CLINICAL ARTICLE

The association between scheduling a gynecologic clinical visit and clinical breast examination in Rio de Janeiro

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ABSTRACT

Objective: To investigate factors associated with gynecology health professionals' failure to perform clinical breast examinations (CBEs) during clinical visits. Methods: A cross-sectional, interview-based survey was conducted in 2010 among women aged at least 18 years who had undergone a cervical smear in 2007 at primary-care units in Rio de Janeiro, Brazil. Binomial regression was used to generate prevalence ratios and absolute differences between visits for routine examinations or gynecologic complaints. Results: Analyses included 982 women, of whom 182 (18.5%) did not have a CBE during their visit. Significant interactions were observed between age and primary reason for the visit: the prevalence ratio for no CBE during a visit for gynecologic complaints versus routine examination was 3.2 for women aged at least 40 years, and 1.3 among younger women (P for multiplicative interaction = 0.001). Absolute differences were 6.4% and 18.5% for younger and older women, respectively (P for additive interaction = 0.04). Conclusion: A high proportion of eligible women do not undergo a CBE during cervical smear appointments at primary-care units in Rio de Janeiro, particularly older women presenting with gynecologic complaints. Understanding of health professionals' barriers to following and implementing guidelines for secondary prevention of breast cancer is urgently needed.

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1. Introduction

Breast cancer has a good prognosis when detected and treated early [1]. The impact of screening programs on breast-cancer-related mortality is associated with appropriate access to diagnostic procedures and treatment [2]. Screening for breast cancer can be either opportunistic (performed during an outpatient visit scheduled for other reasons) or organized (the target population is formally invited to undergo periodic screening examinations).

In Brazil, screening programs for cancer control are still largely opportunistic [3]. Clinical breast examination (CBE) is recommended yearly for all women aged 40 years or above. A preventive mammogram every 2 years is recommended for women aged 50–69 years. For women with a high risk of breast cancer, both screening tests are recommended annually, starting at age 35 years [2]. However, CBE is also part of the Integral Program of Women's Health in Brazil, and the recommendation is that it should be done in all gynecologic clinic visits, irrespective of age.

The development of evidence-based protocols and healthcare guidelines in recent years [2] does not necessarily mean that the recommendations described in the guidelines are actually followed [4]. Adherence to a specific screening protocol can be influenced by factors related to its complexity and implementation strategies, health professionals' prior knowledge, experience, and understanding of said protocol, patient compliance (which in turn can be influenced by their awareness of its importance), and functional issues in healthcare units [4].

The aim of the present study was to evaluate whether a health professional's decision to perform a CBE during a clinical visit in primary-care units is influenced by the reason for the visit in women living in Rio de Janeiro, the second largest city in Brazil.

2. Materials and methods

A cross-sectional, interview-based study was conducted among women aged at least 18 years who had undergone cervical screening in health units in the city of Rio de Janeiro. A two-stage probabilistic sampling approach was planned. First, among 118 primary health units in the city, 41 were selected. The units were selected on the basis of the number of cervical smears performed. Second, women who had

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undergone a cervical smear at these centers in 2007 were identified and selected systematically.

Face-to-face interviews with identified women were planned to begin in 2009. However, the fieldwork did not commence until 2010. Because of a high proportion of inconsistency in the address register, only women who could be found in 2010 were approached for interview. Interviews were performed by trained nurses in the participants' homes.

The study was approved by the Ethics Research Board of the National Cancer Institute (n°. 096/06). All respondents provided signed informed consent.

The primary study outcome was the prevalence of no CBE (NoCBE) during the last gynecologic clinical visit, as estimated by the response to the question: "When you last had a Pap smear, were your breasts examined?" The main exposure variable was the reason for the gyneco-logic clinical visit (routine examination or gynecologic complaints). Prenatal tests, cancer screening tests, and family planning visits were all considered routine examinations. The following variables were evaluated: age (18–39 vs ≥40 years), educational level (incomplete high school vs high school or above), and per-person household income (above one minimum wage vs one minimum wage or less).

Reasons for the gynecologic clinical visit were stratified according to the selected variables. The prevalence ratio and absolute differ-ences of NoCBE with regard to reason for the gynecologic clinical visit were calculated according to the strata of selected variables to examine potential interactions.

