

Motivators for women to attend cervical screening: the influential role of general practitioners

Mairead O'Connor¹, Judith Murphy¹, Cara Martin², John O'Leary², Linda Sharp¹ on behalf of the Irish Cervical Screening Consortium (CERVIVA)

¹National Cancer Registry, Building 6800, Cork Airport Business Park, Kinsale Road, Cork, Ireland

²Coombe Women and Infants University Hospital, Dolphin's Barn, Dublin 8, Ireland

Correspondence to: Dr M O'Connor, National Cancer Registry Ireland, Building 6800, Cork Airport Business Park, Kinsale Road, Cork, Ireland. Tel: 021-4548827. Email: m.oconnor@ncri.ie

Running title: Motivators for women to attend cervical screening

Abstract

Background. Participation in organised cervical cancer screening has declined recently. While research has focussed on barriers to screening participation, less attention has been paid to what motivates women to attend. Moreover, little is known about healthcare provider/practitioner-level barriers and facilitators to participation. Better understanding of these issues could help inform strategies to improve participation.

Objective. To explore the role of general practitioners (GPs) in influencing women's cervical screening behaviours and investigate other motivators for women to attend for a cervical smear.

Methods. Ten focus groups were conducted in Ireland, shortly before the launch of a national cervical screening programme. Discussions were audio-recorded, transcribed verbatim and transcripts were analysed thematically.

Results. GPs greatly influence women's screening behaviours and can have a positive or negative impact on women's participation in screening. Four major subthemes emerged in relation to this: the attitude of the GP; prompting by the GP; trust in the GP; and women's relationships with their GP. Two main motivators to screening participation were identified: personal reasons/benefits (e.g. potential of smears to be life-saving); and practical issues/convenience. Women's also expressed desires for what they would like to see incorporated in the national screening programme (e.g. an "out-of-hours" service).

Conclusion. GPs can impact positively and negatively on women's cervical screening participation. Providing on-going support to GPs around their cervical screening practices is essential to maximise screening attendance. Targeted information materials that focus on the personal reasons and benefits of having smear tests could help stimulate women to participate.

Key words: general practitioner, cervical cancer, screening, focus groups, motivators

Introduction

Well-organised cervical screening programmes can reduce cervical cancer incidence and mortality (1, 2). Cervical screening programmes are in place in many European countries (3). Although, there are variations in screening protocols, between countries, all programmes aim to attain high uptake. High uptake is crucial for detecting pre-cancerous changes and preventing invasive cancers; therefore, attendance, or more accurately non-attendance, can have a significant impact on the effectiveness of screening.

Concerns about uptake have been expressed in several countries. In England, the screening programme was established in 1964 and uptake had been high, but coverage has been declining recently, particularly among the youngest age group (4). Similar trends have been seen in other countries such as Sweden and Australia (5). At the other end of the age spectrum, in Ireland uptake is lower in older (>50 years) than younger women and in England attendance has recently declined in women aged 60 - 64 years (6, 4). Of particular concern, is that recent research has revealed women ≥ 50 years who do not have cervical screening are six times more likely to be diagnosed with cervical cancer in later life (7).

Better understanding of the reasons why women participate, or do not participate, in cervical screening is essential if these trends are to be reversed. Reasons for non-participation have been identified at the level of individual women and the level of the healthcare system. Woman-level barriers to screening participation include embarrassment, low perceptions of cervical cancer risk and negative attitudes towards cervical screening. Examples of system-level barriers include inconvenient appointment times, male smertakers and lack of provision of childcare facilities (8-10). To date, healthcare provider/practitioner-level barriers and facilitators to screening participation have not been extensively explored. One recent study identified the importance of primary care professionals in women's experiences of actually undergoing smear tests. However, this study did not look at how health care professionals may influence women's participation in screening (11). While there are a plethora of studies that have examined barriers to screening participation, less attention has been paid to what motivates women to attend for smear tests.

