OBJECTIVE: to identify the conduct of health professionals in managing women with atypias in the cervical cytological test who received care in primary healthcare units.

METHODS: documentary and retrospective study carried out with 175 women who had atypias in their cervical cytological tests between 2006 and 2014 in a municipality in the state of São Paulo, Brazil, with descriptive analysis of collected data.

RESULTS: 157 (90%) women went back to the unit to check the test result. Among those with atypias, 103 (86%) were properly managed, but 85 (83%) repeated the test within a period shorter than the advocated one. In the group of women who needed a colposcopy, 30 (79%) were properly managed.

CONCLUSION: the management of women with atypias was adequate, but the low positivity rate, the lack of patient records, and the inadequate time to repeat the cervical cytological test indicated an opportunistic screening program, which may lead to low coverage of the target population, high late detection rate, and overscreening.

DESCRIPTORS: Uterine Cervical Neoplasms; Mass Screening; Primary Health Care; Papanicolaou Test; Women's Health.
MANEJO DE MULHERES COM ATIPIAS NO EXAME CITOPATOLÓGICO DE COLO UTERINO NA ATENÇÃO PRIMÁRIA À SAÚDE

RESUMO
Objetivo: identificar a conduta dos profissionais de saúde no manejo de mulheres com atipias no exame citopatológico, atendidas em Unidades de Atenção Primária à Saúde.
Método: estudo documental, retrospectivo, com 175 mulheres que apresentaram exames citopatológicos com atipias, entre 2006 e 2014, num município do estado de São Paulo, com análise descritiva dos dados.
Resultados: 157 (90%) mulheres retornaram à unidade para verificar o resultado do exame. Entre as com atipias, 103 (86%) receberam manejo adequado, porém 85 (83%) repetiram o exame em tempo menor que o preconizado. Entre as que precisaram de colposcopia, 30 (79%) receberam manejo adequado.
Conclusão: o manejo de mulheres com atipias foi adequado, porém o índice de positividade baixo, escassez de registros em prontuários e temporalidade inadequada para repetição do exame citopatológico demonstram um programa de rastreamento oportunístico, podendo ocasionar baixa cobertura da população alvo, alto índice de detecção tardia, e sobre-rastreamento.

DESCRITORES: Neoplasias do Colo do Útero; Programas de Rastreamento; Atenção Primária à Saúde; Teste de Papanicolau; Saúde da mulher.

MANEJO DE MUJERES CON ATIPIAS EN ESTUDIO CITOPATOLÓGICO DE CUELLO UTERINO EN ATENCIÓN PRIMARIA

RESUMEN:
Objetivo: Determinar la conducta de los profesionales de salud para manejo de mujeres con atipias en examen citopatológico, atendidas en Unidades de Atención Primaria de Salud.
Método: Estudio documental, retrospectivo, con 175 mujeres con estudios citopatológicos mostrando atipias, entre 2006 y 2014, en municipio del estado de Sao Paulo, con análisis descriptivo de datos.
Resultados: 157 (90%) mujeres volvieron a la unidad para verificar el resultado del estudio. Entre las que presentaron atipias, 103 (86%) recibieron manejo adecuado, aunque 85 (83%) repitieron el estudio en tiempo inferior al recomendado. De las que precisanaron colposcopia, 30 (79%) recibieron manejo adecuado.
Conclusión: El manejo de mujeres con atipias resultó adecuado, aunque el bajo índice de positividad, escasez de registros en historias clínicas y temporalidad inadecuada para reiteración del estudio demuestran programación oportuna del seguimiento, determinando potencial baja cobertura de la población objetivo, alto índice de detección tardía y sobrerastreamiento.

DESCRIPTORES: Neoplasias del Cuello Uterino; Tamizaje Masivo; Atención Primaria de Salud; Prueba de Papanicolau; Salud de la Mujer.
INTRODUCTION

In Brazil, controlling cervical cancer (CC) is one of the priorities in the health agenda. Despite governmental initiatives oriented toward its prevention and control, the country has a high incidence and mortality rate associated with this disease, which was responsible for 6,385 deaths in 2017 and occupied the third position in the list of the most common women’s malignant neoplasms(1,2).

