"I feel healthy, I don't need to go": Relationship between self-perceived health and screening attendance

Anna Altová¹, Ivana Kulhánová¹, and Michala Lustigová^{1,2}

¹Faculty of Science, Charles University ²National Institute of Public Health, Prague

Introduction

In recent years, cancer has been one of the leading causes of death in (not only) European countries. Early detection of cancer is vital to lowering cancer mortality. Cancer detection is one of the most effective tools for early detection, especially for cancer sites such as cervical, breast, or colorectal cancer (Peto et al., 2004; Lönnberg et al., 2012; Vicus et al., 2014; Kamineni et al., 2013). For example, a systematic review of the effects of organised screening on cervical cancer mortality in Europe has been carried out. It showed a range of mortality reduction in attendees versus non-attendees from 41% to 92% (Jansen et al., 2020).

Although many countries have implemented population-based cancer screening, large inequalities in screening attendance are still persistent between and within European countries. Many studies have attempted to uncover the reasons behind low screening attendance and screening hesitance. Evidence shows differences in screening uptake by age, socioeconomic status, marital status, immigration status or co-occurring health conditions, such as diabetes or overweight (Schoofs et al., 2017; Edwards and Jones, 2000; Bongaerts et al., 2019; Jansen et al., 2020; Martín-López et al., 2010; Douglas et al., 2016; Willems and Bracke, 2018). The body of literature about particular reasons for non-attendance among individuals is, however, still limited. Bennett et al. (2018) focused on women who actively decline cervical screening. Among other reasons, they mentioned lack of time, embarrassment, low relevance due to sexual behaviour, or fear of the results. In other studies, women reported a lack of awareness (Rutten et al., 2004), doubts about the usefulness of breast cancer screening and negative opinions about mammography (Ferrat et al., 2013). In general, the reasons for screening non-attendance, especially on an individual level, are still largely unknown.

In our previous work, we tried to investigate the most common reasons of screening non-attendance among Czech women. We identified 36.7% women as non-attendees in cervical cancer screening among 902 respondents (representative sample). The three most commonly declared barriers (women could choose one or more predefined reasons) were: 'I do not experience any symptoms' (36. 3% of women), 'fear of cancer diagnosis' (23.0%) and 'fear of the examination procedure' (20.2%) (Altová and Lustigová, 2022). Furthermore, we found that 'I do not experience any symptoms' is the second most commonly declared barrier (29.4%) among women who do not attend breast cancer screening (after the 'I do not experience any symptoms', 39.9%¹).

Elaborating on this prior knowledge, this paper tries to investigate the relationship between non-attendance to screening and self-perceived health, to understand whether women who feel healthy and do not experience symptoms attend screening less than others.

Data and methods

As the main source, data from the European Health Information Survey 20119 (EHIS) are used. Survey data include information about sex, age by 5-year groups, various SES information, etc. We use the 'self-perceived general health' variable (question: How is your health in general? Is it..., with options: very good, good, fair, bad, very bad) where 'very good' is a proxy for 'feeling healthy' and not experiencing symptoms of a disease. We apply binary logistic regression to estimate the chances of non-attendance to cervical screening by self-perceived health.

¹these results are not yet published

Preliminary results

Preliminary results for Czechia show that there is a relationship between self-perceived health and screening attendance. In our sample of 4,464 women (where all were eligible for cervical screening and 3,124 for breast screening), we identified 27.7% of cervical screening non-attendees and 34.6% of breast screening non-attendees. Women with 'good' and 'fair' self-perceived health compared to those with 'very good' health had higher chances of attending both cervical (OR = 1.67, 95%CI 1.32-2.12 and OR = 1.33, 95%CI 1.03-1.74) and breast screening (OR = 1.87, 95%CI 1.26-2.72 and OR = 1.49, 95%CI 1.00-2.19), see Figure 1. All models were controlled for age and education.

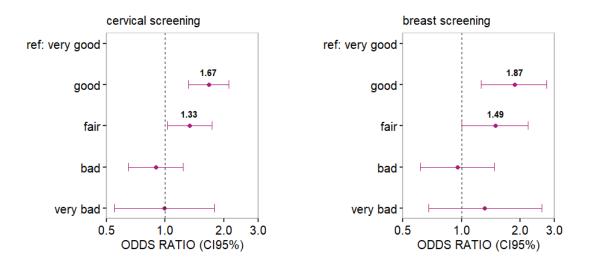


Figure 1: Chances of cervical and breast cancer screening attendance by the level of selfperceived health, results of binary logistic regression, EHIS 2019

Conclusion

We found that there are differences in cancer screening attendance according to the level of self-rated health. '*Feeling healthy*' can lead women to believe that they do not need to attend cancer screening. Measures should be taken to improve health literacy and cancer awareness to dispel misconceptions about cancer symptoms and encourage women to prioritise screening.