We used qualitative methods to explore, in-depth, the role of general practitioners (GPs) in influencing women's cervical screening behaviours and investigate other motivators for women to attend for a cervical smear.

Methods

Setting

The study was conducted in Ireland, which has a mixed public-private healthcare scheme. The study was carried out between August 2007 and August 2008, shortly before the launch of a national cervical screening programme. The programme began in September 2008 offering free cervical screening to women aged 25 to 60; women aged 25 to 44 have smears every 3 years and women aged 45 to 60 have smears every 5 years (12). Prior to this, a pilot-based screening programme was set up in 2000, offering free smears to women aged 25 to 60 in three mid-western counties. Outwith these areas, women could have a smear by attending their general practitioner (GP) and would typically pay €50-60. Smears were also done opportunistically, e.g. following childbirth. Indirect evidence suggests that many women had had at least one smear prior to the introduction of the screening programme (13).

Participants and recruitment

Focus groups were conducted in both urban and rural areas and in areas with different socio-demographic profiles. Women were recruited through adverts in newspapers, posters and flyers at general practices, primary care centres, and Well Woman Centres (medical practices with an emphasis on women's health). Women were eligible to take part if they were aged ≥ 17 years. Previous experience of smear tests was not required; this was clearly stated on all recruitment materials. To ensure maximum diversity, women of a range of ages, and both public and private patients, were recruited. Groups were held until data saturation was achieved (14). Interested women returned their details via post to the research team. The research team telephoned interested women to arrange a suitable date and time for the focus group.

Procedures

Groups were held at locally convenient locations (e.g. general practices) and lasted 90-150 minutes. Women signed a consent form before the discussion commenced. A topic guide was developed from literature review (Supplementary file 1). A trained facilitator (JM) introduced topics from the guide and a co-facilitator assisted, noting group dynamics and non-verbal communication. Each group discussed cervical screening, HPV infection, and either HPV testing or HPV vaccination, with this topic chosen randomly by the facilitator before the group started. Women were invited for their views on the forthcoming programme, and to consider what would make them, or other women, more likely to have smear tests or to participate in the programme. The topic guide formed the basis of discussions, but was not used prescriptively, and was allowed to evolve such that discussion in one group informed the topic guide for the next group.

Analysis

Discussions were audio-recorded, transcribed verbatim and anonymised. Thematic analysis (15) was conducted. Analysis was ongoing and iterative, such that analysis of early focus groups could inform the content of subsequent groups. Two researchers (including the group facilitator) independently reviewed the first two transcripts, coded these, and, in discussion, identified the main themes. This process helped to ensure validity of coding categories and analytic rigour. The codes were then applied to the rest of the dataset, but the code lists were also refined as analysis progressed. Descriptive accounts of each group were prepared to identify more specific themes. Each theme was considered in the context of each of the focus groups. Results reported here relate to women's participation in cervical screening; findings in relation to HPV are reported elsewhere (16). Direct quotes are presented in tables to illustrate participants' views, each of which is accompanied by the relevant participant and focus group ID numbers.

The study was approved by the Irish College of General Practitioners Research Ethics Committee. The results of this study are presented in line with the guidelines for reporting on qualitative research (17).

Results

Characteristic of Participants

59 women took part in ten focus groups. Most women (n=53) had previously had a smear test. Participants' socio-demographic characteristics are presented in table 1.

Two major themes relating to women's cervical screening participation emerged from the analysis: (1) the influence of GPs on women's participation in screening and (2) motivators to screening participation.

Influence of GPs on women's participation in screening

Four subthemes emerged relating to the influence of GPs on women's participation in cervical screening: (1) the attitude of the GP; (2) prompting by the GP; (3) trust in the GP; (4) women's relationships with their GP (Table 2).