The Brazilian National Cancer Institute estimated 16,370 new cases of the disease for each year of the 2018-2019 biennium, and the implementation of effective programs to screen preneoplastic or preinvasive lesions at an early stage has been pointed out as one of the ways to reduce these rates(1,2). The Brazilian Ministry of Health recommends that the cytopathological test be carried out as a primordial strategy to screen CC and its precursor lesions, given that the healing rate of the disease is higher when it is detected at early stages(3-5).

Since the publication of the Brazilian Cervical Cancer Screening Guidelines in 2011, health professionals have standardized the conducts to handle cellular atypias. Additionally, offering the cytopathological test for women from 25 to 64 years old who have begun their sex life has also been standardized, with the recommendation of repeating the test every three years after two consecutive annual tests with normal results(6).

From the moment a cytopathological test shows alterations, that is, indicates cellular atypias, it is necessary to ensure women’s proper management, guaranteeing a coordinated care trajectory, access to health services, and comprehensive care. If this management is inadequate, women are exposed to the risk of obtaining a delayed diagnosis and missing the opportunity to identify the disease at the precursor lesion or early cancer stage(7).

The primary health care (PHC) network is the users’ gateway to the health system, being responsible for CC prevention activities, vaccination against the human papillomavirus (HPV), and early detection of the disease or its precursor lesions. Professionals who work at this care level must know the method, the periodicity, and the target population recommended for the execution of CC screening, as well as how to provide guidance to women, refer them to treatment according to test results, and ensure their follow-up(8,9).

The proposal of the present study was based on information available in the literature, both Brazilian and international, that points to the low level of observance of the CC screening program guidelines advocated by the competent bodies responsible for care to women’s health in some countries, especially the developing ones. These studies have showed that women whose tests show alterations received an inadequate referral conduct and that health services were not coordinated, which results in important flaws in follow-up(5,7,10-12). Additionally, in Brazil, the CC screening coverage rate is far from that advocated by the country’s Ministry of Health, which is from 80% to 85%(4).

The objective of the present study was to identify the conduct of health professionals in managing women with atypias in the cervical cytopathological test who received care in primary healthcare units.

METHOD

A retrospective, descriptive, and documentary study was carried out in nine PHC health units in a municipality located in the interior of the state of São Paulo, Brazil.

Data were collected between May and August 2017 and guided by an instrument containing the following variables: sociodemographic profile (age, level of education, marital status, and skin color) and information related to women’s management in PHC
(health professionals’ conduct in face of results showing atypias, time interval between collection of material that indicated atypias and the follow-up appointment to verify the result, time interval to repeat the test, average time between the referral by the PHC unit and the execution of a colposcopy in a reference service).

A survey was initially carried out by consulting the Cervical Cancer Information System (SISCOLO, as per the acronym in Portuguese) and the Cancer Information System – Preliminary Manual to Support Implementation to identify women who had cytopathological tests showing atypias. It was noted that some of these women had several test results showing cellular atypias. The first cytopathological test showing atypias obtained in the period during which data were collected was chosen to evaluate the professionals’ conduct.

Subsequently, the researchers visited the PHC units to obtain information related to the health professionals’ conduct in medical records. In the studied municipality, the reference center offers support to the cases that need a colposcopy, diagnostic investigation, and treatment. For these women referred for a colposcopy, diagnostic investigation, and treatment, their medical records were checked to gather further information.

The professionals who managed women with atypias in the cytopathological test in the municipality where data were collected were: a gynecologist, a nurse, and a community health worker. The nurse registered the test result in the patient record and carried out an active search with the help of the community health worker. Whenever needed, a colposcopy was requested by the gynecologist.

The researchers identified the existence of results for 25,366 cytopathological tests from January 2006 to December 2014 in the PHC units, among which 24,972 (98.5%) were classified as negative and 394 (1.5%) showed cellular atypias (Figure 1).

![Flowchart showing the study sample makeup.](image-url)
RESULTS

Based on these results, the tests of women whose medical records could not be located and those that did not contain information about alterations in the cytopathological test were excluded. Consequently, 175 women whose cytopathological test showed cellular atypias were included in the present study, as shown in Figure 1.

The Brazilian Nomenclature for Reporting Cervical Cytopathologies was used to categorize the test results showing cellular atypias\(^{(13)}\), and the Brazilian Cervical Cancer Screening Guidelines, which was in force when the material for the test was collected, was consulted to evaluate the health professionals’ conduct in handling the atypias\(^{(14,15)}\).

