People trying to lose weight dislike calorie counting apps and want motivational support to help them achieve their goals

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ABSTRACT

Background: Two thirds of UK adults are overweight or obese and at increased risk of chronic conditions such as heart disease, diabetes and certain cancers. Basic public health support for weight loss comprises information about healthy eating and lifestyle, but internet and mobile applications (apps) create possibilities for providing long-term motivational support.
Aims: To explore among people currently trying to lose weight, or maintaining weight loss, (i) problems, experiences and wishes in regards to weight management and weight loss support including e-health support; (ii) reactions to Functional Imagery Training (FIT) as a possible intervention.
Method: Six focus groups ($N = 24$ in total) were recruited from a public pool of people who had expressed an interest in helping with research. The topics considered were barriers to weight loss, desired support for weight loss and acceptability of FIT including the FIT app. The focus group discussions were transcribed and thematically analysed.
Results: All groups spontaneously raised the issue of waning motivation and expressed the desire for motivational app support for losing weight and increasing physical activity. They disliked calorie counting apps and those that required lots of user input. All groups wanted behavioural elements such as setting and reviewing goals to be included, with the ability to personalise the app by adding picture reminders and choosing times for goal reminders. Participants were positive about FIT and FIT support materials.
Conclusion: There is a mismatch between the help provided via public health information campaigns and commercially available weight-loss self-help (lifestyle information, self-monitoring), and the help that individuals actually desire (motivational and autonomous e-support), posing an opportunity to develop more effective electronic, theory-driven, motivational, self-help interventions.

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1. Introduction

Rising obesity levels put half the UK's adult population at risk of developing serious morbidities, such as Type 2 diabetes, cancers and various heart conditions (Eastwood, 2013). The array of interventions spans educational methods, behavioural interventions, drug treatments and bariatric surgery. Bariatric surgery, drug treatments and very low-calorie diets pose the risk of life threatening side effects and patients typically do not reach their desired weight (Encinosa et al., 2005, 2013; Picot et al., 2009). Clinical and commercial weight loss programs are not optimal either, producing short-term weight loss, but a typical long-term weight regain of about 40% (Bessesen, 2006). Most people who seek to lose weight, however, receive no professional support; 90% of overweight or obese patients have no weight management interventions recorded. Those who do receive support in the primary care setting generally get lifestyle and diet advice only (Booth et al., 2015; Laws, 2004).

General practitioners are keen to help obese patients lose weight but feel they lack time to offer extensive help (Ruelaz et al., 2007). Patients too feel that doctors would not have sufficient time to help them (Levine et al., 2014; Tan et al., 2005). There is some mismatch between GPs' and patients' perceptions of the problems. In Ruelaz et al.'s (2007) study, GPs thought that patients lack self-control and are helplessly exposed to an obesogenic environment and in a recent systematic-review, Levine et al. (2014) report 'provider-barriers' including limited consultation time, lack of training and poor competency amongst primary

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care staff when dealing with obese individuals. Patients on the other hand felt there was a place for GPs pointing them into the right direction, by providing useful information on nutrition and exercise, but that long-term weight management was their own responsibility and they wished to manage it themselves (Ruelaz et al., 2007). These discrepancies offer opportunities for improving weight management services to address patients' needs within the existing constraints on healthcare provision.

Web-based and mobile applications (apps) that provide diet and physical activity support are readily available and many are free of charge (Breton et al., 2011). They are increasingly popular as a tool for weight management (Azar et al., 2013) and are accessible to the 70% of the UK population who are smart-phone users (Deloitte, 2014 figures for all ages and trend rising).

These apps could help GPs save time during consultations, save costs and enable people with obesity and overweight to work autonomously on weight control in their own time. Outside of general practice, effective online support also has the potential to reach a wider audience who might benefit from help with weight-management. Improved support is needed because self-management has provided only modest results so far, compared to commercial weight loss programmes (Heshka et al., 2003).

Publicly available weight management apps typically offer calorie and step counting and limited amounts of self-monitoring and goal-setting (Turner-McGrievy et al., 2013). Using the MARS rating scale, a new tool for trialing, classifying, and rating the quality of mobile health apps (Stoyanov et al., 2015), Bardus et al. (2016) found that the 23 most popular weight loss apps on Google Play and iTunes in 2015 incorporated most commonly self-monitoring and goal-setting, but also semi-automated tracking, app communities, social media sharing and notifications. Apps with the most behaviour change techniques and user-friendliest design were rated highest in quality by two independent coders (Bardus et al., 2016; Tang et al., 2015).