The attitude of the GP: The attitude of the GP with respect to cervical screening and women's health issues had a major influence on women's attendance for smears, both positively and negatively. This was especially important when women were attending for their first smear. Whether the GP viewed smears as important, and how this was communicated to women, emerged as both a barrier and motivator to having a smear. For example, some women talked about their GP's positive attitude toward screening and how this positively influenced their screening behaviour. On the other hand, other women felt that their GP was not interested in women's health issues and did not want the "hassle" of taking smears. Some women felt that their GP was "sparing services" and did not want to provide smears in order to save resources. A few women felt they had to be proactive in insisting they were entitled to have a smear test from their GP. Having to ask for a smear test discouraged some women from having one.

Prompting by the GP: Women described how prompting by their GP encouraged or reminded them to attend for a smear test. Verbal prompting (e.g., face-to face during consultations) had a major positive influence on women's attendance. Women described how this was especially effective when having a

first smear. Women also considered that prompting in the form of invitation and reminder letters or through a “call-recall system” was helpful and encouraged them to attend.

Trust in the GP: Most women had a high level of trust in their GP. In addition, many women trusted what their GP told them in relation to cervical screening. For example, while many women were unhappy with the recommended screening interval (3 or 5 years) for the screening programme, they were reassured by their GP’s support for these guidelines. Some women expressed concern at the recommended age of 25 to commence screening; they felt that younger women should be offered screening, but were reassured by their GP’s support for these recommendations. More generally, trust in their GP encouraged women to attend for smear tests.

For most women, GP surgeries were their preferred and most trusted sources of cervical screening information. Nevertheless, there were concerns over information provided GPs. Some women questioned whether GPs know enough about cervical screening to discuss these issues with patients. Women also observed that GPs could feel threatened by women who bring information with them to a consultation. For some women distrust of information provided about screening/smear tests by the GP, or lack of confidence in the GP’s knowledge, discouraged them from attending for smear tests.

Women’s relationships with their GP: Some women described having a strong relationship with their GP. These women also felt that they could be more open with their doctor and freely discuss anything with them. This type of relationship was –for some women - a strong motivator to attend cervical screening. In contrast, other women felt that because they had such a strong relationship with their GP, this could make them feel embarrassed about going for a smear.

Motivators to screening participation

Two major themes and several subthemes were identified as regards to what encourages women to have smear tests: (1) personal reasons/benefits and (2) practical issues/convenience (Table 3). Women also expressed desires for what they would wish to see incorporated into the forthcoming national programme to help facilitate participation.

Personal reasons/benefits: Although most women believed that having smear tests was important to prevent cervical cancer, it was seen as a woman’s personal choice whether to attend or not. For

some women the importance of having a smear in terms of the potential to “save your life” overrode concerns about the discomfort of the procedure. Some women indicated that they had smears because they felt personally responsible for their own bodies. Others noted that attending for smears provided them with reassurance.

Practical issues/convenience: Convenience and practical issues were considered essential enablers of screening participation. Women felt that it was important to have the choice of where the smear test was performed (e.g. own GP or a Well Woman Centre). The freedom of choosing with whom to have the smear was also considered an important motivator for attendance. In terms of things that might encourage women to have smears, most felt that the idea of an overall ‘MOT’ would be encouraging; specifically, they favoured integrating smear tests with other health checks.

Desires for the national screening programme: Women had two major suggestions for what they would like to see incorporated in the screening programme in order to maximise uptake. These were a “buddy system” (e.g. encouraging women to attending for smears with a friend for emotional support) and an “out of hours” service for working women.

Discussion

Influence of GPs on women’s participation in screening

A major finding of this study was that women’s cervical screening behaviours are greatly influenced by their GP, both positively and negatively. In particular, a positive attitude by their GP towards cervical screening strongly influenced their likelihood of having a smear. A similar finding has been reported in relation to women’s participation in breast screening (18). Conversely, participants in our study also reported a range of negative GP attitudes that deterred them from attending for smear tests. Of these, what was particularly influential was if the GP expressed a negative view about screening. This finding suggests that strategies to encourage GPs to be more positive about screening during consultations could reflect positively on women’s attitudes to screening and encourage them to attend for smears. Our study also goes further, in so far as it identified other key issues relating to the influence of GPs on women’s screening participation: GP prompting, trust in the

GP, and women's relationships with their GP. Screening programmes may consider focussing on these specific issues in their support of GPs in relation to their cervical screening practices.

