Evaluation of Visual Displays to Share Quality of Life Changes with Breast Cancer Patients

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Background
For early-stage breast cancer, patients have equivalent oncologic outcomes for mastectomy and lumpectomy (BCT). However, patients differ in

Psychosocial Well Being
Physical Well Being
Breast Satisfaction
Sexual Well Being

Using patient reported outcomes (PROs) on quality of life to counsel patients on surgery choice is not well understood.

Aim: to assess how patients interpret PRO displays for long-term surgical outcome

Methods
Breast cancer survivors reviewed six PRO displays from patients receiving BCT and ranked displays in order of most to least helpful and provided free response feedback regarding their choices.

Results

Table 1. Demographics of Respondents

<table>
<thead>
<tr>
<th>Social/Clinical Factor</th>
<th>Overall % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt;55</td>
<td>51% (25)</td>
</tr>
<tr>
<td>Education: Bachelor’s or higher</td>
<td>79.2% (38)</td>
</tr>
<tr>
<td>Median household income in ZIP: Less than $50,000</td>
<td>53.5% (23)</td>
</tr>
<tr>
<td>Relationship status: married, partnered</td>
<td>71.4% (35)</td>
</tr>
<tr>
<td>Stage II+</td>
<td>35.4% (17)</td>
</tr>
<tr>
<td>Mastectomy</td>
<td>57.1% (28)</td>
</tr>
<tr>
<td>Axillary surgery</td>
<td>93.9% (46)</td>
</tr>
<tr>
<td>Neoadjuvant chemotherapy</td>
<td>10.2% (5)</td>
</tr>
<tr>
<td>Adjuvant chemotherapy</td>
<td>34.7% (17)</td>
</tr>
<tr>
<td>Adjuvant radiation</td>
<td>49.0% (24)</td>
</tr>
<tr>
<td>Endocrine therapy</td>
<td>89.8% (44)</td>
</tr>
</tbody>
</table>

• Of 388 eligible patients, 70 completed data display survey (18%)

One way ANOVA shows differences between figures, p = 0.0001. Options 2, 4, and 5 are ranked best and 1 and 6 are ranked worst; differences are significant between all best and worst options (Figure 2, left)

Common themes for most helpful displays included clarity and tracking changes over time. Least helpful displays were busy or had no reference measurement (Figure 3, left)

Ranking and theme did not significantly relate to any social or clinical variable

Conclusions
Initial results suggest that patients prefer simple PRO changes that track quality of life changes over time. No single figure is sufficient to convey quality of life changes.

Figure 1: PRO displays to be ranked by patient preference

Figure 2: PRO display rankings by breast cancer patients (1=Best, 6=Worst)

Figure 3: Qualitative Data of theme analysis via Dedoose

Most Helpful
Appealing design
High level of detail
Simplicity
Use of Timepoints

Least Helpful
Confusing
No context
Overwhelming
Poor design

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