Analysis of coverage and of the pap test exams not retired of a Basic Health Unit

ANÁLISE DA COBERTURA E DOS EXAMES COLPOCITOLÓGICOS NÃO RETIRADOS DE UMA UNIDADE BÁSICA DE SAÚDE

ANÁLISIS DE LA COBERTURA Y DE LOS EXÁMENES DE PAPANICOLAOU NO RETIRADOS DE UNA UNIDAD BASICA DE SALUD

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ABSTRACT

To analyze the coverage and the colpocytology exams that were not collected from a Health Center. This is a retrospective documentary study, in which the data were evaluated for coverage of 2007 and all 225 tests that were performed but were not collected by the patients unit until January 2008. Statistical analysis was performed using the frequency of the studied variables. The average monthly number of tests was 102.6 examinations. The coverage of the examination in 2007 was 11.22% among women with 25 to 59 years of age. Of the 938 tests conducted between February and November 2007, 225 (23.98%) women did not receive the result. Most women (67.5%) who performed the examination and had not returned were 30 years old or younger. The women's attitude of not returning to collect their exam results increases the difficulty of follow up, and providing comprehensive and continuity of care, contributing with an intervention in advanced stages of the disease.

KEY WORDS

Women's health.
Uterine cervical neoplasms.
Vaginal smears.

RESUMO

Analisar a cobertura e os exames colpocitológicos não retirados de uma Unidade de Saúde. Pesquisa documental retrospectiva, na qual foram avaliados os dados de cobertura de 2007 e os 225 exames realizados e não retirados da unidade até janeiro de 2008. Para a análise estatística foi aplicado o cálculo da freqüência das variáveis pesquisadas. A média mensal de exames realizados foi de 102,6 exames. A cobertura do exame em 2007 foi de 11,22% entre as mulheres de 25 a 59 anos. Dos 938 exames realizados entre fevereiro e novembro de 2007, 225 (23,98%) mulheres não receberam o resultado. A maioria das mulheres (67,5%), que realizou o exame e não retornou, tinha até 30 anos de idade. O não retorno das mulheres para receber o resultado do exame dificulta o acompanhamento, a integralidade e continuidade da assistência, contribuindo para uma intervenção em fases mais avançadas da doença.

DESCRITORES

Saúde da mulher.
Neoplasias do colo do útero.
Esfregaço vaginal.

RESUMEN

Analizar la cobertura y los resultados de los exámenes colpocitológicos no retirados de una Unidad de Salud. Investigación documental retrospectiva, en la que fueron evaluados los datos de cobertura de 2007 y las 225 pruebas realizadas y no retiradas en la unidad hasta enero de 2008. Para el análisis estadístico se utilizó el cálculo de la frecuencia de las variables estudiadas. El promedio mensual de exámenes efectuados fue 102,6. La cobertura del examen en 2007 fue del 11,22% entre las mujeres de 25 a 59 años. Sobre los 938 análisis realizados entre febrero y noviembre de 2007, 225 (23,98%) mujeres no retiraron el resultado. La mayoría de las mujeres (67,5%) que llevaron a cabo el examen y no retornaron tenían 30 años de edad o menos. El no retorno de la mujer a recibir el resultado del examen dificulta el seguimiento, la integralidad y la continuidad de la atención, lo cual aumenta la posibilidad de una intervención en etapas más avanzadas de la enfermedad.

DESCRIPTORES

Salud de la mujer.
Neoplasias del cuello uterino.
Frotis vaginal.

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Portuguese / English: www.scielo.br/reeusp

Received: 05/29/2008
Approved: 04/01/2009

INTRODUCTION

Differently from other human cancers, uterine cervical neoplasms are avoidable, as their evolution is slow, with a long period between the development of early injuries and the appearance of cancer[1]. Despite showing the highest prevention and cure potential (close to 100%), when diagnosed early, cervical cancer (CC) is the second most frequent cancer type in the female population, responsible for more than 250,000 deaths around the world, 80% of which in developing countries[2].

In Brazil, 18,680 new cases of CC were expected in 2008, with an estimated risk of 19 cases for every 100 thousand women[3]. In the Northeastern states, Ceará ranks fifth in number of estimated cases for 2008, with 17.8 cases/100,000 women. In Fortaleza, the state capital, CC mortality rates in women have shown a gradual rise, as follows: 3.85/100,000 in 1999; 4.13/100,000 in 2000; 4.73/100,000 in 2001; and 5.42/100,000 in 2002. On the other hand, the ratio between cervical-vaginal colpocytology exams in women between 25 and 59 years of age and the female population in this age range has dropped in recent years: 0.19 in 2000, 0.23 in 2001, 0.24 in 2002, 0.20 in 2003 and 0.18 in 2004[4]. In 2008, 770 new CC cases are expected for Ceará state[3].

