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Prompting healthier snack choices in Scottish hospitals

Submission date	Recruitment status	[_] Prospectively registered
30/09/2019	No longer recruiting	[_] Protocol
Registration date	Overall study status	[_] Statistical analysis plan
08/10/2019	Completed	[X] Results
Last Edited	Condition category	[_] Individual participant data
08/07/2020	Other	

Plain English summary of protocol
Hospitals in Scotland offer snacks for sale to patients, staff and visitors. Despite the NHS's health promoting role, and tightening of regulations around the foods that can be sold in hospitals, many of these snacks are unhealthy. Around 65% of the general UK population and more than half of NHS employees are overweight or obese, and limiting consumption of high calorie snacks is one viable way to slow or prevent weight gain. The present project tests the effectiveness of point of purchase prompts (PPPs; shop shelf signs) designed to make it easier for consumers to compare available products and choose healthier options at the moment of choice. Data will be collected on snack purchasing in hospital shops and cafes when PPPs are, and are not, present to determine whether they can measurably reduce sales of high calorie snack foods in the hospital setting.

Background and study aims
People are more likely to make unhealthy food choices in situations where lots of unhealthy options are available. Consequently, research has investigated whether it's possible to improve people's food choices by increasing the number of healthy options that are available and reducing the number of unhealthy options that are available in any given setting. Lots of this research on food availability has taken place in healthcare settings like hospitals. This is for three main reasons. Firstly, people from all walks of life pass through hospitals every day, so hospitals provide a good setting in which to try to positively influence the food choices of a broad and varied section of the population. Secondly, it has been argued that hospitals, as organisations with a responsibility to promote health and prevent illness, should lead the way in supporting the public to make healthy choices. Thirdly, many workers in hospitals are overweight or obese, and strategies that support staff to make healthier choices might help staff maintain a healthy body weight.
Policy makers in Scotland have recently introduced formal rules (called Healthcare Retail Standards) that limit the availability of unhealthy foods in hospital shops. Since 2017, all food retailers based in hospitals in Scotland have had to make sure that at least 50% of the foods they sell meet healthy nutritional standards. This has resulted in fewer people buying unhealthy items. However, there is still room for improvement as many people still buy the unhealthy items on offer and are reluctant to switch to the new healthier products. Most people make food choices quite quickly, often opting for a product that they know that they like. Consequently, one possible way to increase the number of people choosing healthy options is to

introduce information at the moment of choice which prompts them to consider other options. This study aims to test this in hospital shops by investigating the effects of signs on shop shelves ('point of purchase prompts'; PPPs) specially designed to make it easier for customers to find healthier alternatives to their first choice. By looking at differences in the snack foods that customers in hospital shops choose to buy when these prompt signs are, and are not, present we can test whether the signs are successful in prompting customers to choose snacks with fewer calories, less fat, less sugar and/or less salt.

Who can participate?
This study involves food retail shops rather than individual customers. Shops that are located in hospitals in Scotland, that sell snack foods and that are open to hospital staff, patients and the general public can take part.

What does the study involve?
The study involves different hospital food shops across Scotland being chosen at random to either display specially designed point of purchase prompts (signs) on their shelves or not. The signs used in the present study are attached to the shop shelves and are designed to be seen by customers at the moment they are choosing a snack to purchase. They were developed by a team of psychologists, public health scientists, and nutritionists to:
• Help customers to quickly find healthy snacks that they would like 'at-a-glance'
• Prompt thoughts about health at the moment of choice
• Draw attention towards healthier items and away from less healthy items (by placing the healthier items on the left, where people have a natural tendency to pay more attention)
• Make it easier for customers to compare all of the available options by ordering the available products from lowest to highest calorie content
A researcher will visit each of 30 different hospital food shops across Scotland and will record all of the individual snack foods they sell. Signs (point of purchase prompts) will then be manufactured for each site, showing the full range of snack foods available in each location. The retailers will be asked to provide 12 weeks of information about the snacks that customers buy so that normal purchasing can be established. Shops will then be randomly selected to either have the signs installed on their shelves ('intervention group') or just to carry on as normal ('control group'). Retailers will then be asked to provide another 12 weeks of information about the snacks that customers purchase. To test whether the signs help customers to make healthier choices, the researchers will test whether the snacks purchased in 'intervention' shops get healthier on average (in terms of their calorie, fat, sugar and salt content) after signs have been installed compared to those purchased in 'control' shops. We will also test whether customers purchase fewer items or spend less in shops where signs are installed as this might influence how willing retailers are to use them in future.

What are the possible benefits and risks of participating?
There are no direct benefits to retailers of participating. As the signs being tested are designed to prompt customers to purchase different items, it is possible that this will result in a change in the number or value of items purchased over the course of the study. There are no direct benefits or risks to customers of the shops.

