Increasing attendance in a cervical cancer screening programme by personal invitation: experience of a Lithuanian primary health care centre

Rūta Kurtinaitienė¹,
Jolita Rimienė²,
Ingrida Labanauskaitė³,
Nadežda Lipunova⁴,
Giedrė Smailytė⁵

¹ Vilnius University Hospital Santariskių Klinikos, Centre of Obstetrics and Gynaecology, Vilnius, Lithuania
² UAB Patologijos diagnostika, Vilnius, Lithuania
³ Vilnius City Clinical Hospital, Department of Obstetrics and Gynaecology, Vilnius, Lithuania
⁴ National Cancer Institute, Cancer Control and Prevention Centre, Vilnius, Lithuania
⁵ National Cancer Institute, Laboratory of Cancer Epidemiology, Vilnius, Lithuania

Background. High participation rates are an essential component of an effective screening programme and many approaches were introduced as being successful for enhancing compliance to screening guidelines. The aim of this study was to evaluate to which extent a personal invitation by mail increases the rate of attendance in a cervical cancer screening programme in a primary health care centre.

Materials and methods. The study was carried out as a pilot project to gain insight into feasibility of applying a well-known compliance increasing measure in Lithuanian population. The study included a sample of women registered at the primary health care centre in Panevėžys who had not participated in the cervical cancer screening programme for six and more years. Personal registered invitation letters to attend the primary health care centre for a Pap smear were sent out to 1789 women by mail.

Results. In total, 2195 women were tested during 2011 at the primary health care centre. 487 (22.2%) of them attended the screening programme after receiving a personal invitation letter. Response rate for attending screening after receiving a personal invitation letter was 27.3%.

Conclusions. Our study demonstrated that personal invitation letters addressed to long-term non-attendees could markedly increase participation in cervical cancer screening in Lithuania.

Keywords: Pap smear, cervical cancer screening, attendance
INTRODUCTION

The burden of cervical cancer across the European Union varies considerably. Recent analysis of the countries with the highest cervical cancer incidence and mortality rates revealed rising trends in Lithuania, as well as in other most affected EU member states (1). Based on the conventional cytological screening test, cervical cancer screening programmes, have been shown to be effective in decreasing the incidence and mortality rates (2). The Lithuanian national screening programme was launched in 2004, targeting all women aged 30 to 60, with the latter interval widened in 2008 to target all women from 25 to 60 years of age. The recommended interval between two smears is 3 years if a previous smear did not show cytological abnormality. Data on the exact coverage of screened women is currently not available; however, the Lithuanian Health Behaviour Monitoring study, based on six postal surveys conducted in 2004–2014, demonstrated that the proportion of women invited for cervical cancer screening in the past 12 months has increased from 30.6% in 2006 to 40.9% in 2014 (3).

In Lithuania, the cervical screening test of choice is a conventional Pap smear along with a modified Bethesda cytological classification. Primary health care centres are responsible for carrying out the invitations and performing Pap smears. Usually personal invitations are not sent out by mail and general practitioners tend to rely on informing women about the screening when they attend their primary health care centre. The programme still carries opportunistic features because it is strongly dependent on the frequency of visits to the general practitioner and the activity of the general practitioner in providing information about screening (4). The lack of an organized invitation system is an important weakness of the programme.

The aim of this study was to evaluate to which extent a personal invitation by mail increased the rate of attendance in a cervical cancer screening programme in a primary health care centre. It was carried out as a pilot project to gain insight on its feasibility in the Lithuanian population.

METHODS

The study included women registered at a primary health care centre and who had not participated in the programme since its beginning in 2004. The total number of women eligible for screening in this health care centre was 10,894. The invitations were distributed in December 2010.

Personal registered invitation letters to attend the primary health care centre for a Pap smear were sent by mail. Invitation letters were sent out to 1789 women (regarded as the “Screening campaign” group). The attendance rate was analysed during January – December 2011. All Pap smears and requisition forms were sent to the Diagnostic Pathology laboratory for cytological investigation.