Secondary CC prevention strategies consist in the early diagnosis of cervical changes before they become invasive, using the following screening techniques: oncotic colpocytology (OC), colposcopy, cervicography and, more recently, tests to detect the DNA of HPV in cytologic smears or histopathological specimens. Among detection methods, OC is considered the most effective and efficient for collective application in CC screening programs. The technique has been widespread for more than 40 years[5].

Approximately 40% of Brazilian women have never been submitted to OC[6], and only 7.7% have access to public CC prevention and control program to undergo this test[7].

Low coverage rates, inadequate collection and colpocytologic report emission and women's low adherence to the test are significant difficulties in CC control. Despite the magnitude of this problem for public health and high potential cure rates of CC, the range of increased prevention and treatment service supply will be limited if these women do not return to receive test results[8].

Some studies[8-9] have already discussed this theme, about women who do not return to pick up the OC result, attempting to discover the reasons that make women not return and their profile. This is a complex situation, as the service invests plenty of money and human resources in each test, but the final impact is impaired. Higher-level and technical professionals are involved, as well as different material expenses for data collection, plate reading and result printing. When the women do not go back to the service to pick up the result, both waste time and resources, as the goal of undergoing the test, i.e. CC prevention, is not reached.

In view of this problem, the objective of this research is to analyze the coverage of CC preventive screening and the reports of Pap smears that were done but not picked up at a Family Health Center (CESAF) in Fortaleza-CE.

METHOD

This retrospective documentary research was carried out at a Family Health Center (CESAF) in the peripheral region of Fortaleza-CE, part of Regional Executive Secretary II. Four Family Health Strategy (FHS) teams have been active at the center since August 2006, covering a population of approximately 30 thousand. About 6,752 of them are women between 25 and 59 years of age.

Colpocytology test coverage data for 2007 were obtained from Regional Executive Secretary II, which calculates coverage rates of this test among women between 25 and 59 years old at each CESAF on a yearly base. Using the unit's registration book, the number of tests performed between February and November 2007 was surveyed for women of all ages. Next, all colpocytology reports were evaluated, related to tests taken in the same period and which the women did not pick up by January 28th 2008.

When the women do not go back to the service to pick up the result, both waste time and resources...

The project was approved by the Institutional Review Board at the *Complexo Hospitalar* of *Universidade Federal do Ceará* under number 235/07.

With regard to the reports, the following variables were analyzed: age, test date, inflammatory process, and microbiology and cell alteration. In this paper, descriptive data are presented, which were duly registered on a precoded standard form for computer processing and then inserted in a database created in Statistical Package for the Social Sciences (SPSS) software version 13.0. Frequency distribution of the collected variables was calculated for analysis.

RESULTS

At the research institution, nurses perform Pap smears every week, on Monday and Tuesday afternoons and Wednesday mornings and afternoons. According to institutional rules, each nurse should perform ten tests per week (or per shift). The women come to the center spontaneously and are attended in order of arrival on the same day, that is, the first ten women who come to the center, independently of the coverage area they live in, have access to

the test. Thus, approximately 160 tests are expected per month.

According to data from the 2007 annual report sent to Regional Executive Secretary II, the Pap smear coverage rate for women between 25 and 59 years was calculated at 11.22% (758). In total, 6,752 women area registered in the unit's area.

Between February and November 2007, 938 CC prevention tests were performed, related to which the women had not picked up 225 (23.98%) reports by January 28. On the average, 102.6 tests were performed per month. As shown in Figure 1, the institution did not perform the expected 160 tests in any of the months, the number of exams is not constant during the study period and the number of test results not received ranged from three (8.82%) in March to 32 (60%) in November.

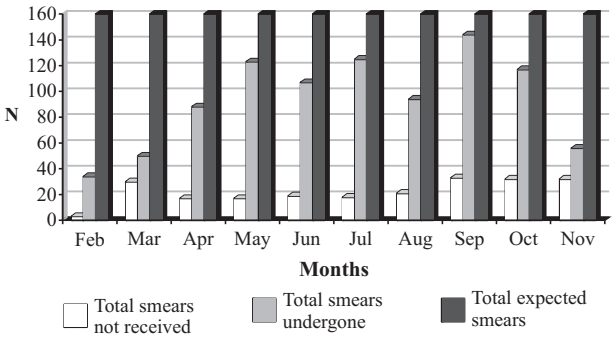

Figure 1 - Distribution of total Pap smears expected, undergone and not received per month - Fortaleza, CE - 2008

The age of women who did not receive the OC result ranged between 11 and 79 years, with 28.76 years as the average age. Women up to 30 years old were the majority (67.5%) of those who underwent the test and did not return to pick up the result.