This research suggests scope for adding additional behaviour change elements to apps. Evidence on the importance of sustaining motivation for weight loss suggests that automated motivational support is an important target for development, for example apps could include stress reduction or problem solving tools to support motivation during difficult periods (Pagoto et al., 2013; Webber et al., 2010). Motivation is a good predictor of long-term weight loss (Elfhag et al., 2005; Silva et al., 2011; Teixeira et al., 2004) and weight loss trials show benefits of motivational support delivered face-to-face (Armstrong et al., 2011) or remotely (Fjeldsoe et al., 2009; Patrick et al., 2009). For example, Jackson and colleagues (Jackson et al., 2011) found benefits for weight loss of online motivational interviewing in their Video Doctor trials. In Jackson et al.'s (2011) study, patients accessed the Video Doctor in GP surgeries. The majority of people who are trying to lose weight will not have accessed GP services and will be attempting to manage their weight autonomously. While there is scope for developing mobile motivational support, it will only be accessed if people want help with sustaining motivation.

Often motivational support is provided only at the start of a weight loss attempt, as in the Video Doctor trials (Jackson et al., 2011). Motivation is one of the commonly reported barriers to weight loss among treatment-seeking overweight and obese adults, along with stress, depression, food cravings (Sharifi et al., 2013), lack of knowledge, lack of control, and lack of time (Welsh et al., 2013). Less is known about the need for ongoing support among those who have already begun losing weight and wish to maintain or further reduce their weight. Previous studies have reported lack of 'willpower', or waning motivation, as potential issues in weight regain; these data come from sub-group analyses of participants already enrolled in weight-loss trials (Metzgar et al., 2014; Sabinsky et al., 2007), and a descriptive study of a sample representative of individuals looking for weight loss treatment in research settings (Burke et al., 2008). There is a need to explore what might affect people's motivation over time, focusing on individuals typical of the majority who try to manage weight autonomously, and what support could be helpful.

Developments in cognitive theorizing about motivation and desire suggest scope for improving upon motivational interventions, such as motivational interviewing (Armstrong et al., 2011), in weight-management. Elaborated Intrusion theory (EI theory) (Kavanagh et al., 2005) posits that vivid multi-sensory mental imagery is a core component of desire. This imagery is particularly vivid when craving appetitive substances like alcohol or chocolate (Kavanagh et al., 2004; May et al., 2014) but is also reported in desires for healthy activities such as sport (May et al., 2008). Eliciting and practising imagery for healthy goals and strategies for attaining them should strengthen desire for those goals and increase belief that they are achievable. Because imagery relies on limited-capacity working memory systems (Baddeley and Andrade, 2000), goal-related imagery should also interfere with imagery for conflicting rewards, weakening cravings in the same way that other types of imagery have been shown to (May et al., 2010; Kemps and Tiggemann, 2007, 2015)

Functional Imagery Training (FIT) is a direct translation of EI theory into a new manualised intervention based on motivational interviewing (particularly in the way it is delivered), with two important differences: it aims to strengthen motivation through development of emotionally charged mental imagery during therapy sessions and it aims to maintain motivation by training individuals to practise imagery of goal-related behaviours routinely, and particularly when setting new goals. This imagery practice should help images of goal-achievement in the immediate future come to mind readily and vividly, particularly when faced with temptations, thereby boosting motivation and weakening cravings. Ultimately, this imagery should become a cognitive habit, but until that point, mobile apps can help keep individuals on track. We have developed an app to support FIT by allowing individuals to record new sub-goals, track their imagery practice, and view their progress. Users can upload their own photos and select a photo to focus on while listening to a guided imagery practice session.

The current study explored people's experiences of trying to maintain motivation during weight loss attempts and the motivational support they would like for the future. The population chosen were people who were not enrolled in a commercial program or research trial at the time of the discussions but were either thinking about losing weight, trying to lose weight, or maintaining weight loss on their own. Focus group interviews covered experiences of weight management, barriers to success, and desire for support and particularly mobile support. After exploring these issues in general, the researcher described FIT briefly and showed screenshots from the FIT app to elicit views specifically on FIT as a form of motivational support. The study thus provided a first step in testing whether FIT might be acceptable to participants accessing it remotely through an app or face-to-face.

2. Method

Ethical approval for this study was granted by the faculty research ethics committee of the Faculty of Health and Human Sciences, Plymouth University, March 23rd, 2015.

2.1. Participants

Participants were recruited from a pool of volunteers from the general public who responded to an advert seeking those who wanted to lose weight or maintain previous weight loss. The 24 (6 males and 19 females, mean age = 30, age range = 19–70) who responded received £12 for taking part.

2.2. Procedure

Six focus group discussions (group sizes of three- seven participants) were facilitated and audio recorded by the primary researcher (LS) in a comfortable lab on the Plymouth University campus.