Previous research has shown that an established relationship with a health-care provider is a facilitator of cervical screening participation (19). Moreover, the ability to establish a trusting relationship with the health-care provider is important in making smear tests more acceptable to women (20). Our study adds to the existing evidence-base on the importance of patient-provider relationships by showing, for the first time, that a strong relationship with a GP can work both ways; it acts as either a motivator or barrier to screening participation. GPs need to be reminded of the importance of their relationships with patients in relation to cervical screening uptake.

Prompting by GPs motivated the women in our study to attend cervical screening. Some women described how invitation and reminder letters were effective in encouraging them to attend. This echoes findings from a study which found that a GPs' signature on invitation letters increases breast screening participation (21). It is also a practical illustration of how call-recall systems within screening programmes increase effectiveness; in the UK, rates of cervical cancer declined after the introduction of call-recall systems, although screening had been in place for several years before this (22). In the current study, verbal prompting was also influential in encouraging women to attend for smears. Unlike letters, this form of prompting is cost-free and takes up little of the GPs' time. Verbal prompting was particularly effective for women in this study who had never had a smear test. This is similar to findings in breast cancer screening, where direct contact with a trained professional increased participation (23).

Women were, predominantly, very trusting of their GP and the information provided by them. However, concerns were raised by women about the knowledge levels of doctors in relation to cervical screening. Previous studies have found gaps in doctors' cervical screening knowledge, particularly in relation to HPV (24, 25). Doctors have difficulties in keeping up-to-date with clinical evidence and this has been recognised as a barrier to primary care practice (26). Simply "educating" GPs in relation to cervical screening may not be the answer. Interventions that find more appropriate ways to support GPs in their cervical screening practices and delivery of information to women are needed.

As in other healthcare systems, many smear tests taken in Ireland are now performed by primary care nurses, although the professional responsibility still lies with the GP (27). The current study shows that GPs are hugely influential in encouraging women to have smear tests; it is less clear whether nurses have a similar effect. In fact, the role of nurses in cervical screening was not raised by women in the focus groups, other than in the context of expressing desire for a female smearer. Therefore, the impact of the increasing involvement of primary care nurses on women's cervical screening behaviours requires further investigation.

Motivators to screening participation

The reasons why women do not attend for smears have been previously researched (28, 29). In order to extend this evidence-base, we set out to better understand the benefits women perceive they gain from attending for smears and their personal motivators for attending. Motivators identified by women included: smears preventing cervical cancer, the potential of smears to be life-saving, a feeling of personal responsibility for one's body, and smears providing reassurance. Previous research has suggested that an individual's proactive role in cervical cancer prevention is one reason why women attend screening (30) and that attendance is driven by a search for reassurance (31). Our findings, and these, suggest that designing information initiatives which focus on the personal benefits of attending for smears may help to induce non-attendees to participate.

One of the ways to potentially maximise screening uptake is to listen to the issues raised by women and their desires for a screening programme. Women discussed the desire for an 'out of hours' service, which could facilitate participation among women who work. GP practices may need to introduce or improve the flexibility of appointment times to accommodate women and encourage screening uptake. Another desire of women was for a "buddy system", whereby women could attend their smear test with a friend. This system could be particularly beneficial in encouraging cervical screening attendance among more vulnerable women. Implementing buddy systems in primary care (which is a simple, low-cost intervention), particularly for women who require additional support to attend for smear tests, may help improve screening uptake.

How our study fits in to what is already known about screening decisions

According to the Theory of Planned Behaviour, intentions to participate in screening are predicted, in part, by subjective norms (what a significant other thinks about screening) (32). In a meta-analysis on participation in cancer and non-cancer screening programmes, subjective norms was a major predictor of attendance, particularly where screening participants were recruited from GP practices (32). The authors suggested that this was due to participants valuing their visits to their GPs and having a good relationship with their GP. Studies in other cancers have also revealed the influences of health professionals on individual's screening behaviours. For example, a doctor's recommendation

is a powerful motivator to attend colorectal cancer and breast cancer screening (33, 34). Our findings on cervical screening are largely consistent with these results.