Cervico-vaginal infections diagnosed in the reports were mainly due to cocci and bacilli (42.6%), followed by gardnerella (25.3%), lactobacilli (17.7%), candida (10.2%) and trichomonas (3.1%). The inflammatory process described in the reports was distributed as follows: absent (6.0%), mild (22.8%), moderate (47.5%), severe (20.4%) and purulent (1.3%) (Figure 2).

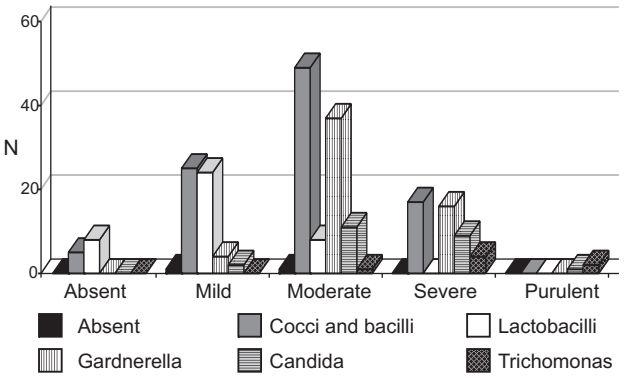

Figure 2 - Distribution of inflammatory process according to microbiological agents diagnosed in reports – Fortaleza, CE – 2008

Only 12 (5.3%) reports indicated the presence of cellular changes, half of which (n=06) was positive for cervical dysplasia I/HPV (CIN I/HPV). Five reports mentioned the presence of atypical squamous cells of undetermined significance (ASCUS) and only one was positive for atypical glandular cells of undetermined significance (AGUS). Nine (75.0%) of the twelve reports with altered results were related to women up to 30 years of age (Table 1). In four of the six reports compatible with CIN I/HPV, *Gardnerella vaginallis* was present.

Table 1 - Distribution of pap smears according to presence and/or absence of cell changes and age range - Fortaleza, CE - 2008

Age range	Cell change								Total	
	ABSENT		ASCUS		AGUS		NICI/HPV			
	N	%	N	%	N	%	N	%	N	%
11 - 30	143	94.0	05	3.3	-	-	04	2.7	152	100.0
31 - 60	63	96.9	-	-	-	-	02	3.1	65	100.0
61 - 80	07	87.5	-	-	01	12.5	-	-	08	100.0
Total	213	94.6	05	2.2	01	0.4	06	2.6	225	100.0

DISCUSSION

The World Health Organization (WHO) sets 80% of the female population as the coverage rate needed to achieve an epidemiological impact on the frequency and distribution of cervical cancer[2]. If the proposed target of 160 tests per month for the service were complied with, 1,920 tests would be performed in a twelve-month period, representing an annual coverage rate of 28.4%, independently of the age range. These data reveal that the target of 160 tests per month proposed for the service is insufficient to reach a coverage rate closer to desired levels. It should be taken into account, however, that the varying total number of tests performed per month, resulting in an average of 106 tests, already demonstrates the professionals' difficulties to reach the target of 160 tests per month.

If the 160 monthly tests established by the institution were performed, in ten months, the period analyzed in this research, 1,600 tests should have been performed, against the 58.62% (938) of this total that were actually performed. This corresponds to little less than half of the test target proposed for this period, which ends up resulting in an annual coverage rate far below desired levels. According to the data obtained at the research institution, the coverage rate of Pap smears in 2007 for women between 25 and 59 years old was 11.17% (758). This coverage rate is very low in comparison with 54.1% of women between 25 and 49 years of age who undergo the test at maximum intervals of one year in São Luís, Maranhão[10].

Possible causes for the occurrence of this fact include women's low demand for this test or institutional factors: limited access to the test (small number of places), lack of material, absenteeism or professionals' vacation.

In a study involving 290 women in Campinas, São Paulo, the most frequently mention reason for not undergoing the OC was the fact that women thought it was not necessary (43.5%), or considered it an *embarrassing test* (28.1%). Not knowing the test was mentioned by 5.7%, and difficulties to schedule the test by 13.7%[11]. At the research institution, the prevention test is performed upon spontaneous demand, without the need for an appointment.