Data were stored in Excel 2010 spreadsheets, with double typing and validation. Descriptive data analysis included the percentage distribution of the categorical variables and measures of central tendency and dispersion for the continuous variables.

The present study was approved by a Human Research Ethics Committee as per report no. 2,000,927\(^{(16)}\), in compliance with the Brazilian National Health Council Resolution no. 466 of December 12, 2012.

The medical records of 175 women showing atypias as a cytopathological result were analyzed. The average age of the studied women was 43 years (±13.79), with 132 (75.43%) in the age group of the target population, that is, women from 25 to 64 years old, 39 (22.29%) were younger than 25 years, and four (2.28%) older than 64 years. Most of them were white (145 or 82.86%), and for 154 (88%) and 161 (92%) no information about marital status and level of education, respectively, was available in the medical records.

Among the 175 analyzed women, 157 (90%) went back to the health unit to verify the result of the cytopathological test, and the median for the time interval between the collection of material for the test and the result verification was 42 days. Regarding the other women with atypia, 18 (10%) did not have any information in the medical record about a follow-up appointment to check the test result or active search. Women whose management could not be evaluated (18 or 10%) showed the following atypias: atypical squamous cells of undetermined significance (ASC-US) (n=10), low-grade squamous intraepithelial lesions (LSIL) (n=6), and high-grade squamous intraepithelial lesions (HSIL) (n=2). Therefore, assessing the conduct of health professionals’ who worked in PHC was possible for 157 (90%) women with atypias.

It was noted that 119 (76%) out of 157 cytopathological tests that showed cellular atypias referred to two types of this problem: ASC-US and LSIL (Table 1).

<table>
<thead>
<tr>
<th>Cellular atypias</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC-US</td>
<td>57</td>
<td>38.28</td>
</tr>
<tr>
<td>ASC-H</td>
<td>4</td>
<td>2.29</td>
</tr>
<tr>
<td>AGC-US</td>
<td>2</td>
<td>2.29</td>
</tr>
<tr>
<td>AGC-H</td>
<td>3</td>
<td>1.71</td>
</tr>
<tr>
<td>AOI-II</td>
<td>1</td>
<td>0.57</td>
</tr>
<tr>
<td>LSIL</td>
<td>62</td>
<td>38.86</td>
</tr>
</tbody>
</table>

Table 1 – Results of cytopathological tests showing cellular atypias (n=157) in women who received care in a municipality in the interior of the state of São Paulo, Brazil. Batatais, SP, Brazil, 2017 (continues)
<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSIL</td>
<td>17</td>
<td>10.86</td>
</tr>
<tr>
<td>HSIL microinvasion</td>
<td>4</td>
<td>2.29</td>
</tr>
<tr>
<td>Carcinoma</td>
<td>5</td>
<td>3.28</td>
</tr>
<tr>
<td>AIS</td>
<td>2</td>
<td>2.29</td>
</tr>
<tr>
<td>Total</td>
<td>157</td>
<td>100</td>
</tr>
</tbody>
</table>

Caption: atypical squamous cells of undetermined significance (ASC), possibly nonneoplastic (ASC-US) or not excluding high-grade intraepithelial lesion (ASC-H); atypical glandular cells of undetermined significance (AGC), possibly nonneoplastic (AGC-US) or not excluding high-grade intraepithelial lesion (AGC-H); atypical cells of indefinite origin not excluding high-grade intraepithelial lesion (AIO-H); low-grade squamous intraepithelial lesion (LSIL); high-grade squamous intraepithelial lesion (HSIL); HSIL not excluding microinvasion (microinvasion HSIL); adenocarcinoma in situ (AIS)14.

For the 119 women whose test indicated ASC-US (n=57) or LSIL (n=62) who had their follow-up in the health service, it was found that 86% had a proper management, in which the recommended procedure is repeating the test(17,18). Among those to whom repeating the cytopathological test was indicated, 83% attended the service for the procedure to be carried out. In the group of women whose test showed LSIL as a result and who repeated the test, 79% had their material collected for cytology in less than six months, that is, a period shorter than that recommended by the CC screening guidelines(14,15). For the 57 women who obtained ASC-US as a result, 65% repeated the test and 57% had their material collected within a period shorter than that recommended.