The transformation of cervical cancer prevention

The relationship between HPV and cervical cancer is revolutionising cervical cancer screening. HPV testing is being used in the follow-up of women treated for high-grade abnormalities, for triage of women with low-grade abnormalities and as a co-test with cytology in some settings. In addition, primary HPV testing is likely to be introduced in the near future. In these focus groups, women raised concerns over the lack of treatment for HPV infection and expressed a strong attachment to cervical cytology testing (16). These findings suggest that the adoption of HPV testing into screening protocols may raise new challenges to screening participation, especially once vaccinated women become eligible for screening. Further research on the impact of HPV testing and vaccination on women's views on, and participation in, cervical screening is urgently required.

Strengths and limitations

The use of focus groups allowed us to explore, in-depth, women's views about cervical screening. Another key strength of the study is that it was carried out immediately prior to the introduction of a national screening programme, but at a time when there was widespread public awareness that the programme was about to commence. This enabled women to discuss their desires for a screening programme before the experience of taking part in one. However, women's views about cervical screening may have changed since the inception of the programme in 2008. Moreover, the introduction of HPV vaccination and testing might have also influenced women's views (35). Further focus groups could be beneficial to ascertain if women's views on cervical screening have changed considerably over time. Another possible limitation is that some women who took part in the study had an interest in the topic area. However, maximum socio-demographic and socio-economic diversity was aimed for when recruiting women to the focus groups such that the groups were heterogeneous.

Conclusions

The findings of this study re-enforce the pivotal role GPs play in women's cervical screening attendance. Notably, GPs can impact both positively and negatively on women's participation in screening. This suggests that providing on-going support to GPs around their cervical screening practices is crucial to maximise screening attendance among women. In addition, paying greater attention to the reasons why women attend screening, and their desires for enhancing services, may also help to increase participation. For example, targeted information initiatives that focus on personal reasons and benefits for attending smear tests, longer service opening hours, and encouraging women to have a friend accompany them, could help encourage women to participate.

Acknowledgements

We thank Ms C O'Callaghan for co-facilitating focus groups and transcribing the discussions. We thank the GP practices and Well Woman Centres for assistance with recruitment. We also thank the women who participated in the focus groups.

Declaration

Funding: This research was undertaken as part of the CERVIVA research consortium. CERVIVA is funded by the Health Research Board, Ireland (HS-05-09). MO'C is an inter-disciplinary capacity enhancement (ICE) fellow funded by the Health Research Board, Ireland (ICE.2011.2 (H01443)).

Ethical approval: Ethical approval was obtained from the Irish College of General Practitioners Research Ethics Committee.

Conflict of interest: None.

