Original Research

Understanding the heterogeneity of cervical cancer screening non-participants: Data from a national sample of British women

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Abstract *Background:* Uptake of cervical cancer screening in the United Kingdom (UK) is falling year on year, and a more sophisticated understanding of non-participation may help design interventions to reverse this trend. This study ascertained the prevalence of different non-participant types using the Precaution Adoption Process Model (PAPM).
Methods: Home-based computer-assisted interviews were carried out with 3113 screening-eligible women in Britain. Survey items assessed self-reported screening uptake and intention to attend in future. Responses to these items were used to classify women into one of five different types of non-participants.
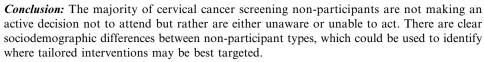*Results:* Of 793 non-participants, 28% were unaware of screening, 15% had decided not to attend and 51% were intending to have screening but were currently overdue. Younger women were more likely to be unaware of screening or to intend to be screened, while older women were more likely to have decided not to be screened. Women from ethnic minority backgrounds were more likely to be unaware of screening than white women. Being in a lower social grade was associated with increased odds of all three types of non-participation.

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Conclusion: The majority of cervical cancer screening non-participants are not making an active decision not to attend but rather are either unaware or unable to act. There are clear sociodemographic differences between non-participant types, which could be used to identify where tailored interventions may be best targeted.

1. Introduction

Cancer screening offers the opportunity to detect asymptomatic cancer or precancer (e.g. dysplasia or polyps) in those who appear and feel healthy. This can improve treatment outcomes and reduce morbidity and mortality [1]. Many European countries have organised screening programmes, which use population-based registers to ensure all eligible adults are invited for screening [2]. In the United Kingdom (UK), there are nationally organised screening programmes for breast, cervical and colorectal cancer, and these are estimated to save thousands of lives a year [3−5]. Despite their overall success, uptake of all three programmes is considered suboptimal [6−8]. In addition there are sociodemographic inequalities in attendance [8−10]. Improving access to screening and reducing inequalities are high on the cancer agenda [11].

A recent review of interventions in the context of organised programmes [12] found that cancer screening uptake could be increased by offering reminders, practitioner endorsement on the invitation or using alternative tests (e.g. human papillomavirus (HPV) testing). There was some evidence for using prescreening reminders, preset appointments, offering evening and weekend appointment times, mass media campaigns and direct contact with a health professional. However, in most cases room for improvement in attendance remains. An alternative approach to intervention design is to move away from using one-size-fits all interventions and consider how some interventions may be more effective for some groups than others, e.g. particular sociodemographic groups [13] or people with a certain screening history [14,15]. While there are certainly interventions that may be effective at improving uptake for all groups, such as offering HPV self-testing for cervical cancer screening [16,17], or face-to-face patient counselling for colorectal cancer screening [18], these may realistically be reserved for subgroups for which cheaper alternatives do not work.

Behavioural science can be used to better understand different types of decision-making for behaviours like participation or non-participation in cancer screening programmes. For example, an individual may never have been screened or may have been screened but not as recommended. Within both of these groups, motivations may also differ; individuals may be unaware they should

be screened, be actively avoiding screening or be considering or preparing to be screened. One behavioural science model that lends itself to understanding screening non-participation is the Precaution Adoption Process Model (PAPM) [19]. The PAPM suggests people move through a series of stages towards participating in cancer screening (see Fig. 1). It highlights the role of past behaviour and differentiates between motives for non-attendance including informed decisions not to participate. It also acknowledges the importance of translating intention into action. This model has been used in the context of colorectal cancer screening in the United States of America (USA) [20−22].

The PAPM could be used to target appropriate interventions towards specific groups. Targeting interventions is more effective than using a single intervention for everyone without consideration of what a particular population needs. Using the PAPM to explore screening non-participation would help refine our understanding of screening non-participants, indicating which non-participant groups are the largest and where resources to improve participation are best placed. Identifying sociodemographic correlates of each non-participant type would indicate potential channels and content for targeted interventions. To our knowledge no one has used the PAPM to understand non-participation in an organised screening programme.

While this approach could be useful for all types of cancer screening, we have chosen to focus on cervical cancer screening non-participants. Breast screening coverage in England has improved over the last 10°years [7] and colorectal cancer screening is still relatively new in the UK, and is undergoing a number of changes. We therefore focussed on cervical cancer screening. The aims were: (1) to establish the percentage of British women classified into each cervical cancer screening non-participant type, as outlined by the PAPM and (2) to identify sociodemographic correlates with each non-participant type.

2. Methods

2.1. Participants

Data were collected by TNS (a market research agency) as part of their Omnibus survey, in which data are collected during one interview on behalf of multiple