Completing a Survey Can Induce Healthy Behavior Changes: Implications for Prevention and Population Health

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INTRODUCTION

• Inactivity and unhealthy diet contribute to poor physical and mental health outcomes.
• Few Americans engage in recommended levels of physical activity and most do not consume adequate amounts of healthy foods while overindulging in unhealthy foods.
• Strategies to effectively and efficiently address this pervasive public health problem are needed.

METHODS

• This study took place in an integrated, family medicine residency, primary care center located in a midwestern suburban area. The center serves an ethnically and economically diverse population, half of whom are insured through Medicaid.
• A four-page survey was created to assess current health behaviors, stages of change, motivation, and barriers to eating healthier, increasing physical activity and losing weight. Pilot data led us to add questions about the impact of the survey itself.
• Surveys were distributed to potential participants as they checked in for their medical visits and completed as they waited for their primary care providers.
• Follow-up phone calls were made 6 to 9 months after the index visit to a subset of participants who indicated they thought they would make changes to eat healthier or increase their physical activity as a result of completing the survey.

Sample survey questions

- Do you plan to start exercising in the next 6 months?
- How many days per week do you plan to exercise?
- How often do you eat fruits and vegetables?
- Do you think you would lose weight if you exercised more?
- Are you thinking about losing weight?
- How old are you?

RESULTS

Participants

• 1137 participants completed all or most of the survey
• Age range was 18 to 90 years, mean was 43.2 years
• 66.7% were female
• 61.4% reported being employed

Survey Predictions of Health Behavior Change

• 50.8% of participants reported that the survey made them think differently about their eating habits or their level of physical activity.
• 62.8% of participants anticipated eating healthier or increasing their activity level as a result of completing the survey
• Reported levels of motivation (need, desire, and ability) to make healthy behavior changes predicted participant belief they would make healthy changes (Table 1). All were statistically significant (p<0.0001).

Table 1: Mean ratings of motivation to change

<table>
<thead>
<tr>
<th>Did not expect to make changes</th>
<th>Expected to make changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I should eat healthier</td>
<td>6.72</td>
</tr>
<tr>
<td>I want to eat healthier</td>
<td>6.82</td>
</tr>
<tr>
<td>I am able to eat healthier</td>
<td>6.92</td>
</tr>
<tr>
<td>I should be more active</td>
<td>6.39</td>
</tr>
<tr>
<td>I want to be more active</td>
<td>6.64</td>
</tr>
<tr>
<td>I am able to be more active</td>
<td>6.07</td>
</tr>
<tr>
<td>I should lose weight</td>
<td>6.14</td>
</tr>
<tr>
<td>I want to lose weight</td>
<td>6.33</td>
</tr>
<tr>
<td>I am able to lose weight</td>
<td>6.42</td>
</tr>
</tbody>
</table>

Follow-Up Phone Call Results (n=189)

• 72.3% of those who anticipated making a healthy change as a result of the survey, reported having done so at follow-up.
• 94.2% of those who said they made a healthy change, reported sustaining it 6 to 9 months later.

- Dietary changes included: 31.2% eating healthier in general, 23.2% increased fruits and vegetables, 16.7% decreased sugar or carbs, 10.9% decreased portion sizes or calories, 10.1% decreased sugary drinks, 8.0% reduced or changed type of meat consumption, 7.2% reduced fried/fatty foods, 5.1% increased water, 3.6% decreased snacks, 3.6% started a specific diet (e.g., keto), and 2.9% decreased eating out.
- Physical activity/exercise changes included started or increasing the following: 30.4% activity/exercise in general, 14.5% walking, 12.3% going to the gym, 7.2% cardio, 2.2% weight-lifting, and 2.2% yoga/barre/Pilates/martial arts

CONCLUSIONS

• A carefully constructed survey asking about health behaviors, weight, motivation to change (need, desire, and ability), and barriers to change can serve as an intervention to promote positive and potentially lasting health behavior changes.
• The survey increased awareness of current health behaviors and of the importance of making changes.
• It also appears to have influenced PCP/patient discussions about behavior changes during the visit.
• The survey prompted individualized health behavior changes. Participants reported a wide variety of dietary and activity changes, with most reporting changes in both their diet and activity levels.
• This study validated that having a level of motivation greater than 7 on a 10 point scale is predictive of making a health behavior change.
• Distributing surveys such as this in a primary care setting is an easy and cost-effective way to impact a large population in a patient-centered way.

STUDY LIMITATIONS

• This was a self-selected sample and may not be representative of the entire clinic population.
• The study was done in one midwestern, suburban area and may not be generalizable to other geographic areas or populations.
• The study was based on self-report and may not accurately reflect true health behaviors. Social desirability may have played a role during follow-up phone calls.

NEXT STEPS

• Chart review
  • Was health behavior change discussed during index visit?
  • Were health behavior changes documented during follow-up visits?
• Electronic data extraction from EHR
  • Do reported health behavior changes correlate with changes in health outcome measures (e.g., HbA1c, BMI, BP, PHQ-9, GAD-7, cholesterol)?
• Analyze relationships between current health behaviors, stages of change, barriers to healthy changes, demographic variables and health status
• Develop patient-centered, data-driven interventions to further promote healthy behavior changes