References

1. World Health Organisation. *Cervical Cancer Screening Programmes: Managerial Guidelines*. Geneva, Switzerland: World Health Organisation, 1992.
<http://whqlibdoc.who.int/publications/1992/9241544473.pdf> (accessed 20 November 2013).
2. Mathew A, George PS. Trends in incidence and mortality rates of squamous cell carcinoma and adenocarcinoma of cervix--worldwide. *Asian Pac J Cancer Prev* 2009; **10**: 645-50.
3. European Commission. *Cancer screening in the European Union: Report on the Implementation of the Council Recommendation on cancer screening (First Report)*, 2008.
<http://www.iarc.fr/en/publications/pdfs-online/prev/index2.php> (accessed 10 December 2013).
4. The NHS Information Centre PHIA PST. *Cervical Screening Programme England 2012-13*. London, England: Health and Social Care Information Centre, 2010.
<http://www.hscic.gov.uk/catalogue/PUB11889/cerv-scre-prog-eng-2012-13-rep.pdf> (accessed 10 November 2013).
5. Lancucki L, Fender M, Koukari A *et al*. A fall-off in cervical screening coverage of younger women in developed countries. *J Med Screen* 2010; **17**: 91-6.
6. National Cervical Screening Programme (CervicalCheck). *CervicalCheck Programme Report 2010-2011*. Ireland: National Cancer Screening Service, 2012.
<http://www.cervicalcheck.ie/information-for-health-professionals/programme-publications-and-guidance-notes.3830.html> (accessed 6 December 2013).
7. Castañón A, Landy R, Cuzick J, Sasieni P. Cervical screening at age 50-64 years and the risk of cervical cancer at age 65 years and older: population-based case control study. *PLoS Med* 2014; **11**: e1001585. doi: 10.1371/journal.pmed.1001585.
8. Waller J, Bartoszek M, Marlow L, Wardle J. Barriers to cervical cancer screening attendance in England: a population-based survey. *J Med Screen* 2009; **16**: 199-204.
9. Walsh JC. The impact of knowledge, perceived barriers and perceptions of risk on attendance for a routine cervical smear. *Eur J Contracept Reprod Health Care* 2006; **11**: 291-6.
10. Logan L, McIlpatrick S. Exploring women's knowledge, experiences and perceptions of cervical cancer screening in an area of social deprivation. *Eur J Cancer Care* 2011; **20**: 720-7.
11. Armstrong N, James V, Dixon-Woods M. The role of primary care professionals in women's experiences of cervical cancer screening: a qualitative study. *Fam Pract* 2012; **29**: 462-6.
12. National Cervical Screening Programme (CervicalCheck): *CervicalCheck Programme Report 2008-2009*. Ireland: National Cancer Screening Service, 2010.
<http://www.cervicalcheck.ie/information-for-health-professionals/programme-publications-and-guidance-notes.3830.html> (accessed 6 December 2013).
13. O'Brien KM, Sharp L. Trends in incidence of, and mortality from, cervical lesions in Ireland: Baseline data for future evaluation of the national cervical screening programme. *Cancer Epidemiol* 2013; **37**: 830-5.
14. Denzin NK, Lincoln YS. *The SAGE Handbook of Qualitative Research*. Thousand Oaks, 3rd edition. California: Sage publications, 2005.

15. Pope C, Ziebland S, Mays N. Qualitative research in health care. Analysing qualitative data. *BMJ* 2000; **320**: 114-16.
16. McRae J, Martin C, O'Leary J, Sharp L. "If you can't treat HPV, why test for it?" Women's attitudes to the changing face of cervical cancer prevention: a focus group study. *BMC Womens Health* (accepted for publication early April 2014).
17. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007; **19**: 349-57.
18. Jensen LF, Mukai TO, Andersen B, Vedsted P. The association between general practitioners' attitudes towards breast cancer screening and women's screening participation. *BMC Cancer* 2012; **12**: 254.
19. Black AT, McCulloch A, Martin RE, Kan L. Young women and cervical cancer screening: what barriers persist? *Can J Nurs Res.* 2011; **43**: 8-21.
20. Hislop TG, Clarke HF, Deschamps M *et al.* Cervical cytology screening. How can we improve rates among First Nations women in urban British Columbia? *Can Fam Physician* 1996; **42**: 1701-8.
21. Giorgi D, Giordano L, Senore C *et al.* General practitioners and mammographic screening uptake: influence of different modalities of general practitioner participation. Working Group. *Tumori* 2000; **86**: 124-9.
22. Quinn M, Babb P, Jones J, Allen E. Effect of screening on incidence of and mortality from cancer of cervix in England: evaluation based on routinely collected statistics. *BMJ* 1999; **318**: 904-8.
23. Segura JM, Castells X, Casamitjana M, Macià F, Porta M, Katz SJ. A randomized controlled trial comparing three invitation strategies in a breast cancer screening program. *Prev Med* 2001; **33**: 325-32.
24. Jain N, Irwin KL, Montano D *et al.* Family physicians' knowledge of genital human papillomavirus (HPV) infection and HPV-related conditions, United States, 2004. *Fam Med* 2006; **38**: 483-89.
25. McSherry LA, Dombrowski SU, Francis JJ *et al.* 'It's a can of worms': understanding primary care practitioners' behaviours in relation to HPV using the Theoretical Domains Framework. *Implement Sci* 2012; **7**: 73.
26. Defty H, Smith H, Kennedy M, Perry N, Fisher M. GPs' perceived barriers to their involvement in caring for patients with HIV: a questionnaire-based study. *Br J Gen Pract* 2010; **60**: 348-51.
27. McCarthy G, Cornally N, Courtney M. The role dimensions, clinical competence and the professional development of practice nurses. *Nursing in General Practice* 2009; **2**: 38-44.
28. Oscarsson MG, Wijma BE, Benzein EG. 'I do not need to... I do not want to... I do not give it priority...'-why women choose not to attend cervical cancer screening. *Health Expect* 2008; **11**: 26-34.