References

- Altová, A. and Lustigová, M. (2022). Bariéry českých žen v účasti na screeningu karcinomu děložního hrdla. Česká gynekologie, 87(4). Number: 4.
- Bennett, K. F., Waller, J., Chorley, A. J., Ferrer, R. A., Haddrell, J. B., and Marlow, L. A. V. (2018). Barriers to cervical screening and interest in self-sampling among women who actively decline screening. *Journal of Medical Screening*, 25(4):211–217. Publisher: SAGE Publications Ltd.
- Bongaerts, T. H. G., Büchner, F. L., Middelkoop, B. J. C., Guicherit, O. R., and Numans, M. E. (2019). Determinants of (non-)attendance at the Dutch cancer screening programmes: A systematic review. *Journal of Medical Screening*, 27(3):121–129. Publisher: SAGE Publications Ltd.
- Douglas, E., Waller, J., Duffy, S. W., and Wardle, J. (2016). Socioeconomic inequalities in breast and cervical screening coverage in England: Are we closing the gap? *Journal of Medical Screening*, 23(2):98–103. Publisher: SAGE Publications Ltd.
- Edwards, N. I. and Jones, D. A. (2000). Uptake of breast cancer screening in older women. Age and Ageing, 29(2):131–135.
- Ferrat, E., Breton, J. L., Djassibel, M., Veerabudun, K., Brixi, Z., Attali, C., and Renard, V. (2013). Understanding barriers to organized breast cancer screening in France: women's perceptions, attitudes, and knowledge. *Family Practice*, 30(4):445–451. Publisher: Oxford Academic.
- Jansen, E. E. L., Zielonke, N., Gini, A., Anttila, A., Segnan, N., Vokó, Z., Ivanuš, U., McKee, M., de Koning, H. J., de Kok, I. M. C. M., Veerus, P., Anttila, A., Heinävaara, S., Sarkeala, T., Csanádi, M., Pitter, J., Széles, G., Vokó, Z., Minozzi, S., Segnan, N., Senore, C., van Ballegooijen, M., Driesprong de Kok, I., Gini, A., Heijnsdijk, E., Jansen, E., de Koning, H., Lansdorp – Vogelaar, I., van Ravesteyn, N., Zielonke, N., Ivanus, U., Jarm, K., Mlakar, D. N., Primic-Žakelj, M., McKee, M., and Priaulx, J. (2020). Effect of organised cervical cancer screening on cervical cancer mortality in Europe: a systematic review. *European Journal of Cancer*, 127:207–223.

- Kamineni, A., Weinmann, S., Shy, K. K., Glass, A. G., and Weiss, N. S. (2013). Efficacy of screening in preventing cervical cancer among older women. *Cancer Causes & Control*, 24:1653–1660.
- Lönnberg, S., Anttila, A., Luostarinen, T., and Nieminen, P. (2012). Age-specific effectiveness of the Finnish cervical cancer screening programme. *Cancer Epidemiology Biomarkers and Prevention*, 21(8):1354–1361. Publisher: American Association for Cancer Research.
- Martín-López, R., Hernández-Barrera, V., Andres, A. L. D., Garrido, P. C., Miguel, A. G. D., and García, R. J. (2010). Breast and cervical cancer screening in Spain and predictors of adherence. *European Journal of Cancer Prevention*, 19(3):239–245.
- Peto, J., Gilham, C., Fletcher, O., and Matthews, F. E. (2004). The cervical cancer epidemic that screening has prevented in the UK. *The Lancet*, 364(9430):249–256.
- Rutten, L. J. F., Nelson, D. E., and Meissner, H. I. (2004). Examination of population-wide trends in barriers to cancer screening from a diffusion of innovation perspective (1987-2000). *Preventive Medicine*, 38(3):258–268. Publisher: Academic Press Inc.
- Schoofs, J., Krijger, K., Vandevoorde, J., and Devroey, D. (2017). Health-related factors associated with adherence to breast cancer screening. *Journal of Mid-Life Health*, 8(2):63–69. Publisher: Medknow Publications.
- Vicus, D., Sutradhar, R., Lu, Y., Elit, L., Kupets, R., and Paszat, L. (2014). The association between cervical cancer screening and mortality from cervical cancer: A population based case-control study. *Gynecologic Oncology*, 133(2):167–171. Publisher: Academic Press Inc.
- Willems, B. and Bracke, P. (2018). The education gradient in cancer screening participation: a consistent phenomenon across Europe? *International Journal of Public Health*, 63(1):93–103.
 Publisher: Springer International Publishing.

Data availability

This paper is based on data from Eurostat, EHIS 2019 (Wave 3). The responsibility for all conclusions drawn from the data lies entirely with the authors.