Prevalence ratios were calculated using a log binomial regression model with a log-link function [5]. Absolute differences between preva-lence rates were calculated through the binomial model using the iden-tity link function. The two models (ratios and absolute differences) were also adjusted for age, educational level, per-person household income, year of the most recent cervical smear, and significant interaction terms ($P < 0.05$). The analysis was performed using Stata version 12.0 (StataCorp, College Station, TX, USA).

3. Results

Among 2306 women who were approached in 2010, 1460 were interviewed (Fig. 1). After exclusion of women who underwent their most recent cervical smear in private centers, in another municipality, or in a state or special-care unit, and exclusion of women for whom data were missing, the final analyses included 982 women (Fig. 1).

Of the 982 women included in the study, 700 (71.3%) visited the healthcare unit to undergo a routine examination. Most women were aged 18–39 years, had not completed high school, and had a per-person household income of one minimum wage or less (Table 1). In unadjusted analyses, age and education were not found to be significantly associated with the reason for the clinical visit (Table 1). However, women whose reason for the visit was a gynecologic complaint were more likely to report a per-person household income of one minimum wage or less ($P = 0.01$) (Table 1).

Overall, 182 (18.5%) women did not have a CBE. The prevalence of NoCBE was higher when the clinical visit resulted from gyneco-logic complaints rather than a routine examination (Table 2). Compared with their counterparts, the proportion of women with NoCBE was higher among younger women and among those who reported a per-person household income of one minimum wage or less (Table 2). Significant interactions in both the additive and multiplicative scales were observed between age and reason for the visit: the prevalence ratio for a visit due to gynecologic com-plaints (vs routine examinations) was 3.2 in those aged 40 years or above, but it was only 1.3 among younger women (P for multi-plicative interaction $= 0.001$) (Table 2). Absolute differences were 6.4% and 18.5% for younger and older women, respectively (P for additive interaction $= 0.04$). Multivariate adjustment for educa-tional level, per-person household income, age, the most recent cervical smear test, and interaction variables did not change these estimates (data not shown).
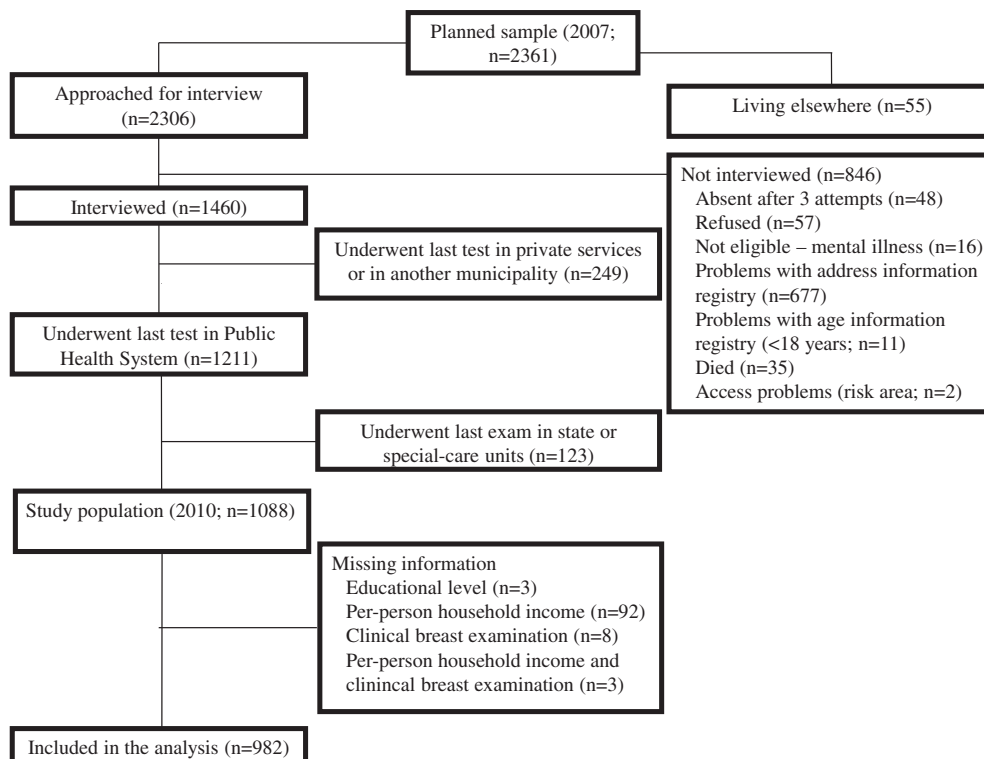

Fig. 1. Study sample distribution in relation to interview status.