Using behavioural science to increase participation in cervical cancer screening

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Background

• Cervical screening is a highly effective way of detecting pre-cancerous cells, and allows them to be treated before cancer develops.

• Population based programmes are the most successful way of reducing cervical cancer incidence and mortality.

• However, around 1 in 4 women do not attend for screening as recommended.
Figure 1: Cervical screening – Coverage by age group (25-64)

England at 31 March, 2005 to 2015

- **Coverage - age appropriate (less than 3.5 / 5.5 yrs since last adequate test)**
- **5 year coverage (less than 5 yrs since last adequate test)**

2006 data as at 10th August 2006
Research designed to understand non-participation

- Using record data to examine demographic correlates of uptake
  - age, SES, ethnicity
- Surveys to examine cognitive and attitudinal correlates of uptake (intended, reported or recorded)
  - Knowledge, fatalism
- Interviews with non-participants to explore ‘reasons’
  - Barriers, misconceptions
Research designed to reduce non-participation

- Modifying the test
  - HPV self-test vs cervical smear
- Modifying the screening offer
  - Time of appointment, GP endorsement, leaflets, additional reminders
- Public education on screening
  - Media campaigns
  - Changing attitudes/addressing misconceptions
Traditional models of health behaviour

Intention formation

- Perceived barriers & benefits
- Attitudes
- Social norms
- Perceived severity & susceptibility
- Efficacy beliefs

e.g. Health Belief Model, Theory of Planned Behaviour, Theory of Reasoned action
Figure 1. Predictors of screening attendance using a Health Belief Model framework.

From Waller et al (2012)
Traditional models of health behaviour

- Translation of intention into action
  - Barriers to implementing plans
  - Intention-behaviour gap

Table 1.3 Percentages of participants with positive versus negative intentions who subsequently acted versus did not act in selected studies of intention–behavior relations

<table>
<thead>
<tr>
<th>Authors</th>
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Traditional models of health behaviour

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Figure 1. Predictors of screening attendance using a Health Belief Model framework.

From Waller et al (2012)
Evidence for interventions

- 38 RCTs
- There is evidence to support the use of invitation letters and reminders
- Limited evidence to support educational interventions
- In UK, Reached the limit to what this can achieve
Moving beyond the non-attender
Barriers to screening attendance

- Thematic synthesis of qualitative studies
- Countries with organised screening programmes
- 39 published papers
- UK, Australia, Sweden and Republic of Korea
- Many focused on a specific subgroup of the population, mostly BAME women ($n = 14$).
Should I go for screening?

• The relevance of screening – who’s it for?
  ➢ Causal beliefs
  ➢ Life stage
  ➢ Current health state
  ➢ Family history

• The value of screening – what’s the point?
  ➢ 3 groups: 1) screening has value; 2) screening does not have value; 3) unaware of screening and its importance.
  ➢ Influenced by beliefs on causes and consequences of CC, and who needs to be screened.
Screening is a big deal

• Screening as a threat
  ➢ To health (cancer or other diagnoses)
  ➢ Causing ill health (through bad hygiene or anxiety)
  ➢ Social threat (stigma of “promiscuous” woman)

• Physically
  ➢ Pain and physical side effects, including bleeding
  ➢ Widespread dislike of the speculum, inc. pain, coldness and feeling of penetration

• Emotionally
  ➢ Embarrassment, vulnerability, anxiety, violation
  ➢ Related to highly unusual situation and breaking norms of nudity, exposing genitals, etc.
Practical barriers and life circumstances

• Competing priorities
  ➢ “Time wise it’s difficult. When women don’t have time so they just like shelve it for one reason or another. Or children come along. . . . and you put it on the back burner”

• Accessibility issues
  ➢ Indirect costs (loss of income, cost of transport, etc.)
  ➢ Location of the clinic
  ➢ Language barriers
Will I go again?

• Screening is not a one-off event
• What influences the likelihood of future attendance?
  ➢ Changing risk perceptions
  ➢ Changing life circumstances
  ➢ Past results of screening
  ➢ Previous bad experiences
    ➢ Including those of others
Interviews with non-attenders: what have we learned?

• A few people are really set against screening
  - Can’t face doing this test
  - Can’t face a cancer diagnosis (at this point)
• Some describe ‘barriers’ (e.g. disgust, invasive)
• Many people have not yet ‘got around to it’
• Some feel they don’t need the test, often based on misunderstanding
  - Not a common cancer
  - Don’t have symptoms
• Some have no recollection of being asked
• Many never read the information/invitation
• Not necessarily a rational decision
Knowledge, beliefs and attitudes as predictors of non-participation

• Knowledge
  - Lower knowledge about cancer and screening
  - Lack of awareness that screening is for asymptomatic individuals
• Cancer fatalism
  - Higher in non-attenders
• Perceived personal benefits
  - Small differences in perceived benefit of early detection
  - Small differences in perceived reassurance with a negative result
• Risk
  - No consistent associations
• Worry/fear
  - No consistent associations
Stages of non-participation

Unaware → Unengaged → Undecided → Decided to act → Acted → Maintained

Decided not to act
Integrating interventions

- Unaware
- Unengaged
- Undecided
- Decided to act
- Acted
- Maintained

Community education

Screening offer

Reminders

Decided not to act

The test

Ensuring it’s an informed decision

Results framing
Re-invitation
Positive experience

The Precaution Adoption Process Model (Weinstein, 2008)
Identifying the main types of non-participation

- Home-based computer assisted interviews with screening-eligible women in Great Britain.

*Items used to determine PAPM stage:*
- Have you ever heard of cervical screening, also called the smear test or Pap test?
- Have you ever had a cervical screening test?
- When was the last time you had a cervical screening test?
- Do you intend to go when next invited?

- 3,113 women in the UK
- 75% up-to-date and intending to be screening in the future (maintainers)
Identifying the main types of non-participation

Breakdown of non-maintainers (n=855)
Identifying the main types of non-participation
Cervical Screening Awareness Week
8 - 14 June 2014

Would you try the DIY smear test?
A painless kit could help the millions of women who avoid vital cervical cancer screenings, writes LAURA MILNE

A smear test won't be the most embarrassing thing you'll do in the next three years...

A smear test lasts 5 minutes.
The impact of cervical cancer lasts a lifetime.

Attend your smear test. Reduce your risk.
Current projects:

- Using behavioural science to increase participation in cervical cancer prevention programmes
- Developing and testing interventions to increase informed uptake of HPV vaccination
- Assessing the psychological impact of primary screening for HPV
- Examining the psychosocial impact of human papillomavirus oropharyngeal cancer
- Understanding ethnic inequalities in cervical screening and HPV vaccination

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