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Impact of a worksite colorectal cancers screening intervention on knowledge, screening beliefs, and uptakes among middle- & older-age employees in Taiwan

Disclosure

I have NO financial relationship(s) relevant to the content of this educational activity.
Objective

- Describe sample measurement items assessing CRC knowledge among middle- and older-age Chinese employees.
- Identify modifiable beliefs related to cancer screening & discuss the implication of use as evaluation indicators.
- Discuss the characteristics of this brief worksite screening promotion intervention, its impact, & potential for replication in other settings or middle- and older-age groups.

Background

- Colorectal cancer (CRC) is the 3rd cancer killer.

- Five-year survival rate:
  - Early Stage (Stage I): 90%
  - Terminal Stage (Stage IV): 5%

- Fecal Occult Blood Test (FOBT) has been proved effective to detect CRC early.
  (Mandel et al. ‘93; Hardcastle et al. ‘96; Kronburg et al. ‘96)
Background (Con’t)

• FOBT Recommendations:
  - American Cancer Society (ACS):
    • annual FOBT for people aged 50 and older
  - In Taiwan:
    • people 40 and older are eligible for FOBT through National Health Insurance Plan

Low FOBT Practice overall

BRFSS (2012):
• 11.7% adherence rate (all races aged 50)
• 13.0% adherence rate (APIs)

Little is known about screening knowledge, beliefs, and stages among Chinese population.
Purpose

This study assessed the impact of a worksite screening intervention among Chinese middle- and older-age employees on:

- CRC knowledge
- Cancer screening beliefs
- FOBT adoption

Methods

- Study population
  - Employees and family members aged 40+ from 10 worksites (n=375)

- A single group pretest & posttest design.

- Intervention
  - A brief information session at participating workplaces
  - A take-home screening brochure
  - A free home-administered fecal occult blood test (FOBT) kit.
Measurements

- CRC & Screening Knowledge – 5 items

- Cancer Screening Belief Scale (CSBS-C) (Hou, 2007)
  - Perceived benefits (pros) – 8 items
  - Perceived barriers (cons) – 6 items
  - Perceived risk (susceptibility) – 3 items


Development of the survey instrument

- Review theories & literature
- Interviews community & health care professionals
- Pilot test the survey among Chinese people
  - Check for readability, clarity, appearance, content appropriateness, etc.
### Pros

<table>
<thead>
<tr>
<th>Item*</th>
<th>Description</th>
<th>Mean (SD)</th>
<th>CITC</th>
<th>Alpha if item deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pros_1</td>
<td>A cancer screening can find cancer early.</td>
<td>4.53 (0.56)</td>
<td>0.52</td>
<td>0.90</td>
</tr>
<tr>
<td>Pros_2</td>
<td>Routine cancer screening gives me peace of mind.</td>
<td>4.27 (0.64)</td>
<td>0.75</td>
<td>0.88</td>
</tr>
<tr>
<td>Pros_3</td>
<td>Routine cancer screening is a way to show I take care of my health.</td>
<td>4.33 (0.59)</td>
<td>0.80</td>
<td>0.88</td>
</tr>
<tr>
<td>Pros_4</td>
<td>My family members will feel I care my health if I do routine cancer screening.</td>
<td>4.28 (0.59)</td>
<td>0.78</td>
<td>0.88</td>
</tr>
<tr>
<td>Pros_5</td>
<td>My family members will support me if I have routine cancer screening.</td>
<td>4.30 (0.59)</td>
<td>0.77</td>
<td>0.89</td>
</tr>
<tr>
<td>Pros_6</td>
<td>I am willing to do routine cancer screening for my family and my health.</td>
<td>4.17 (0.66)</td>
<td>0.74</td>
<td>0.89</td>
</tr>
<tr>
<td>Pros_7</td>
<td>I think routine cancer screening is a way to show I take care of my family.</td>
<td>4.09 (0.75)</td>
<td>0.57</td>
<td>0.90</td>
</tr>
<tr>
<td>Pros_8</td>
<td>If found early and treated early, the cancer cure rate is very high.</td>
<td>4.28 (0.64)</td>
<td>0.64</td>
<td>0.89</td>
</tr>
</tbody>
</table>

### Cons

<table>
<thead>
<tr>
<th>Cons</th>
<th>Description</th>
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<th>Alpha if item deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cons_1</td>
<td>It is too much trouble to obtain a cancer screening.</td>
<td>3.10 (1.03)</td>
<td>0.36</td>
<td>0.73</td>
</tr>
<tr>
<td>Cons_2</td>
<td>I do not want to know if I have cancer.</td>
<td>2.22 (0.91)</td>
<td>0.48</td>
<td>0.70</td>
</tr>
<tr>
<td>Cons_3</td>
<td>I do not want to spend time on cancer screening.</td>
<td>2.27 (0.87)</td>
<td>0.60</td>
<td>0.68</td>
</tr>
<tr>
<td>Cons_4</td>
<td>Unless I have symptoms or feel uncomfortable, I will not go screening.</td>
<td>2.90 (1.03)</td>
<td>0.56</td>
<td>0.68</td>
</tr>
<tr>
<td>Cons_5</td>
<td>I rather not know if I have cancer.</td>
<td>2.03 (0.77)</td>
<td>0.49</td>
<td>0.70</td>
</tr>
<tr>
<td>Cons_6</td>
<td>I do not have time to obtain cancer screening.</td>
<td>2.95 (0.97)</td>
<td>0.39</td>
<td>0.72</td>
</tr>
</tbody>
</table>

### Risk

<table>
<thead>
<tr>
<th>Risk</th>
<th>Description</th>
<th>Mean (SD)</th>
<th>CITC</th>
<th>Alpha if item deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk_1</td>
<td>I think I have the possibility of getting cancer.</td>
<td>3.01 (0.76)</td>
<td>0.62</td>
<td>0.64</td>
</tr>
<tr>
<td>Risk_2</td>
<td>It is possible for me to get cancer during my lifetime.</td>
<td>3.50 (0.74)</td>
<td>0.54</td>
<td>0.73</td>
</tr>
<tr>
<td>Risk_3</td>
<td>I feel my chance of getting cancer is higher than other people in my age.</td>
<td>2.87 (0.71)</td>
<td>0.61</td>
<td>0.66</td>
</tr>
</tbody>
</table>
Results

Demographics

- Mean age = 48.18 (SD=8.79) years
- 58.8% were male
- 54% have college education
- 78.6% had a full time job

- One-month follow-up rate: 81%
- FOBT completion rate: 74%

Paired t tests, significant increase of

- CRC knowledge (p<.001),
- perceived screening benefits (p<.05), &
- FOBT intention (p<.001)

- No significant changes on
  - perceived cancer risk,
  - screening barriers.
CRC knowledge

- Items that less than 80% answered correctly:
  - Colon cancer runs in families (74.2%)
  - Young people are more likely to get colon cancer than older people (47.5%)
  - People normally feel ok in early stage of colon cancers (60.7%)
  - Change of bowel movement (freq., shape, etc.) is a sign of colon cancers (78.3%)

Conclusions

- This brief worksite screening intervention showed significant impact on
  - FOBT uptakes, screening knowledge, perceived benefit, and intention.
- Data suggest the following might not be as modifiable in a short period:
  - perceived screening barriers, or cancer risk.
- Lessons learned have implications on effective strategies for Chinese middle- and older-age adults & shed light on some more modifiable factors for screening program evaluations.
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