For the 38 women whose tests indicated ASC-H, AGC-US, AGC-H, AIO-H, HSIL, AIS, microinvasion HSIL, and carcinoma who had their follow-up in the examined health services, it was found that 79% experienced a proper management according to the Brazilian guidelines advocating that professionals request a colposcopy(13,14) (Figure 2) and 83% had their test performed. The median of the time between the request date and the colposcopy execution was 40 days.
For the 38 women referred to the reference center for a colposcopy, follow-up, and/or treatment, it was found that the period between referral by the PHC unit and the first appointment in the center had a median of 21 days.

At the end of the data collection period, among the 38 women referred to the reference center, 50% were receiving regular gynecological follow-up in a PHC unit; 20% attended a PHC unit, but were not receiving regular gynecological follow-up; 15% did not attend the PHC unit; one did not have the information about her last visit to the PHC unit located, and five died. According to the International Classification of Diseases\(^ {16} \), the causes of these deaths were: malignant neoplasm of uterus (1), invasive lesion of female genital organs (1), malignant neoplasm of intestinal tract, part unspecified (1), other partial intestinal obstruction (1), and ill-defined and unknown cause of mortality (1).
DISCUSSION

The monitoring of the percentage of altered tests is called positivity index, and the Brazilian Ministry of Health recommends that it be from 3% to 10%. This value expresses the percentage of tests showing alterations in the results in comparison with the total number of tests carried out in the same place and period. It also assesses the screening process sensitivity to detect lesions in the population\(^\text{\textsuperscript{18}}\).

The positivity index calculated in the present study was low (394 or 1.5%), indicating that suspicious alterations may have not been identified by the laboratory and resulted in false-negative tests. Regarding the percentage of alterations, studies performed in other Brazilian municipalities showed indexes ranging from 1.02%\(^\text{\textsuperscript{17}}\) in the South region to 7.37% in the Central West region of the country\(^\text{\textsuperscript{5}}\). It is pertinent to emphasize the importance of correctly collecting the material for the cytopathological test, following all the recommended steps: checking whether the woman carried out the preparation as proposed, identifying the slide, double collecting material, preparing the smear, fixing the material, and properly storing it. Therefore, the quality of the test is directly related to the success of the CC screening program\(^\text{\textsuperscript{19}}\).

The lack of information registered in medical records impaired data collection, making it impossible to outline a sociodemographic profile of the women, especially concerning their marital status and level of education. These pieces of information are important. The latter is a risk factor for developing CC, that is, the lower the level of education, the higher the chances of the disease to occur\(^\text{\textsuperscript{20}}\). Nonconformity in the records, whether because of absent or incomplete information, hinders effectiveness in communication between professionals and the continuity of care actions\(^\text{\textsuperscript{21}}\).

Regarding race/skin color, white skin was prevalent. This was expected, because the last census in the municipality indicated that the number of white women between 25 and 64 years old was 11,508, and the number of nonwhite women in the same period and age group was 3,733\(^\text{\textsuperscript{22}}\).

Regarding the target population, most women analyzed in the present study were in the age group to which screening is advocated. The cytopathological test in women between 35 and 64 years old is more effective in detecting progressive lesions than in women around 20 years old\(^\text{\textsuperscript{23}}\). Additionally, screening in women younger than 25 years does not impact the reduction in CC incidence and mortality rates. A study carried out in England showed that screening CC in women younger than 25 years does not help decrease the CC rate significantly, because this type of cancer rarely occurs in the 20 to 24 years age group\(^\text{\textsuperscript{24}}\), and the high percentage of intraepithelial lesions recedes spontaneously before women turn 25 years old\(^\text{\textsuperscript{25}}\).

For women whose test showed alterations, for whom the program recommends being referred to a colposcopy, the collected data indicated that the median of the period between the colposcopy request date and the execution of the procedure was 40 days. The Brazilian Cervical Cancer Screening Guidelines\(^\text{\textsuperscript{14,15}}\) do not mention the adequate time to carry out colposcopy and, consequently, the European Guidelines for Quality Assurance in Cervical Cancer Screening\(^\text{\textsuperscript{23}}\) were used to assess the time suitability to perform colposcopy in the present study: for high-grade lesions, the period must not be longer than four weeks. Therefore, the time women had to wait to have their colposcopy carried out was close to the recommended. A study performed in Rio de Janeiro, state of Rio de Janeiro, Brazil, with 1,227 patients evaluated the time women whose cytopathological test showed alterations had to wait to have their first colposcopy. It was found that 71.69% of these women had access to the procedure within 30 or 60 days from the date of referral in the origin health unit\(^\text{\textsuperscript{26}}\).

