COLLEGE OF PUBLIC HEALTH AND HUMAN SCIENCES

Bowel Movement Tracking Raised Students' Awareness for Healthy Eating

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INTRODUCTION

- In traditional and natural medicine, physical characteristics of bowel movements have been used for centuries as an indicator of a person's overall health. Tracking the association between dietary intake and output may increase individual's awareness of their current diet
- Dietary fiber has many health benefits, including normalizing blood cholesterol, glucose, and insulin levels, as well as treating cardiovascular disease and type 2 diabetes. The recommended daily intake of fiber for adults is 20-35 grams (Marlett, McBurney, & Slavin, 2002).
- The Tech-I/O Project utilized the OSU MyPlate phone/ website application designed to raise awareness of dietary intake and output among college students at OSU.
- The Better Eating Starts Today (B.E.S.T) Project is an intervention to support healthy campus initiative among college students to prevent obesity.
- The goal of this study is to test a new smart phone application/website for convenient dietary and bowel movement tracking, and to investigate the correlation between the two

METHODS

- Hypothesis: The use of an application reporting tool for tracking both diet and bowel movements motivates participants to adopt balanced diets.
- Intervention: Participants from the B.E.S.T. Project tracked their dietary intake and bowel movements for 3-7 consecutive days in Weeks 4 and 9 during Winter 2013 using the OSU MyPlate and Poo Corner smart phone application/website. A control group was used for participants to report their intake in written form via nutrition journals, while the rest used the full application for reporting.
- Assessment tools: Preliminary study to test the feasibility of using three versions of bowel movement tracking cards; pre-post behavioral survey administered online; an Exit Survey administered using Qualtrics; 3-7 day food and bowel movement records; and focus group questions.



Figure 1. Intervention dietary and bowel movement tracking tools.



Figure 2. Sample preliminary bowel movement tracker

Date	Day (1, 2, or 3)	Time	Food/Severage Consumed	Amount Consumed (oz., Cup, TBS, Tsp, lb, etc.)	Satiety Level After Eating (1=hungry, 2=slightly hungry, 3=satisfied, 4=slightly full, 5=very full)
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Behavioral Change Analysis (BCA) Assignment: Nutrition Journal
Complete the nutrition journal for THREE days (TWO weekdays and ONE-weekend day) keeping track of everything consumer
Straight of the fixed day. Base 28 in this supplicable for calibration configuration.

Figure 3. Three-day nutrition journal (paper log).

RESULTS

Seventeen students completed the study over six weeks in Winter 2013. At baseline, mean age was 19.7 ± 2.2 years (70% female) and mean waist circumference was 80.9cm. Participants reported a mean intake of 11.5 g of dietary fiber per day and an average of 1.1 bowel movements per day. There was a weak/moderate correlation, Pearson r=0.30, between amount of dietary fiber consumption and the frequency of bowel movements.

All participants who used both OSU MyPlate and Poo Corner reported that it was helpful to them in promoting a healthy lifestyle, and 50% reported that using the Poo Corner helped improve their diet. Seventy-three percent of participants who used the OSU MyPlate reported that it helped them to improve estimating portion sizes and 90% said it improved their diet. Ninety-one percent of participants rated the application/website convenient or very convenient to use. No participant rated it as being inconvenient.

How Convenient was it to use the *Poo Corner*? 9% Very Convenient Convenient Neutral 36% 55%

Figure 4. Feasibility of using the *Poo Corner* smart phone application/

DISCUSSION

College students at OSU in this study rated the OSU MyPlate and Poo Corner smart phone application/ website convenient to use because it was quick and easy. However, access to Internet was one barrier to successfully reporting bowel movements at real time. The 'comment' option was helpful for the participants to inform the researcher about any discrepancies in reporting time or abnormal bowel movements due to Focus group interview (n=3) provided suggestions for improving the application/website, which will be deployed again in Fall 2013. While this area of study is new, the importance of being aware of one's bowel movements is not. Oregon Museum of Science and Industry in Portland is teaching the public to "Know yourself. Start with your Poop." as part of their Grossology exhibit (Dorbolo, 2012).

CONCLUSION

OSU students enrolled in this study considered a realtime, simple and quick tracking of food intake and bowel movements useful and convenient to track their diet and bowel movements. As a result, it helped promote healthy eating by increasing their awareness of their dietary intake and output.

REFERENCES

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