MALAYSIAN ADULTS' VIEWS AND EXPERIENCES ON BEHAVIOUR CHANGE STRATEGIES IN MOBILE APP FOR DIET MONITORING AND WEIGHT MANAGEMENT: A QUALITATIVE STUDY

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Background

• Behaviour Change Strategies (BCS) are efforts put into place, to change people's personal habits and attitudes, to prevent disease (WHO, 2002).
• Attempts to predict and explain human behaviour in a given context or situation, researchers develop behaviour change theories (BCT) (Ajzen, 1991). BCTs serve as a framework to organize different BCS.
• Research on what makes these apps effective (eg achieving diet and weight management goals), and which BCS that are targeted to healthy individuals are still lacking. Most evaluation studies on weight management apps focus purely on efficacy rather than identifying specific strategies that successfully facilitate weight management (Schoeppe et al., 2016; Wieland et al., 2012).
• This study aims to explore the BCS needs of Malaysian adults in the context of mobile apps for diet monitoring and weight management.

Objectives

1. To explore the behavioural change strategies that can engage healthy Malaysian adults to use the mobile apps for diet monitoring and weight management.
2. To explore behavioural change strategies used in mobile apps for diet monitoring and weight management that are effective in maintaining compliance to diet monitoring and weight management interventions among healthy Malaysian adults.

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Methodology

Study Approach: Semi structured focus group discussions and in-depth interview among healthy Malaysian adults.

Participants
- n = 18
- Gender: 13 females and 5 males
- Age: 20 to 45 years old

Conceptual Framework

Attitude
- Perception towards diet modification & diet apps
- Perceived effectiveness of mobile diet apps
- Prior experience with health apps

Subjective Norm
- Social media exposure
- Views of friends & family who use diet apps
- Conducive environment to using diet app (internet connection.. Etc)

Perceived Behavioural Control
- Relate to self-efficacy
- Able to control diet & weight without diet/health app
- Adherence & compliance if using app

Intention
- To lose, gain or maintain current weight
- To improve health or prevent NCDs

Behaviour
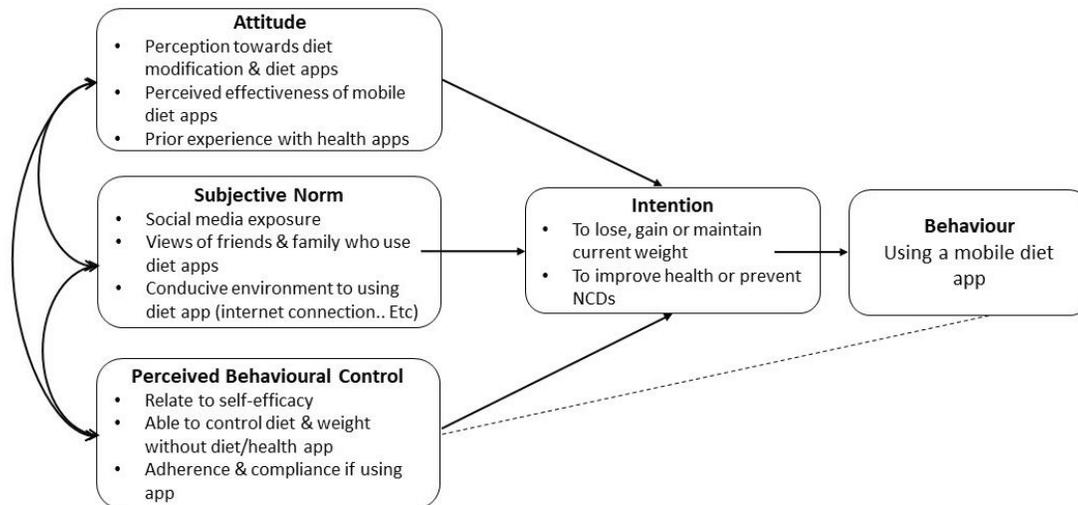Using a mobile diet app

Figure 1: Conceptual Framework of study, adapted from (Ajzen, 1991) The Theory of Planned Behaviour

The above framework will be used when creating a topic guide for semi-structured focus group discussions and in-depth interviews.

Materials

Topic Guide
- Semi – structured or open-ended questions within a topic guide was used to question participants.
- Some of the questions may be created during the interview, allowing the researcher the flexibility to probe for details.

Trigger Materials
- A series of prompts and examples to illustrate to users on the different types of behaviour change strategies that may be used in a diet app.
- To assist in users who have never encountered certain BCS features in the diet app they have used, allowing them to visualise and provide their opinions.

Data Analysis Methods
- All recordings were transcribed verbatim.
- Data was managed using QDA Miner Lite v1.4.1 software.
- The 93 hierarchically clustered BCT taxonomy was used as a guide and starting of point to create codes and categories during data analysis (Michie et al., 2013).
- Iterative analysis using a multi-step process of thematic analysis was conducted.

Results

Themes	Summary key points identified
Ease of Use	By ensuring the app is easy to use, understand and acquire, user has less resistance to begin app use.
Smooth User Experience	Minimising glitches and time taken to perform tasks in apps allows for smooth experience. Flexibility to fix mistakes and taking up minimal phone memory storage eases burden on user.
Attractiveness of Features	Attractive interface and features such as rewards and regular updates maintains a sense of novelty and able to keep user interested.
Awareness of Progress	Keeping user aware of their progress by making rewards and the results tangible helps user to comply with new habits.
Awareness of Consequences	When user is aware of affective consequences of food consumption such as calories and mood, they may use the information to make better diet decisions. Some users however find this information to be demotivating.
Social Influence	Users' social circle and social media influence and introduce user to diet app.
Social Support	Users' social circle and social media friends with similar interest provide support for complying with diet change and app use.
Shaping Knowledge	App is a source of knowledge for user by providing instruction and reminders of how and when to perform tasks relating to diet.
Goal Setting	Users' intention with app helps inform which goals to set, making the target behaviour more tangible.
Personal Tailoring	Allowing user to personalise app functions according to their needs and preference helps them engage with app.
Comfort	Allowing user to personalise app functions according to their needs and preference helps them engage with app.

Conclusions

- To our knowledge, this is the first study to explore the behaviour change strategy need of Malaysian adults for mobile apps for diet and weight management
- Influence by one's social circle and attractiveness of app features may initiate users' interest and help them engage with mobile diet apps, but the app's ability to raise awareness of progress and imparting useful knowledge help them adhere and comply to a healthier diet in the long run.

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