The period between collection of material for the cytopathological test and the return of the patient to the service for the professional to inform the result was 42
days approximately, which can be considered an adequate time interval, given that the recommended period is ten days for the slide to be sent to the laboratory and up to 30 days for it to issue the result(4).

Although 86% of the women with ASC-US and LSIL received proper management, with the test being repeated, the time to carry out the test repetition was inadequate for 36% of them because the procedure was executed less than six months before the due date, regardless of the patient age. Cytopathological tests should not be repeated in a period shorter than the advocated one because the cervical epithelium needs some time to regenerate(22) and 55% and 67% of the infections caused by carcinogenic HPV types recede spontaneously within six and 12 months, respectively(27).

Regarding the immediate conduct of the professionals who worked in PHC when they were presented to the results of ASC-H, AGC-US, AGC-H, AIO-H, HSIL, and HSIL not excluding microinvasion, 79% of the women received proper management, that is, the professionals requested a colposcopy for them(11,15). A different result was obtained in a study carried out in the municipality of Goiânia, state of Goiás, Brazil, from 2006 to 2008, which found that 61.22% of the women whose cytological test showed alterations had their follow-up ignored and that possibly they were not submitted to the conducts advocated by the Brazilian Health Ministry for CC screening(5).

The median of the period between the referral date and the first appointment at the reference center was 21 days, an adequate time interval considering that women have the right to initiate the treatment up to 60 days after the cancer diagnosis(28).

Regarding the women who lost their follow-up in different steps, a reduced number of active search was observed, which may influence the screening program efficacy negatively. Active search must be carried out to ensure early diagnosis and CC prognosis improvement, as well as to cause a positive impact on the morbimortality rate associated with this type of cancer.

At the end of the present study, data confirmed that five women died and only one had CC registered as the cause of death. For the other four, the causes suggested a correlation between death and CC.

Some characteristics such as low positivity index, high adherence of the studied women, inadequate test repetition time, and lack of registers about active search indicated that the evaluated screening program is still opportunistic. This type of screening consists of collecting material for cytological tests as an initiative of women themselves or in any opportunity, for instance a clinical appointment for other purposes(23). This action sometimes disagrees with the established screening guidelines and may lead to low coverage of the target population, a high late detection rate, and overscreening of certain groups.

The limitations of the present study were the lack of information about tests carried out in supplementary or private care and of results to cytological tests previous to those showing alterations, as well as the consequences of the failures in referral conducts. It was noteworthy that the low quality of the information obtained from secondary sources, mainly patient records, impaired data gathering.

CONCLUSION

The conduct of health professionals in managing women who received care in PHC units whose cytological tests showed atypias was considered appropriate for most of the evaluated cases, as well as the time spent in the different steps: the period between collecting material for the cytological test and informing the patient about the result, and the period between referral and the first appointment at the reference center.
However, some characteristics, including low positivity index, lack of information in medical records, and inadequate time interval to repeat the cytopathological test, suggested that the screening program remains opportunistic. The results pointed out some aspects of the management of these women that can be improved, aiming mostly to reduce access iniquities and increase the early CC diagnosis rate, consequently favoring the clinical prognosis of these patients.

The present field study showed difficulties experienced by agents with different responsibilities in the implementation and management spheres. The results can contribute to the decision making of health unit coordinators and professionals working in these facilities, with the objective of increasing early CC diagnosis rates and favor a good clinical prognosis of the women who receive care in these services.

REFERENCES


Management of women with atypias in the cervical cytopathological test in primary health care


24. Castanon A, Leung VMW, Landy R, Lim AWW, Sasieni P. Characteristics and screening history of
women diagnosed with cervical cancer aged 20–29 years. Br J Cancer [Internet]. 2013 [access 19 set 2017]; 109(1). Available at: https://doi.org/10.1038/bjc.2013.322.


Received: 14/05/2019
Finalized: 18/03/2020

Corresponding author:
Marislei Sanches Panobianco
Universidade de São Paulo
Av. Bandeirantes, 3900 - 14040-902 - Ribeirão Preto, SP, Brasil
E-mail: marislei@eerp.usp.br

Role of Authors:
Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work - TSVP, APARM, TOG, MSP
Drafting the work or revising it critically for important intellectual content - PAT, PAPM, SMQ
Final approval of the version to be published - APARM, TOG, MSP