Ethnic Differences Among College Women for Breast Cancer Prevention and Information Seeking: Are We Reaching Them?

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• We thank our trained students who helped with data collection.
Objectives

Participants will be able to:

• examine ethnic differences for breast cancer prevention information channels
• describe factors that influence breast self-exam among college women

Burden of Breast Cancer and Chronic Disease

United States
• heart disease, cancer, diabetes, asthma, arthritis
• 92% of U.S. older adults live with at least one chronic health condition

New Mexico
• 21% of deaths due to cancer

• 1,360 NM women will be diagnosed with breast cancer (2013)
• 240 NM women will die of breast cancer

Source: National Council on Aging, American Cancer Society
Smartphone Ownership Trends

- **no cell**
  - 9% (May-13)
  - 12% (Feb-12)
  - 17% (May-11)

- **cell phone**
  - 35% (May-13)
  - 41% (Feb-12)
  - 48% (May-11)

- **smartphone**
  - 46% (May-13)
  - 35% (Feb-12)
  - 56% (May-11)

Source: Pew Internet

2014 Cell Phone Owners vs. Smartphone Owners

<table>
<thead>
<tr>
<th></th>
<th>Cell Phone</th>
<th>Smartphone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>98%</td>
<td>83%</td>
</tr>
<tr>
<td>30-49</td>
<td>97%</td>
<td>74%</td>
</tr>
<tr>
<td>50-64</td>
<td>88%</td>
<td>49%</td>
</tr>
<tr>
<td>65+</td>
<td>74%</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>92%</td>
<td>61%</td>
</tr>
<tr>
<td>Black</td>
<td>90%</td>
<td>59%</td>
</tr>
<tr>
<td>White</td>
<td>90%</td>
<td>53%</td>
</tr>
<tr>
<td><strong>Community</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>88%</td>
<td>64%</td>
</tr>
<tr>
<td>Suburban</td>
<td>92%</td>
<td>60%</td>
</tr>
<tr>
<td>Rural</td>
<td>88%</td>
<td>43%</td>
</tr>
</tbody>
</table>

(source: Pew Internet Survey 2014)
Where do college-age adults get health information?

- 72% Internet
- 81% doctor or other health care professional
- 65% friends and family
- 27% others who have the same health condition

(source: Pew Internet Survey 2013)

Internet as information source?

- Look up health information.
- Look up diagnostic information.
- Discuss what they find with a clinician.
- Select and download health apps.
Internet as information source – What are our changing roles?

3 Different Roles

- Developers: alerts, videos (33.3%)
- Reviewers: new apps, sites (33.3%)
- Evaluators: accuracy (33.3%)

Methods

- Participants and Setting
  - College women at a southwestern Hispanic-serving US university

- Survey – 51-item instrument
  - Knowledge for risk reduction and BSE, attitudes, and behaviors

- Information seeking behaviors
- McGuire’s Input-Output Persuasion Model
Results - Demographics

- College women ages 18 and older
  18-22: 385 (72%) and 23+: 152 (28%)

- 50.7% Non-Hispanic, 49.3% Hispanic

- University Level
  - Freshman: 100 (19%)
  - Sophomore: 107 (20%)
  - Junior: 149 (28%)
  - Senior: 121 (22%)
  - Graduate: 56 (11%)

Results - Demographics

- Conduct BSE
  - Yes: 295 (55%)
  - No: 244 (45%)

- Family history of breast cancer
  - Yes: 190 (35%)
  - No: 354 (65%)
Results - Demographics

• Received advice from mother
  97 (35%) non-Hispanic
  97 (36%) Hispanic

• Gave advice to mother
  43 (16%) non-Hispanic
  56 (21%) Hispanic

Results - Demographics

Gave advice to mother (n= 97, 18%)
  • “a pamphlet that was given to me by my physician”
  • “always check herself”
  • “don’t forget to do mammogram”
  • “eat healthier and lose weight”
  • “get tested once a year”
  • “make her appointment and go with her”
Results - Demographics

Received advice from mother (n=196, 35%)
- “always check for lumps”
- “BSE monthly”
- “do not smoke and give BSE monthly”
- “no bra to sleep”
- “eat healthy and exercise”

Interpersonal Channels – BC Prevention Advice Source

<table>
<thead>
<tr>
<th>Source</th>
<th>Hispanic</th>
<th>non-Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friend</td>
<td>65%</td>
<td>59%</td>
</tr>
<tr>
<td>Provider</td>
<td>79%</td>
<td>72%</td>
</tr>
<tr>
<td>Mother</td>
<td>36%</td>
<td>35%</td>
</tr>
</tbody>
</table>
Media Channels – Acquired BC Prevention Information Source

- **TV**: 61% Hispanic, 56% non-Hispanic
- **Radio**: 44% Hispanic, 43% non-Hispanic
- **Magazine**: 69% Hispanic, 69% non-Hispanic
- **Internet**: 74% Hispanic, 75% non-Hispanic
- **Newspaper**: 35% Hispanic, 33% non-Hispanic

Mobile Technology - Desired BC Prevention Information Sources

- **Text message***: 57% Hispanic, 46% non-Hispanic
- **Apps***: 62% Hispanic, 47% non-Hispanic

*p<.05
### BSE Predictors for Hispanic College Women

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>SE</th>
<th>P-value</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
<td>.529</td>
<td>.327</td>
<td>.106</td>
<td>1.696</td>
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<tr>
<td>Self-efficacy**</td>
<td>1.601</td>
<td>.309</td>
<td>&lt;.001</td>
<td>4.959</td>
</tr>
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<td>Age**</td>
<td>1.226</td>
<td>.427</td>
<td>.004</td>
<td>3.407</td>
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<tr>
<td>Provider's advice*</td>
<td>.992</td>
<td>.403</td>
<td>.014</td>
<td>2.696</td>
</tr>
<tr>
<td>Mother's advice**</td>
<td>1.242</td>
<td>.334</td>
<td>&lt;.001</td>
<td>3.463</td>
</tr>
<tr>
<td>Family BC history</td>
<td>-.217</td>
<td>.334</td>
<td>.516</td>
<td>.805</td>
</tr>
</tbody>
</table>

(*p<.05; **p<.005)

### BSE Predictors for non-Hispanic College Women

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>SE</th>
<th>P-value</th>
<th>OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends*</td>
<td>.676</td>
<td>.333</td>
<td>.043</td>
<td>1.965</td>
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<tr>
<td>Self-efficacy**</td>
<td>2.242</td>
<td>.323</td>
<td>&lt;.001</td>
<td>9.409</td>
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<tr>
<td>Age</td>
<td>.772</td>
<td>.462</td>
<td>.094</td>
<td>2.165</td>
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<tr>
<td>Provider's advice**</td>
<td>1.173</td>
<td>.395</td>
<td>.003</td>
<td>3.232</td>
</tr>
<tr>
<td>Mother's advice*</td>
<td>.673</td>
<td>.345</td>
<td>.051</td>
<td>1.96</td>
</tr>
<tr>
<td>Family BC history</td>
<td>.545</td>
<td>.330</td>
<td>.099</td>
<td>1.724</td>
</tr>
</tbody>
</table>

(*p<.05; **p<.005)
Conclusions

• Health educators and clinical staff may collaborate for risk factor messages.
• Information sources such as mobile messages or Internet may be promoted by providers.
• More mother-daughter education should be encouraged by providers.

Implications

• What demographic intake questions does the office form require?
• What cost is incurred to use mobile messages?
• What are our roles as health professionals to reach college students?
Questions?
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