



Original research article

Contextual determinants of participation in cervical cancer screening in France, 2010



Mélanie Araujo^{a,4}, Jeanna-Eve Franck^{a,4}, Emmanuelle Cadot^{b,1}, Arnaud Gautier^{c,2},
Pierre Chauvin^{a,4}, Laurent Rigal^{d,e,f,3}, Virginie Ringa^{d,e,f,3}, Gwenn Menvielle^{a,4,*}

^aSorbonne Universités, UPMC Univ Paris 06, INSERM, Institut Pierre Louis d'Épidémiologie et de Santé Publique (IPLESP UMRS 1136), F75012 Paris, France

^bIRD, UMR 5569, HydroSciences, F-34394 Montpellier, France

^cSanté Publique France, French national public health agency, F-94415 Saint-Maurice, France

^dINSERM, Epidemiology and Population Health Research Centre (CESP), U1018, Gender, Sexuality and Health Team, F-94276 Le Kremlin-Bicêtre, France

^eUniv Paris-Sud, UMRS 1018, F-94276 Le Kremlin-Bicêtre, France

^fINED, F-75012 Paris, France

ARTICLE INFO

Article history:

Received 22 September 2016

Received in revised form 3 April 2017

Accepted 25 April 2017

Available online 5 May 2017

Keywords:

Cervical cancer screening

Contextual factors

Marginal Poisson regression model

Potential spatial accessibility to care

Socioeconomic level

ABSTRACT

Background: Some contextual factors associated with participation in cervical cancer screening are reported in the literature, but few studies have examined their combined effect. Our objective was to assess the role of contextual characteristics, separately and in combination, in participation in cervical cancer screening in France.

Methods: Marginal Poisson regression models – taking into account the correlation between women in a given commune – were conducted using data from the *Baromètre Santé 2010* survey. The characteristics of the commune of residence of the women studied were the potential spatial accessibility to general practitioners (GP) and gynecologists, the agglomeration category, and the socioeconomic level.

Results: The analyses were performed in 3380 women, 88.2% of whom were up to date with their cervical cancer screening. Once the individual characteristics were taken into account, the screening participation rate was similar in all the communes, with the exception of those with poor access to a gynecologist and good access to a GP, where the rate was 6% lower (95%CI: 0.5–11%) than in the communes with good access to both GP and gynecologist. The same association with accessibility was observed in small agglomerations. Compared to women living in the more advantaged communes, the screening participation rate was 8% (2–12%) lower in those living in the more disadvantaged ones, except when accessibility to both types of physician was high.

Discussion: We observed an association between potential spatial accessibility to care in women's residential communities and their cervical cancer screening practices, in particular in small agglomerations, rural communes, and more disadvantaged communes.

© 2017 Elsevier Ltd. All rights reserved.

1. Introduction

In France, there are approximately 3000 new cases of cervical cancer leading to almost 1000 deaths every year [1]. The incidence and mortality rates have declined over time thanks to the Pap test, but this decrease still falls short of the potential that this screening offers. A Pap test is recommended every 3 years for women between the ages of 25 and 65 years; 90% of the procedures are performed by gynecologists [2].

Andersen's conceptual model [3], the behavioral model for health service use, highlights the concomitant influence on healthcare utilization of a woman's individual characteristics and characteristics of both the social and physical environment of their area of residence. This dual influence is observed for cervical

* Corresponding author.

E-mail addresses: melanie.araujo78@gmail.com (M. Araujo), jeanna-eve.franck@inserm.fr (J.-E. Franck), emmanuelle.cadot@ird.fr (E. Cadot), GAUTIER@santepubliquefrance.fr (A. Gautier), pierre.chauvin@inserm.fr (P. Chauvin), laurent.rigal@inserm.fr (L. Rigal), virginie.ringa@inserm.fr (V. Ringa), gwenn.menvielle@inserm.fr (G. Menvielle).

¹ IRD, 911, Avenue Agropolis, BP 64501, F-34394, Montpellier Cedex 5, France.

² Santé Publique France 12, Rue du Val d'Osne, 94 415, Saint-Maurice Cedex, France.

³ CESP UMR Inserm 1018, Equipe 7 Genre, Sexualité, Santé Hôpital de Bicêtre, 82 Av. du Général Leclerc, 94276, Le Kremlin Bicêtre Cedex, France.

⁴ ERES – Inserm U1136, 27 Rue Chaligny, 75012, Paris Cedex, France.

cancer screening. Thus, women under the age of 50, those living in a couple, those with a favorable social situation, those with supplemental health insurance, those who are not obese, and those who do not engage in risky behaviors (such as alcohol or tobacco use) participate in screening to a greater degree [4,5]. At the same time, studies have shown a relationship between screening participation and the characteristics of the area of residence – namely agglomeration category, socioeconomic level and accessibility to care – after taking individual characteristics into account. Studies have found that, overall, women living in urban or socially advantaged areas are more up to date with their screening in France [6–8] as elsewhere [9–13]. Most studies have found a higher screening rate in areas with higher healthcare accessibility in France (numerous medical and paramedical facilities [8]) and elsewhere (high medical density [9,10], short distance to physicians [14,15]).

