Date of final enrolment

16/05/2019

Locations

Countries of recruitment

United Kingdom

England

Study participating centre
Behaviour and Health Research Unit, University of Cambridge
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Sponsor information

Organisation

University of Cambridge (UK)

ROR

<https://ror.org/013meh722>

Funder(s)

Funder type

Government

Funder Name

National Institute for Health Research, Policy Research Programme (Policy Research Unit in Behaviour and Health [PR-UN-0409-10109]).

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Prof. Theresa Marteau (tm388@medschl.cam.ac.uk). All data will be anonymised and become "open data" at the end of the study. Data will be made available on a website, to anyone interested in the research, or who wishes to conduct their own analysis of the data. These data will be deleted 10 years after the date of the last access.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/12/2020	04/08/2020	Yes	No