29. Blomberg K, Ternestedt BM, Törnberg S, Tishelman C. How do women who choose not to participate in population-based cervical cancer screening reason about their decision? *Psychooncology* 2008; **17**: 561-9.
30. Forss A, Tishelman C, Widmark C, Lundgren E, Sachs L, Törnberg S. 'I got a letter...' a qualitative study of women's reasoning about attendance in a cervical cancer screening programme in urban Sweden. *Psychooncology* 2001; **10**: 76-87.
31. Whynes DK, Philips Z, Avis M. Why do women participate in the English cervical cancer screening programme? *J Health Econ* 2007; **26**: 306-25.
32. Cooke R, French, DP. How well do the theory of reasoned action and theory of planned behaviour predict intentions and attendance at screening programmes? A meta-analysis. *Psychology and Health* 2008; **23**: 745-65.
33. Janz NK, Wren PA, Schottenfeld D, Guire KE. Colorectal cancer screening attitudes and behavior: a population-based study. *Prev Med* 2003; **37(6 Pt 1)**: 627-34.
34. Hanson K, Montgomery P, Bakker D, Conlon M. Factors influencing mammography participation in Canada: an integrative review of the literature. *Curr Oncol* 2009; **16**: 65-75.35. O'Connor M, Costello L, Murphy J *et al.* "I don't care whether it's HPV or ABC, I just want to know if I have cancer." Factors influencing women's emotional responses to undergoing HPV testing in routine management in cervical screening: a qualitative study. *BJOG* 2014: doi: 10.1111/1471-0528.12741.

Table 1. Socio-demographic characteristics of focus group participants

Age of participants:							
Age range (years):	17-20	21 – 30	31-40	41-50	51-60	61-70	Total
n (%)	3 (5.1)	10 (16.9)	17 (28.8)	15 (25.4)	9 (15.3)	5 (8.5)	59 (100)
Relationship Status:							
Single	3 (5.1)	1 (1.7)	3 (5.1)	1 (1.7)	1 (1.7)	0 (0)	9 (15.3)
Married	0 (0)	2 (3.4)	11 (18.6)	10(16.9)	5 (8.5)	5 (8.5)	33 (55.9)
Cohabiting	0 (0)	2 (3.4)	2 (3.4)	1 (1.7)	0 (0)	0 (0)	5 (8.5)
Divorced/separated	0 (0)	1 (1.7)	1 (1.7)	3 (5.1)	3 (5.1)	0 (0)	8 (13.5)
Relationship (not cohabiting)	0 (0)	4 (6.8)	0 (0)	0 (0)	0 (0)	0 (0)	4 (6.8)
Education:							
Primary level	0 (0)	0 (0)	1 (1.7)	0 (0)	4 (6.8)	1 (1.7)	6 (10.2)
Second level upper	3 (5.1)	3 (5.1)	6 (10.2)	6 (10.2)	2 (3.4)	0 (0)	20(33.8)
Third level	0 (0)	7 (11.9)	10 (17.0)	9 (15.3)	3 (5.1)	4(6.8)	33 (56.0)
Ever had a smear:							
No	3 (5.1)	1(1.7)	0 (0)	0 (0)	1 (1.7)	1 (1.7)	6 (10.2)
Yes	0 (0)	9 (15.3)	17 (28.8)	15 (25.4)	8 (13.6)	4 (6.8)	53 (89.8)