RESULTS

The response rate to the “Screening campaign” was 27.2% with 487 women attending out of all of those invited. In total 2195 women were tested during 2011 at the primary health care centre in Panevėžys (Figure), of whom 487 women (22.2%) women attended the screening programme after receiving a personal invitation letter. The highest activity of the women invited was observed in the first three months after invitation.

Among the 487 responders to the “Screening campaign” 14 cases (2.9%) of pathological cytology were detected: 6 HSIL (High-Grade Squamous Intraepithelial Lesion), 4 ASCUS (Atypical Cells of Undetermined Significance), and 4 LSIL (Low-Grade Squamous Intraepithelial Lesion). The rate of HSIL in the “Screening campaign” group was 1.23%, compared to 0.31% in women who attended the screening without receiving a personal invitation letter ($p = 0.01$).
DISCUSSION

Regardless of the test used in the screening of women for cervical cancer, the success of a prevention programme is not possible without sufficient coverage of the population. Therefore, differences in attendance rates between populations and efforts put into increasing them have received a fair amount of attention from the academic community.

The main features identified in women who are less likely to attend screening have been older age (5), a low socio-economic status (6), being single (7), lack of information about screening (8), and poor interaction with health system in general (9). Additional factors in some studies have also been shown to contribute towards the problem of not participating in screening: smoking, place of residence (10), organisational (11) as well as psychological (12, 13) reasons, and ethnic background (14). Although reasons for non-participation in cervical cancer screening programmes are likely to vary within and between populations, it is important to identify the best approach to increase participation, as it could be used not only in programmes with opportunistic traits, but also in highly organized settings where increasing the programme uptake is still of importance (15).

It has been widely suggested in the literature that the cervical cancer screening uptake increases significantly when personal letters of invitation are sent out to the target population (in comparison to no intervention at all) (16). A recent review on strategies for increasing participation in screening suggested that a personal letter of invitation by itself could potentially increase adherence to cervical cancer programmes by 50% (95% CI: 1.28; 1.85) on average (16). The same review also estimated effects of other approaches, namely, a telephone call and a reminder of the general practitioner. All three were observed to be effective, with no approach being superior in comparison to others. A telephone reminder and personal invitation letters combined seemed to enhance the effect and participation in cervical cancer screening programmes and was observed to increase the attendance more rapidly than when only the invitations were sent out (16).

An extensive review by Everett et al. (17) was published in 2011 and served as an update of the 2002 version. It included numerous proposed strategies for increasing participation in cervical cancer screening, such as invitations, reminders, educational interventions, message framing, counselling, risk factor assessment, tackling the economic barrier, and offering variations in screening procedures (e.g., test being carried out by a female nurse practitioner) (17). Overall personal invitations and educational interventions showed to be effective measures in enhancing participation in screening. Also, the effect yielded by personal invitation (RR = 1.44, 95% CI: 1.24 to 1.52) was very similar to the result published by Ferroni et al. (16).

Besides postal invitations, other approaches have also been revised considering an organized screening setting, and some of them showed to be effective: telephone reminders, general practitioner’s signature on the invitation letter, a scheduled appointment (instead of an open one), and mailing a kit for self-sampling cervical specimens (18). Although the review only considered organized programmes, one could potentially argue that if the effect is present in a well-run setting, it would be likely for the effect to increase when applied to programmes with opportunistic traits.

Our study suggests that personal invitation letters sent out to the target population are likely to significantly increase participation in the cervical cancer screening programme in Lithuania. Bearing in mind that high participation in the screening is the primary goal of all programmes (18), this study provides further evidence on feasible and efficient approaches that can be applied for increasing the cervical cancer screening coverage in Lithuania. In our study, the effect of personal invitations on the uptake of screening seems to be sufficiently attenuated (response rate: 27.3%) in comparison to other studies (16, 17). Also, it is debatable whether the results would differ between long-term non-attendees and non-participants of one screening cycle (i.e., three years), considering potential resistance of long-term non-attendees due to confounding factors unadjusted in this analysis.

