Aim: Studies have been done with bariatric patients. Looked at the outcomes of mobile health platforms in bariatric patients. Smartphone applications are targeted specifically to qualify for bariatric surgery as a weight loss aid. Those with a BMI over 40 or 35 with comorbidities over 76 million Americans are considered obese. Background: Obesity: A Growing Epidemic Over 76 million Americans are considered obese. Those with a BMI over 40 or 35 with comorbidities qualify for bariatric surgery as a weight loss mechanism. Meanwhile, it is estimated that 180 million people own a smartphone and over 100 smartphone applications are targeted specifically to bariatric patients. While some clinical trials have looked at the outcomes of mobile health platforms in the general weight management population, no studies have been done with bariatric surgery patients. Aim: From Past to Pilot This systematic review was conducted under supervision of Registered Dietitians (RD’s) at Brigham and Women’s Hospital. It will serve as the foundation for a future pilot study grant that is focused specifically on Bariatric participants and smartphone applications. Abstract: A Literature Review A topic of current research is analyzing technology’s role as a possible weight loss aid. The following assesses the role smartphone applications play. The project outlines the clinical trials that have been conducted regarding weight loss applications in terms of patient engagement, compliance, clinical outcomes, and feasibility. These results are specifically related to the adult bariatric population when possible. It was found that smartphone applications were a feasible weight loss mechanism correlated with increased patient engagement and compliance to practitioner recommendations. However, there is no significant correlation between application use and greater positive clinical outcomes. Results: Quality over Quantity

Patient engagement is often measured by the number of entries by participants and the number of messages exchanged with practitioners.

- Multiple studies report that application users more consistently enter dietary data and are less likely to withdraw from the study compared to those not using the application.

Compliance to physician recommendations is measured by participant food choices and activity levels as well as by adherence to medication and further physician instructions.

- Behavioral strategies that improve motivation, reduce stress and assist with problem solving result in the greatest patient compliance and outcome success.

Feasibility measures ease and convenience of weight loss applications.

- This is used more frequently in studies involving multiple logging device such as food journals.
- Applications decrease recall and consistency error.

Clinical outcomes are typically measured in terms of weight or BMI lost pre- and post-trial as well as changes in medications and the number of unwarranted MD visits.

- To date, no trial has shown significant differences between the experimental application group and the control group in terms of clinical outcomes.

Conclusion: What Makes a Successful App?

To date, there have been no clinical trials involving bariatric surgery participants and smartphone applications. In fact, studies involving bariatric surgery and technology alone are limited and needed. Smartphones are portable, convenient, and easily maneuvered. They have proven to be beneficial food logging devices. The following are attributes of well received self monitoring applications:

- Written by surgeons/practitioners
- Associated with academic institution
- FDA approved
- Utilizes group forums
- Sends notification/Email reminders
- Engages behavioral strategies
- Contains diary of food

Technology Use in Bariatric Population

In a pilot study of 40 post-surgical bariatric patients, participants with higher frequencies of dietary monitoring behaviors including food logging, lost a significantly greater percentage of their BMI. Technology Use in Bariatric Population

References #1-16 available upon request

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