Table 2. Influence of GPs on women's participation in screening

Subthemes - Influence of GPs	Sample Quotes
The attitude of the GP	<p><i>'I think actually some GP's just...maybe they are just dismissive of women's health issues generally speaking. you do get an attitude sometimes when it's women's things. And that there is that kind of lingering attitude I think with some GP's definitely'</i> (P02, FG3)</p> <p><i>'Her day was finished. She had gone home. So she was ringing me from her own phone [with results of smear test]. I actually kind of said...everyone I meet I was telling them. Your woman down there..she is fabulous...rings you at home and all..great. And I recommend her to everybody.'</i> (P05, FG10)</p> <p><i>'why are they sparing the services [e.g. smear tests]..If I went into a shop and I asked for a particular brand of thing...wouldn't they try and get it for me.'</i> (P04, FG7)</p>
Prompting by the GP	<p><i>'I would never have thought of going [for a smear test] only for the GP saying it to me. I just wouldn't have thought of it. Maybe if I was older or had a baby, I would have'</i> (P07, FG6)</p> <p><i>Well I have to say the biggest incentive for me is the fact that the doctor..that I'm sent a letter with an appointment on it from here.'</i> (P04, FG8)</p>
Trust in the GP	<p><i>'I suppose you kind of trust that the doctor knows what they are doing when they say wait for three years. But then that's tried and tested. Waiting three years [for a smear test] is grand like, if you trust your doctor.'</i>(P03, FG8)</p> <p><i>'A lot of doctors will say to you that somebody will come in with this sheet printed off the internet and say "there you go, that's what I have". But I think doctors do feel threatened by that..they are kind of pulling back a bit on information that they give people for that reason.'</i> (P02, FG3)</p>
Women's relationships with their GP	<p><i>'Well also if you've got a relationship with your doctor..you know its..if you feel good about it. Like going to the hairdresser..you can say anything to them.'</i> (P01, FG6)</p> <p><i>'because people have such a relationship with their GP that they feel embarrassed about it. ..if there was a centre even attached to a hospital or something that you would go in and it was somebody that you didn't know, [women] would be far happier.'</i> (P04, FG6)</p>

Table 3. Motivators to screening participation

Major themes	Subthemes	Sample Quotes
Personal reasons/benefits	Prevention	<i>'But prevention is better than cure. I think the emphasis should be on the fact that it [smear tests] can prevent a terminal illness. .I mean its preventative isn't it? I mean that's the whole idea of that screening.'</i> (P02, FG7)
	The potential of smears to be life-saving	<i>'That surprises me you know when you hear people don't go and I know it's not the most pleasant thing to do...But if it saves your life It's worth it.'</i> (P01, FG4)
	Personal responsibility	<i>'even though I didn't want to have the cervical smear, I said it's something that perhaps I should do, I should just make myself do it.'</i> (P05, FG1)
	Reassurance	<i>'I really don't think about that one [cervical cancer] that much I think it's probably because I have the routine of getting the check done every two years and because of that then I feel I don't worry about it.'</i> (P03, FG4)
Practical issues/convenience	Choice of where and with whom to have smear	<i>'A well-woman clinic or a centre. And I think then that...you know...I mean a woman should be given the choice if she wants to go to her GP and is quite happy to do so, then fine.'</i> (P08, FG6)
	Overall health check/'MOT'	<i>[Part of all other female checks]Oh god yea. Why would you not. If you just had to go once a year and you get everything done.'</i> (P02, FG6)