In general, the results of this study are in concordance with evidence from the literature and show that a simple and straightforward approach might be of great value in enhancing participation in cervical cancer screening, which is especially important for screening practices with distinct opportunistic traits.
CONCLUSIONS

Our study demonstrated that personal invitation letters addressed to long-time non-attendees could markedly increase participation in cervical cancer screening. This strategy of invitation is also practically feasible and yields an increase in detected atypical smears.

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References

1. Arbyn M, Antoine J, Magi M, Smailyte G, Stengrevics A, Suteu O, et al. Trends in cervical cancer incidence and mortality in the Baltic countries, Bulgaria and Romania. International Journal of Cancer. 2011; 128(8): 1899–907.

2. Cervix Cancer Screening. IARC Handbooks of Cancer Prevention Volume 10. Lyon, France: World Health Organization, International Agency of Research on Cancer; 2005.

3. Vaitkevičiūtė J, Petkevičius V, Klumbienė J. [Participation of Lithuanian women in cervical and breast cancer screening in 2004–2014]. Visuomenės sveikata. 2015; (68): 33–9. Lithuanian.

4. Mavej PJ, Seme K, Korac T, Dimitrov G, Dobrossy L, Engele L, et al. Cervical cancer screening practices in Central and Eastern Europe in 2012. Acta dermatovenerologica Alpina, Pannonica, et Adriatica. 2013; 22(1): 7–19.

5. Seidel D, Becker N, Rohrmann S, Nimptsch K, Linseisen J. Socio-demographic characteristics of participation in the opportunistic German cervical cancer screening programme: results from the EPIC-Heidelberg cohort. Journal of Cancer Research and Clinical Oncology. 2009; 135(4): 533–41.

6. Link BG, Northridge ME, Phelan JC, Ganz ML. Social epidemiology and the fundamental cause concept: on the structuring of effective cancer screens by socioeconomic status. The Milbank Quarterly. 1998; 76(3): 375–402, 304–5.

7. Ronco G, Segnan N, Ponti A. Who has Pap tests? Variables associated with the use of Pap tests in absence of screening programmes. International Journal of Epidemiology. 1991; 20(2): 349–53.

8. Peters RK, Bear MB, Thomas D. Barriers to screening for cancer of the cervix. Preventive medicine. 1989; 18(1): 133–46.

9. Maxwell CJ, Bancej CM, Snider J, Vik SA. Factors important in promoting cervical cancer screening among Canadian women: findings from the 1996–97 National Population Health Survey (NPHS). Canadian Journal of Public Health = Revue canadienne de sante publique. 2001; 92(2): 127–33.

10. Eaker S, Adami HO, Sparen P. Reasons women do not attend screening for cervical cancer: a population-based study in Sweden. Preventive Medicine. 2001; 32(6): 482–91.

11. Bosgraaf RP, Ketelaars PJ, Verhoef VM, Massuger LF, Meijer CJ, Melchers WJ, et al. Reasons for non-attendance to cervical screening and preferences for HPV self-sampling in Dutch women. Preventive Medicine. 2014; 64: 108–13.

12. Oscarsson MG, Benzein EG, Wijma BE. Reasons for non-attendance at cervical screening as reported by non-attendees in Sweden. Journal of Psychosomatic Obstetrics and Gynaecology. 2008; 29(1): 23–31.

13. Waller J, Bartszczek M, Marlow L, Wardle J. Barriers to cervical cancer screening attendance in England: a population-based survey. Journal of Medical Screening. 2009; 16(4): 199–204.

14. Webb R, Richardson J, Esmail A, Pickles A. Uptake for cervical screening by ethnicity and place-of-birth: a population-based cross-sectional study. Journal of Public Health (Oxford, England). 2004; 26(3): 293–6.