While the literature suggests that different individual and contextual dimensions influence screening participation, these different dimensions may interact with one another. Studies that have taken them into account simultaneously are rare [9,10,16], yet evaluating their combined effect in addition to their individual effect provides a better understanding of the mechanisms underlying screening participation. To our knowledge, only one analysis has documented the combined effect of contextual variables. It revealed an interaction between the primary care supply and the agglomeration category of the woman's area of residence. Of the women living in areas with a low medical density and those residing in rural or *peri*-urban areas were less likely to have had a Pap test than those living in urban areas. On the other hand, screening participation did not differ according to the agglomeration category in the areas with a high medical density [10]. However, the analysis was conducted in the United States, and the results probably cannot be extrapolated to the situation in France, given the significant differences in territorial organization and healthcare systems between these two countries.

The objective of this study is to provide new results on this topic by studying the relationship between being up to date with cervical cancer screening and a number of contextual characteristics of the commune of residence, separately and in combination, using data from a national survey conducted in France in 2010.

2. Material and methods

2.1. Data

The *Baromètre Santé 2010* is a cross-sectional national health survey representative of the population conducted between October 2009 and July 2010. This telephone survey collected information about health behaviors and attitudes among the French-speaking population aged 15–85 years. Because of the growing percentage of households that were abandoning their landline phones for cell phones, the sampling base included a landline-telephone sample and a cell-phone-only sample. In all, 27,653 people were interviewed. The response rate was approximately 60%. In order to approach the optimal amount of time for the telephone survey while covering the various health dimensions, three subsamples of approximately 9000 respondents each were drawn randomly and asked a different set of questions. Our analysis is based on the subsample that was asked questions about participation in cancer screening ($n=9761$). The survey data were supplemented with information about the women's commune of residence (or district of residence in the case of Paris). Participation in cervical cancer screening was measured according to the French recommendations: having had a Pap test during the previous 3 years for women aged 25–65 years (yes/no).

We studied the following characteristics: age (in 10-year age groups), living in a couple (yes/no), place of birth (France/Europe/other), smoking (never/current/ex), alcohol consumption (categorized using the Alcohol Use Disorder Identification Test: no alcohol problem/alcohol abuser/alcohol-dependent), self-reported body mass index (using the WHO standard categories: underweight/normal weight/overweight/obese), health insurance (private/free healthcare for low-income individuals/none), having forgone healthcare for financial reasons during the past year (yes/no), and gynecological follow-up (none/by a gynecologist/by another health professional, a GP 90% of the time). Women with missing information ($n=15$) were grouped with those without a gynecological follow-up ($n=19$). Socioeconomic status was characterized using the level of education attained (lower/equal to/higher than high school), the employment status (employed/unemployed/retired/inactive – students being classified as inactive), and the current or last occupational category (self-employed and entrepreneurs/higher-level professionals or manager/lower-level professionals/clerical, sales and service/laborers and factory workers/other). Women who never worked were assigned their head of the household's occupational category. In addition, the number of adverse economic conditions met ($0/1/\geq 2$) was computed on the basis of the following three situations: being in the first quintile of the monthly household equivalent income (<840 €), sometimes or often lacking food, and perceiving financial difficulties (managing, but with difficulty, or unable to manage without incurring debts) [5].

The following four characteristics of the women's commune of residence were studied:

- The potential spatial access to a GP and the potential spatial access to a gynecologist; this was measured by means of an indicator that takes into account both the healthcare supply and demand in the surrounding communes, the population's healthcare needs differentiated by age, and the physician activity level (potential spatial accessibility) [17]. The indicator was calculated for the year 2010 and was categorized into quartiles based on its distribution in all French municipalities.
- The socioeconomic level. This was assessed using a social deprivation index developed for the French context [18]. This variable was calculated for the year 2009 and was categorized into quartiles based on its distribution in all French municipalities.
- The agglomeration category (rural, $<20,000$ inhabitants, $20,000$ – $100,000$ inhabitants, $\geq 100,000$ inhabitants, Paris area) in 2007.

2.2. Statistical methods

Of women aged 25–65 years, we excluded those who reported having had a hysterectomy and those who reported never having had sexual intercourse ($n=358$, 9.4%). Women with missing data on cancer screening participation ($n=27$), the independent variables ($n=19$), or the commune of residence ($n=46$) were excluded. In the end, the analyses concerned 3380 women in 2299 municipalities, including 16 administrative districts of Paris.

Screening rates were calculated for all the individual and contextual characteristics. The association between screening participation and the contextual characteristics of the women's commune of residence was quantified using marginal Poisson regressions [19–21], adjusting for the women's ages and all individual characteristics as they were all significant at the 20% threshold in the univariate analyses. Prevalence ratios (PRs) were first calculated for each contextual variable separately. Next, since there was a high correlation between the four contextual variables,

Download English Version:

<https://daneshyari.com/en/article/5524875>

Download Persian Version:

<https://daneshyari.com/article/5524875>

[Daneshyari.com](https://daneshyari.com)