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Exploring Uptake and Engagement with Community Food-Related Services in Low Income Areas Using the COM-B Model V.2

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We use this protocol and it's working

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Abstract

Background: Low socioeconomic status (SES) is a significant risk factor for obesity and related non-communicable diseases, such as cardiovascular disease and type II diabetes. In Scotland, as in the rest of the UK, deprived areas show higher rates of obesity and overweight compared to the least deprived areas. As of 2018, it is estimated that 14.4 million households did not have the minimum income necessary for a healthy lifestyle. Consequently, food-related services tailored for lower-income populations have been implemented in community settings to address these dietary inequalities. However, there is limited robust evidence supporting these services and their acceptability to the target population.

Method: An exploratory cross-sectional survey will be administered to 72 users of community-based food-related services using convenience and snowball sampling methods. The COM-B model will be used to explore factors (specifically barriers and facilitators) that affect how individuals from low socioeconomic populations in Aberdeen City engage with community-based dietary interventions. Levels of food insecurity and engagement with community-based interventions will also be assessed.

Results: Responses will be analysed using descriptive and regression analyses with SPSS. Regressions will explore whether capability, opportunity, and motivation (components of the COM-B model) predict engagement with community food-related services.

Discussion: This study will provide insights into factors affecting engagement with community-based dietary interventions among low socioeconomic populations. By using the COM-B model, we will identify barriers and facilitators related to capability, opportunity, and motivation. Understanding these factors is crucial for designing effective interventions tailored to low-income populations. Results may reveal key associations between specific factors and engagement with community food services, indicating areas for improvement.
This research aims to contribute to the evidence on the effectiveness of community-based food-related services, informing future policies to reduce dietary inequalities and improve health outcomes in deprived areas.

Guidelines

This work is sponsored by the University of Aberdeen and funded by RESAS (Scottish Government).

Materials

- A questionnaire was generated using the COM-B model as the guiding framework
- A short demographic questionnaire was integrated into the survey study
- Flyers and study information were created and circulated
- Participant information sheets were created and approved by ethics before being circulated

Safety warnings

N/A

Ethics statement

This research study was peer reviewed by the Rowett Institute's Human Studies Management Committee and approved by the Rowett Institute's Ethics Committee.

Before start

This research study is part of a PhD research project. This work is sponsored by the University of Aberdeen and funded by RESAS (Scottish Government). This protocol outlines the rationale and methods behind a survey study that is being conducted to understand factors associated with uptake and engagement with food related services within the City of Aberdeen.

Background and Study Design

1 **Aim:**

In the present study, the aim is to understand and quantify the perspective of users and non-users of community dietary interventions within low-income communities, specifically what barriers and
facilitators are associated with their uptake and engagement and consumption of
a healthy diet, using the COM-B model as a guiding framework.

Note

The COM-B model is a framework used in Health Psychology to demonstrated how capability, opportunity and motivation influence behaviour.

COM-B Model

Objectives:

1. To identify levels of food insecurity and engagement with community dietary interventions in low-income adults in Aberdeen city

2. To assess the role that knowledge, skills and education (capability) have on how intended beneficiaries engage with community dietary interventions and consume a healthy diet,

3. To assess the role that accessibility, environmental factors, and social factors (opportunity) have on how intended beneficiaries engage with community dietary interventions and consume a healthy diet,

4. And, to assess the role of perceived costs, benefits and outcomes; feelings and habits (motivation) have on how intended beneficiaries engage with community dietary interventions and consume a healthy diet.

2 **Expected Outcome(s):**

- Clear understanding of the specific barriers and facilitators that influence low-income adults' engagement with community dietary interventions,
- An overview of the primary driver (capability, opportunity, or motivation) for improved engagement in dietary interventions among low-income populations.

3 **Study Description:**

Note

Recruitment started in June 2024 and will continue until we recruit at least 72 participants.

Between May and August 2024, we intend to recruit 72 clients of community providers/hubs who are the potential intended beneficiaries of community dietary interventions and conduct a cross sectional survey using convenience and snowball sampling methods. Participants will be those that are eligible for support from community-based dietary interventions in Aberdeen City. They will be recruited through community-based organisations and intervention providers in Aberdeen city. Recruitment will be conducted by members of the research team during visits to these community centres. Community project leaders will also help with recruitment by circulating information about the study with their clients. Flyers and participant information sheets will be distributed in these locations.

In the survey, participants will be asked about how they engage with these community interventions, and more specifically what facilitates or impedes their decision to attend or use the programmes and services offered. The survey will be administered both via print outs and digitally too, depending on participants preference and accessibility. The survey can be completed at the local community provider/hub or at the Rowett Institute. Participants will complete the study using a University-owned iPad or their own device. Printed copies of the

survey can be offered if preferred or required. Participants can either email the research team (using the contact details on the Participant Information Sheet) or inform their project leader that they want to take part, who will let the research team know. At this point, they can indicate if they'd rather participate at the local community provider or at the Rowett.

The language in the survey will be adapted to achieve as high Flesch readability score / require a low reading age. The Flesch reading ease test will be used to ensure a score of between 70 and 80, which ensures it is as easy as possible to read whilst retaining the key information. If required, a researcher will assist participants in completing the survey and participants will be able to have a peer/advocate accompany them and help them to complete the survey. We also anticipate piloting the survey with members of our partner organisations to obtain feedback from a non-academic audience. This will ensure no subgroups are excluded from the study, based on lower literacy, not having access to electronic devices etc. This of course carries its own risk of biasing influences, but we will try to minimise this source of error and bias and take it into consideration during data synthesis and when presenting the data.