Where is the study run from?
The University of Aberdeen (UK)

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

Who is funding the study?
The Royal Society of Edinburgh (UK)

Who is the main contact?
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Contact information

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Scientific

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Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
v1_290618

Study information

Scientific Title
Enabling healthier snack choices in hospital shops and cafes: a randomised controlled trial of a cognitively informed point-of-purchase prompt (PPP)

Study objectives
The study tested whether introducing point-of-purchase prompts (PPPs) to food retail shops in Scottish hospitals would change the average calorie/fat/sugar content of single-serve snack foods purchased in these locations.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 05/09/2018, University of Aberdeen College of Life Sciences & Medicine Research Ethics Board (https://www.abdn.ac.uk/staffnet/research/ethical-approval-2780.php), ref: CERB /2018/6/1638

Study design
A two-arm cluster-randomised controlled trial

Primary study design
Interventional

Secondary study design
Cluster randomised trial

Study setting(s)
Hospital

Study type(s)
Prevention

Participant information sheet
Not applicable, since no participants were recruited.

Health condition(s) or problem(s) studied
The promotion of general good health through promotion of healthy food choices

Interventions
Food retail units (n=30) located in hospitals across Scotland were classified according to their annual revenue (3 levels: low, medium, high) and randomised to intervention or control (1:1) using block randomisation following the procedure outlined by Simon (1999). Those sites randomly allocated to intervention had point-of-purchase prompts (PPPs) in the form of signs installed on shop shelves to prompt customers to consider healthy snack options at the moment of choice. Control sites had no PPPs installed. The intervention PPP was a sign displaying all of the single-serve snacks available in each shop in order from lowest calorie on the left to highest calorie on the right. It was developed by a multi-disciplinary team of psychologists, public health scientists, and nutritionists (Scottish Government Chief Scientist Office project CZF/1/37), and was shown to significantly reduce the proportion of high-calorie snacks purchased in a single hospital café in a previous pilot study (Allan, Johnston & Campbell, 2015). The PPP signs are designed to reduce the need for effortful cognitive processing in four ways. First, they prompt consumers to consider dietary intentions at the moment of choice, reducing the need for prospective memory about current goals. Second, the wording follows the format of an implementation intention (an 'if-then' plan; Gollwitzer, 1999) reducing the need for advance planning of appropriate actions in the light of current goals. Third, the layout and use of arrows capitalises on peoples' tendency to show attentional biases to stimuli presented in left visual field (Simon-Tov et al, 2007) and towards items marked as goal-relevant (Yantis, 2000), directing selective attention towards healthy items and facilitating inhibition of unhealthy items. Fourth, a single value (calorie content) is displayed for each product, and products are ordered according to these values to allow easy comparison between items, reducing the need for information to be held in working memory during choice.

Retailers provided 24 weeks of purchasing data from each participating retail unit - 12 weeks of baseline data (before PPPs were installed in intervention sites) and 12 weeks of follow up data (after PPPs were installed in intervention sites).

Intervention Type
Behavioural

Primary outcome measure
1. Average calorie content per single-serve snack item purchased (in kcal derived from pack /supplier information) during the baseline period (the 12 weeks prior to the introduction of the intervention) and a follow-up period (the 12 weeks following the introduction of the intervention)
2. Average fat content per single-serve snack item purchased (in g derived from pack/supplier information) during the baseline period (the 12 weeks prior to the introduction of the intervention) and a follow-up period (the 12 weeks following the introduction of the intervention)
3. Average sugar content per single-serve snack item purchased (in g derived from pack/supplier information) during the baseline period (the 12 weeks prior to the introduction of the intervention) and a follow-up period (the 12 weeks following the introduction of the intervention)

Secondary outcome measures
1. Average customer spend per single-serve snack item purchased (in GBP) was collected from retail purchase data during the baseline period (the 12 weeks prior to the introduction of the intervention) and the follow-up period (the 12 weeks following the introduction of the intervention)
2. Total number of single-serve snack items purchased was collected from retail purchase data

during the baseline period (the 12 weeks prior to the introduction of the intervention) and the follow-up period (the 12 weeks following the introduction of the intervention)

Overall study start date
01/08/2018

Completion date
31/12/2019

Eligibility

Key inclusion criteria
Retail units:
1. Based within a hospital in Scotland
2. Accessible to staff, patients and the general public
3. Selling snack foods and able/willing to make itemised purchasing data available

Participant type(s)
Mixed

Age group
Mixed

Sex
Both

Target number of participants
30 retail sites (hospital food shops) were randomised, providing data from approximately 1,000,000 individual purchases over the 6-month study period.

Total final enrolment
30

Key exclusion criteria
Does not meet inclusion criteria

Date of first enrolment
01/01/2019

Date of final enrolment
31/08/2019

Locations

Countries of recruitment
United Kingdom

Wales

Study participating centre
Royal Voluntary Service
Beck Court
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Sponsor information

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Sponsor type
University/education

ROR
https://ror.org/016476m91

Funder(s)

Funder type
Charity

Funder Name
Royal Society of Edinburgh

Alternative Name(s)
The Royal Society of Edinburgh, RSE

Funding Body Type
Private sector organisation

Funding Body Subtype
Associations and societies (private and public)

Location
United Kingdom

Results and Publications

Publication and dissemination plan
The results of the study will be written up for publication and submitted to an academic journal. A brief summary of the study results will be sent to NHS health boards in Scotland and presented to food retailers operating in Scottish hospitals.

Intention to publish date
01/08/2020

Individual participant data (IPD) sharing plan
The data sharing plans for the current study are unknown and will be made available at a later date. The data used is commercial data owned by the retail organisations.

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	06/07/2020	08/07/2020	Yes	No