

EXPLORING THE 'CANCER EFFECT'

On views about overdiagnosis and overtreatment in cervical screening among young women

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BACKGROUND:

- Overdiagnosis and overtreatment of precancerous lesions occurs commonly in screening for cervical cancer amongst young women (aged 25 and under)¹
- Despite this, women may be unlikely to accept later or less frequent screening²
- We hypothesised that this may be due to a 'cancer effect', that is, high negative emotions surrounding cancer which drive a higher perception of risk of cancer

AIM: To explore the 'cancer effect' as a potential driver of overdiagnosis in young women screening for cervical cancer.

METHOD:

- Randomised experimental study with 2x2 design
 - Disease type: Cervical cancer and matched hypothetical aneurysm example
 - Information type: With or without overdiagnosis information.
 - Without overdiagnosis condition given this information at T2
- Participants: 168 female university students aged 18-25 with no cancer history
- Outcomes:
 - Theory of Planned Behaviour: Intention, subjective norms, attitudes, perceived behavioural control
 - Perceived risk, emotion, decisional conflict

Additional overdiagnosis information:

“The cervical [aneurysm] screening test cannot distinguish between abnormal changes [infections] that will become cancer [lead to an aneurysm], and lesions [infections] that would never progress to cancer [aneurysm]. Women under the age of 25 in particular have a higher risk of having a lesion [an infection] detected, but the majority will resolve without treatment. As such, over-detection is high in young women. ... This means that young women may be going through unnecessary treatments, which have associated risks.”



RESULTS:

- Distribution of intention to screen significantly different between groups (Figures 2 and 3).
- Intention to screen reduced within subjects at T2 for conditions (A) and (C)
- Perceived risk of disease was lower when the overdiagnosis information was presented in the non-cancer condition but not in the cancer condition.
- Knowledge was lower in the cervical cancer group
- Negative emotion significantly predicted intention in the cancer group, but not in the non-cancer group

Figure 1. Design of study.

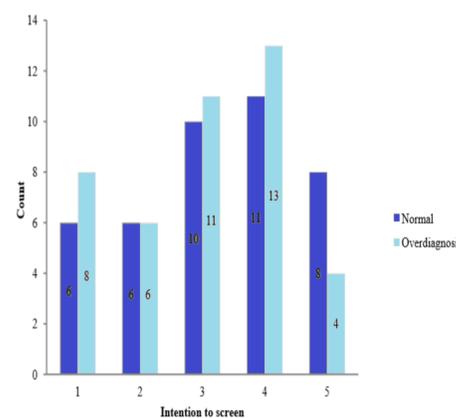
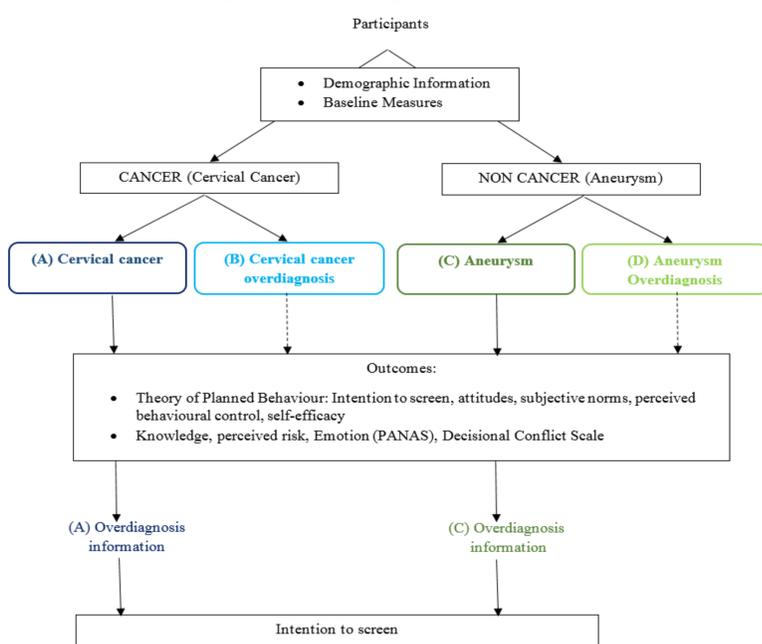


Figure 2. Levels of Intention to Screen Based on Information for Cervical Cancer Participants (n = 83).

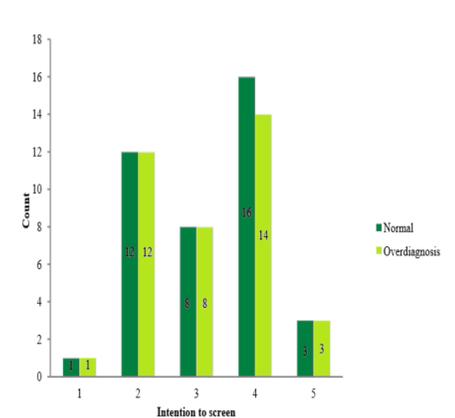


Figure 3. Levels of Intention to Screen Based on Information or Aneurysm Participants (n = 78).

Screening information

Cervical cancer information (A) and (B)

Out of 100,000 women aged 20-24 years who have screening	%	N
- No. of women with a normal test result	84.00 ³	84,000
- No of women with an abnormal test result	16.00 ³	16,000
- No of women who have colposcopy	5.4 ²	5,400
- No of women who have a biopsy	2.9 ²	2,900
- No of women receiving treatment for pre cancer lesions	1.6 ²	1,600
- No of women with a cancer diagnosed	0.0015 ¹	1.5

¹ Australian Institute of Health and Welfare (AIHW): Cervical screening in Australia 2009-2010. Cancer series 65. Cat. no. CAN 65. Canberra: AIHW; 2011.

Aneurysm information (C) and (D)

Out of 100,000 women aged 20-24 years who have screening	%	N
- No. of women with a normal test result	84.00 ²	84,000
- No of women with an abnormal test result	16.00 ²	16,000
- No of women who have further blood tests	5.4 ²	5,400
- No of women whose have an MRI	2.9 ²	2,900
- No of women receiving treatment for pre aneurysm infection	1.6 ²	1,600
- No of women who have aneurysm	0.0015 ²	1.5

¹ Canadian Task Force on Preventive Health Care (2002). Recommendations on screening for cervical cancer. Canadian Medical Association Journal, 167(10), 1242-1245.

DISCUSSION:

- Negative emotion predicted intention to screen only in the cervical cancer group, consistent with theories that emotional affect drives decision making more than factual knowledge in cancer³
- This negative emotion may also explain the higher perceptions of risk for cancer, because emotion may drive probability judgements⁴ and lead to making more decisions at the extremes of intention
- Overall, findings suggest that a 'cancer effect' may be present amongst young women given information about screening, which may drive enthusiasm for screening.

REFERENCES:

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