Nurses in CC prevention and control programs need to act in order to contribute to the expected impact on this disease's morbidity and mortality. Hence, these professionals should be alert to: capture women in the risk group and in the age range with the highest CC incidence levels, recommended by the Ministry of Health; correctly perform the collection technique; fill out the data on the test solicitation; maintain, identify and store flasks and plates; supply material and contact the women in case of abnormal results, forwarding them for adequate treatment[12].

The coordination of the women's health program at the CESAF under analysis periodically holds CC prevention campaigns on Saturdays, with a view to increasing test numbers. In 2007, this campaign was held in September, when 71 tests were performed. Hence, September was the month with the highest number of tests performed (Figure 1), but nevertheless below the unit's monthly target of 160 tests.

It should be highlighted that this CESAF's OC test capacity is being underused and, what is more, the women do not receive 25% of these test results. These data contrast with the findings of a study carried out in Pelotas, Rio Grande do Sul, involving 1,404 women, in which 10.3% did not know the result of their last OC yet, independently of the test date. At public health services, this figure reached 8.1%, against 3.2% in health insurance or private services[13]. A home survey was performed in São Paulo City in 2000, showing that 13% did not receive the result of their last test[14].

At the research unit, the women do not have a guaranteed return appointment. Administrative agents provide unaltered test results at the reception of the health unit, while consultations with health professionals depend on whether a place is available. In case of any alteration, however, such as: severe inflammation, trichomoniasis, CIN, ASCUS or AGUS, the woman is informed and the result can only be provided during a consultation. The latter, though, also depends on availability. Hence, the question should be asked: does undergoing the test alone guarantee CC prevention? What are the benefits of increased coverage without continued care at the health unit?

A study at a CESAF in Fortaleza about women's not returning to receive the CC prevention test result identified bottlenecks in the service dynamics that impaired women's access to the return consultation, such as: the number of women undergoing the Pap smear was twice as high as the number of places distributed for return appointments, so that 50% of these women had no guarantee of continued care. Moreover, at the unit, there was no active search for women examined due to results that needed intervention or forwarding more urgently, like in cases of *in situ* carcinoma[8].

This reality makes follow-up and comprehensive and continued care more difficult, contributing to a persistent and severe problem in this area, which is intervention in more advanced stages of the disease.

One of the activities of the CC control program is health education. Hence, no CC control action will advance without the participation of the educative component, aimed at reaching both women and health professionals. All women who turn to health services, for any reason, should receive individual or group educative actions to reflect on the benefits of these activities[6].

It is interesting to highlight that intense inflammatory processes, present in 20.4% of reports in this research, impair the quality of the sample. When present, they should be treated and a new sample should be collected after three months, as the treatment of inflammatory processes decreased the risk of unsatisfactory plates[13-14]. Thus, it can be inferred that these women are not undergoing the test in ideal conditions to detect cellular changes that precede CC, but because they are presenting some complaint that is bothering them.

Vulvovaginitis is one of the most common and bothersome gynecological problems in women's health and represents about 70% of complaints in gynecological consultations[15]. The possibility of orienting these women about possible physical, chemical, hormonal, organic and anatomic factors related to the appearance of vulvovaginites during the return consultation was lost due to their non-return to the health unit[8].

At the research unit, treatment is based on a syndrome approach. Hence, one could consider the hypothesis that these women did not return because they received treatment on the day they underwent the test and, consequently, their symptoms improved.

With regard to the microbiological findings, the reports compatible with *Lactobacilli sp* (17.7%) and *cocci and bacilli* (42.6%) are considered normal findings. These are part of the vaginal flora and do not characterize infections that need treatment[16].

Gardnerella vaginallis, found in 25.3% of the reports, is a type of bacteria that, when found at low concentrations in the vaginal microbiota, does not cause damage. Some factors, however, can unleash the inflammatory process and alter the biological equilibrium due to the predominance of these bacteria. This is usually called bacterial vaginosis (BV)[17].

Changes in the vaginal flora that suggest BV are significantly more frequent among women with abnormal cervical cytology results in comparison with women with normal results. The DNA of HPV is also significantly associated with flora that indicates BV. Hence, it has been suggested that BV could also play an important role in the development of cervical intraepithelial neoplasia (CIN), due to the oncogenic nitrosamines produced by the anaerobic bacteria, and also due to the stimulus to produce cytokines like interleukin 1 beta[18]. This fact was observed in the present study, where *Gardnerella vaginallis* was present in 66.7% of reports containing CIN I/HPV.