Prior to the survey, participants will be given information about the study via participant information sheets and be given the opportunity to ask any questions, to ensure participants have all the information they require before giving informed consent. Participants will be reminded that they have the right to decline participation and/or withdraw at any time. Surveys will be confidential and anonymised; because surveys will be anonymised upon completion, participants will only be able to withdraw from the study until the point in which they submit their survey. The potential participants will receive the information about the study, a consent form and the survey simultaneously, but will be able to complete the survey in their own time and therefore be allowed as much time as they require before deciding whether to give informed consent or not.

We anticipate that the survey will take 10 minutes to complete, and a £10 voucher, for a grocery shop of their choosing will be provided to compensate participants for their time and travel. As the payment will be offered as a voucher, the volunteer payment receipt form will be completed after the survey has been completed and will be used only to show the cash office evidence of the reimbursements. These receipts will not contain participants numbers and therefore cannot be used to identify participants from their survey responses. Participants will be made aware of this too as outlined in PIS.

Prior to the main survey, participants will complete The Household Food Insecurity Access Scale (HFLAS) – a 9-question validated questionnaire that distinguishes food insecure from food secure households. In the survey, only 3 items from this scale will be used in line with the Scottish Health Survey. This will be used in the analysis.

If completed alongside a researcher, following completion of the survey participants will be offered one last chance to withdraw, and be reminded that once the survey is submitted it will

not be possible to withdraw due to anonymisation. At this point, participants will be debriefed and be offered a printed debrief form to take away with them.

4 **Sample Size:**

G*Power, version 3.1.9.7 was used to calculate the required sample size. As previous survey COM-B studies have found moderate (0.2) predictive effects of capability, opportunity and motivation on behavioural intentions (1,2), the present survey would need a minimum sample size of 65 to detect a comparable effect in regression analyses with an alpha of 0.05 and power of 0.80. We will aim to recruit an additional 20% (13) participants to account for incomplete submissions, giving a total target sample size of n=78.

5 **Inclusion Criteria:**

- Must be able to provide informed consent,
- Must attend community hubs, programmes or services (not necessarily dietary-related programmes)
- Must live in Aberdeen City,
- Must be over 18 years old,
- Must have a sufficient level of English to be able to participate.

Data Collection and Analysis

6 **Data Collection:**

The study will be administered both digitally and/or using print outs of the survey, depending on participants preferences and accessibility. E-tablets may be used to collect in person responses and an interview mode of administration will be used, where necessary.

Digital/online responses will be automatically uploaded to a secure server, SNAP's webhost. Printed responses will be carried by a researcher and immediately transferred to a locked filing cabinet.

Responses collected on printed out copies of the survey will be input onto an Excel spreadsheet by the PhD student on this project, AS. At this point, all data is anonymised and unidentifiable, and no personal data will be held. Paper files will be stored in a locked filling cabinet within the Rowett Institute until they are transferred to the Excel spreadsheet. After the initial study period, paper files will be destroyed by placing the files into University provided shredding bins. Copies of the paper files will be scanned and stored in the secure shared folders. Those completed online or on the E-tablets will be exported into the same Excel spreadsheet. This Excel spreadsheet will be stored on a secure shared drive on the University of Aberdeen's secure server and will only be accessed by members of the research team.

It is anticipated that Snap Webhost will be used to implement the online survey and collect responses. These webhosts allow for the surveys to be printed, so the survey will be designed in one of these software's. As responses will be anonymised immediately upon completion, no personal data will be linked to the data collected.

7 **Data Management:**

The Rowett Institute has been certified as ISO9001:2015 compliantand has previously adopted the Joint Code of Practice for Research guidelines issued jointly by BBSRC, DEFRA, FSA and NERC. The Rowett Institute is regularly audited both internally and externally to ensure data management procedures and policies are being followed. Following these guidelines, data will be made available for secondary research in a timely matter if appropriate and/or necessary.

All data collected in this study will be retained by the research team for the synthesis, dissemination, and publication of results obtained. Data will be presented at conferences prior to publication. We anticipate that the study findings will be published in a reputable open access journal.

All electronic data will then be archived and retained on the University backed-up servers for a minimum of 10 years. This data will initially be stored in secure folders on the University's digital shared drive, which only permits access to members of the immediate research team. After the initial study period, the data will be filed away into a single folder within the University's shared drive. When the data is no longer needed (minimum of 10 years), the data files will be deleted from the shared folders and removed from back-ups.

8 **Proposed Analysis:**

Data will be descriptively summarised and linear regression will be used to predict behavioural intentions of users from perceived capability, opportunity and motivation. Data analyses will be conducted using IBM SPSS.

Ethical Considerations

9 **Ethical Conduct:**

The survey study will be conducted in accordance with the principles of good research practice (GRP). Research team members have completed the GRP training and/or the GCP training. Ethical approval has been given from the Rowett's ethic committee prior to the beginning of the study.

10 **Confidentiality:**

All records will be anonymised, and participant confidentiality will be maintained. Records will be kept in a secure storage area and will only be accessible by members of the research team/study management group.

The PI and study staff involved with this study will not disclose or use for any purpose other than performance of the study, any data, record, or other unpublished, confidential information disclosed to those individuals for the purpose of the study. Prior written agreement from the Sponsor or its designee will be obtained for the disclosure of any said confidential information to other parties

11 **Data Protection:**

The CI and research team will comply with the guidelines of the General Data Protection Regulations (GDPR) and Data Protection Act (1998). Computers used to collate the data will have limited access measures via usernames and passwords. Published results will not contain any personal data that could allow identification of individual participants.

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