15. Hansen BT, Hukkelberg SS, Haldorsen T, Eriksson T, Skare GB, Nygard M. Factors associated with non-attendance, opportunistic attendance and reminded attendance to cervical screening in an organized screening program: a cross-sectional study of 12,058 Norwegian women. BMC Public Health. 2011; 11: 264.

16. Ferroni E, Camilloni L, Jimenez B, Furnari G, Borgia P, Guasticchi G, et al. How to increase uptake in oncologic screening: a systematic review of studies comparing population-based screening programs and spontaneous access. Preventive Medicine. 2012; 55(6): 587–96.
17. Everett T, Bryant A, Griffin MF, Martin-Hirsch PP, Forbes CA, Jepson RG. Interventions targeted at women to encourage the uptake of cervical screening. The Cochrane database of systematic reviews. 2011(5): Cd002834.
18. Camilloni L, Ferroni E, Cendales BJ, Pezzarossi A, Furnari G, Borgia P, et al. Methods to increase participation in organised screening programs: a systematic review. BMC Public Health. 2013; 13: 464.

***Rūta Kurtinaitienė, Jolita Rimienė, Ingrida Labanauskaitė, Nadežda Lipunova, Giedrė Smailytė***

DALYVAVIMO GIMDOS KAKLELIO PATOLOGIJOS PATIKROS PROGRAMOJE SKATINIMAS NAUDOJANT ASMENINĮ PAKVIETIMĄ: PIRMIINĖS SVEIKATOS PRIEŽIŪROS CENTRO LIETUVOJE PATIRTIS

Santrauka

Įžanga. Atrakinės patikros programos efektyvumas neatsiejamas nuo joje dalyvaujančių gyventojų apimties. Šio tyrimo tikslas buvo įvertinti, ar viena iš gerai žinomų ir efektyvių kitose populiacijose priemonių yra tinkama taisyti Lietuvos populiacijoje siekiant didinti moterų dalyvavimą Gimdos kaklelio patologijos atrankinės patikros programoje. Į tyrimą įtrauktos moterys, registruotos Panevėžio asmens sveikatos priežiūros centre, nedalyvavusios programoje 6 ar daugiau metų. Asmeniniais kviėtimais, kuriuos siūloma dalyvauti šioje atrankinės patikros programoje ir atlikti Pap tepinėlį, buvo išsiųstas 1 789 moterims.

Metodika. Atlidinkas pilotinis tyrimas, kuriuo siekta įvertinti, ar viena iš gerai žinomų ir efektyvių kitose populiacijose priemonių yra tinkama taisyti Lietuvos populiacijoje siekiant didinti moterų dalyvavimą Gimdos kaklelio patologijos atrankinės patikros programoje. Į tyrimą įtrauktos moterys, registruotos Panevėžio asmens sveikatos priežiūros centre, nedalyvavusios programoje 6 ar daugiau metų. Asmeniniais kviėtimais, kuriuos siūloma dalyvauti šioje atrankinės patikros programoje ir atlikti Pap tepinėlį, buvo išsiųstas 1 789 moterims.

Rezultatai. Iš viso 2011 m. Pap tepinėlį tyrimas buvo atliktas 2 195 moterims, iš kurių 487 (22,2 %) atvyko pasitikrinti gavus asmeninį kviema paštą. Atsako dažnis į asmeninių kviemų dalyvaujant atrankinės patikros programoje mūsų imtyje siekė 27,3 %.

Išvados. Mūsų tyrimas rodo, kad asmeniniai kviemaubai, išsiųsti paštu ilgai atrankinėje patikros programoje nedalyvavusių moterų įtrauktyje siekė 27,3 %.

Raktažodžiai: Pap tepinėlis, gimdos kaklelio patologijos atrankinė patikra, dalyvavimas