Candida sp was found in 10.2% of the reports under analysis. The signs and symptoms of candidiasis will depend on the degree of infection and location of the inflamed tissue. The protozoarian *Trichomonas vaginallis*, then, is a parasite of the human genital apparatus and an etiological agent of trichomoniasis, a sexually transmissible disease (STD) (Passos, 2005). This agent was found in 3.1% of the research reports. The mere identification of *Trichomonas vaginallis* in a routine OC imposes treatment on the woman and her sexual partner, as it is an STD. The following complementary actions are also needed: counseling, offering VDRL tests, anti-HIV, as well as Hepatitis B and C serologies, besides emphasizing treatment adherence, notifying and scheduling return appointments[15]. Vaginal trichomoniasis can alter the OC result. Therefore, in cases when no morphological cell changes are present, treatment is needed and the Pap smear should be repeated after three months to check whether these alterations persist[19].

Considering the harm each of these infections can cause by itself, the non-return of women whose reports are compatible with trichomoniasis, bacterial vaginosis and/or candidiasis impair access to adequate treatment and to information on how to avoid these problems.

Chances of a biopsy compatible with CIN II and CIN III in the cytologic interpretation of low-degree epithelial lesion (CIN I) range from 15 to 30%. It is recommended that the Pap smear be repeated at the health unit in six months, as research has demonstrated a spontaneous regression in most cases of patients with low-degree lesion[16].

Nowadays, results compatible with ASCUS represent the most commonly described atypical cytology results in reports. The recommended conduct in case of this result is similar to that described for CIN I. On the other hand, patients with atypical glandular cells (AGUS) present between 9% and 54% of CIN II and III cases; 0% to 8% of *in situ* adenocarcinoma; and 1% to 9% of invasive adenocarcinoma on the histopathological test. Thus, the recommended conduct is to forward the patient to the medium-complexity referral unit for immediate colposcopy[16].

The fact that 75% of altered reports are for women of up to 30 years old may be related to early sexual relations, young women's promiscuity and even STDs. The early start of sexual relations is associated with an increased risk of cervical cancer: this relation can be explained based on the consideration that the transformation zone of the cervical epithelium proliferates more during puberty and adolescence (vulnerable period). These young women are especially susceptible to alterations that can be induced by sexually transmitted agents, including HPV. During adolescence, there is a greater probability that this viral infection will turn into a chronic process, which would entail greater risk of developing cervical cancer[20].

High oncogenic risk infections by HPV are more frequent in young women, and prevalence levels can reach as high as around 25 to 30% in women under 25 years. In many places, prevalence rates drop abruptly with age[2].

CONCLUSION

This study reveals that annual Pap smear coverage at the health unit under analysis remains below expectations (48.85%) and that the sporadic campaign strategy showed to be ineffective to achieve the monthly test target at the unit.

In total, 938 CC prevention tests were carried out in the study period, for which 225 (23.98%) reports had not been received yet, a rate much higher than in other studies. This high non-return rate is believed to be due to the fact that, at this CESAF, women have no guaranteed return appointment, which can directly influence clients' treatment and follow-up.

Women are negatively affected by this non-return in different ways, including: not having access to information about their health situation; to treatment, forwarding and test repetition if necessary. The return consultation is also an important moment for educative activities about CC prevention, sexually transmitted diseases and condom use, which ends up lost when the women do not return.

In the case of the research institution, some very important problems are perceived which interfere in effective CC combat: small test coverage and the large number of test results the women do not receive. This situation demonstrates the need for service reorganization with a view to facilitating women's access to the test, guaranteeing return consultations to all women, and also providing educative activities about CC and the importance of the

return appointment. Adopting these measures will contribute to increase coverage rates and decrease the rates of women who do not return to pick up the test result.

CC is a public health problem, despite high prevention and cure potentials. This assertion can serve as the base for reflection about investments made to solve this problem which, in most cases, increase the supply of Pap smear, but remain insufficient in terms of: improved care quality through service reorganization and educative practices on CC prevention; and the importance of the return appointment. This reveals a reductionist look on this problem and the distance between this practice and the principles of Health Promotion.

Successful CC screening will depend, above all, on the expanded coverage of the female population with mass Pap smears, as well as the reorganization of clinical-gynecological care for women at health services, health professional training, quality and continuity of disease prevention and control actions and more humanized and equitable interventions.

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