INTRODUCTION

Despite the growth in guidelines and evidence supporting routine PC for patients with advanced cancer, up to 40% of patients referred and given an appointment never show up. This high “no show” rate stems from patients harboring misconceptions about PC (e.g. confusing with hospice care) and not knowing its value. No tool to educate patients on the value of PC (e.g. confusing with hospice care) and not knowing appointment never show up. This high "no show" rate.

METHODS

We conducted a randomized, controlled trial of PCforMe, a web-based mobile education and engagement tool, from December 2016 through February 2018. Patients were randomly assigned prior to a new PC clinic appointment to either PCforMe or an active control on a tablet device. The active control included three popular websites about PC developed by major specialty societies. We collected demographics and assessed system usability scores, patient preparedness (PEPPI), change in knowledge about PC, and change in no-show rate.

RESULTS

80 patients were enrolled. Mean age was 61.4 (range 20-88) with 56.25% with less than a Bachelors education. The mean usability score was 78.2, putting PCforMe usability in the 90th percentile of mobile health tools. Scores on the single-item “I know what questions to ask” improved significantly (p < 0.002) after using PCforMe. Similar improvements were not seen in the control arms. Scores on the knowledge survey improved more in the intervention arm (p < 0.05). No show rates for new visits during the course of the trial decreased by 35%.

CONCLUSIONS

Even among an elderly population with advanced cancer, a novel, mobile tool to prepare and engage cancer patients prior to a PC appointment is highly usable. The tool led to greater sense of readiness and familiarity with PC and reductions in the no-show rate to palliative care clinic. Larger, multi-site trials are needed to further test this novel tool.

FIGURE 1: Screenshot of PCforMe Website

FIGURE 2: Demographics

TABLE 1: System Usability Scale Results

<table>
<thead>
<tr>
<th>PCforMe SUS Results</th>
<th>SUS Score</th>
<th>Letter Grade</th>
<th>% Rank</th>
<th>SUS Score</th>
<th>Letter Grade</th>
<th>% Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>78.2</td>
<td>A+</td>
<td>99%</td>
<td>72</td>
<td>C+</td>
<td>63%</td>
</tr>
<tr>
<td>Median</td>
<td>77.5</td>
<td>B+</td>
<td>83%</td>
<td>55</td>
<td>D</td>
<td>20%</td>
</tr>
<tr>
<td>Range</td>
<td>50-100</td>
<td>B-</td>
<td>67%</td>
<td>44</td>
<td>F</td>
<td>8%</td>
</tr>
</tbody>
</table>

The System Usability Scale is a ten-item likert scale used to assess the usability of a tool. According to usability.gov, a score above 68 is considered an average score. According to UX Expert Jeff Sauro, the average and median scores of PCforMe correspond to the 83th percentile for systems, which equates to a letter grade of B+.

FIGURE 3: Comparative Results

Preparedness was assessed using a single-item likert scale where participants responded to the statement, “I feel prepared for my palliative care appointment,” before and after the intervention or control. On the scale, a response of 1 indicated they strongly disagreed with the statement, while a score of 5 indicated they strongly agreed. Below is a comparison between average scores for both groups.