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HEALTH SURVEILLANCE AND PAP TEST COVERAGE: INTEGRATIVE REVIEW

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ABSTRACT: This integrative review aimed to evidence in the literature health surveillance activities that contribute to the increased coverage of the cervical Pap smear. The search was undertaken between April and May 2014 in the databases LILACS, CINAHL, MEDLINE and Scopus, using the keywords health surveillance, cervix neoplasm prevention, and Papanicolaou test, in Portuguese, English and Spanish. We selected 341 articles, of which 33 met the inclusion criteria. In studies, the actions have been identified and grouped according to two main control practices of cervical cancer adopted in Brazil: primary prevention and secondary prevention, with emphasis on health promotion and prevention actions that contributed to the increased coverage of the cervical Pap smear.

DESCRIPTORS: Public health surveillance. Uterine cervical neoplasms. Papanicolaou test. Health services coverage. Nursing.

VIGILÂNCIA EM SAÚDE E A COBERTURA DE EXAME CITOPATOLÓGICO DO COLO DO ÚTERO: REVISÃO INTEGRATIVA

RESUMO: Revisão integrativa com o objetivo de evidenciar na literatura as ações de vigilância em saúde que contribuem para o aumento da cobertura do exame citopatológico do colo do útero. Foi realizada a busca entre abril e maio de 2014, nas bases de dados LILACS, CINAHL, MEDLINE e Scopus utilizando os descritores vigilância em saúde, câncer do colo do útero, exame de Papanicolaou, em português, inglês e espanhol. Foram selecionados 341 artigos, dos quais 33 atenderam aos critérios de inclusão. Nos estudos, as ações foram identificadas e agrupadas conforme duas principais práticas de controle do câncer do colo do útero adotadas no Brasil: prevenção primária e prevenção secundária, destacando-se ações de promoção e prevenção à saúde que contribuem para o aumento da cobertura do exame citopatológico do colo do útero.

DESCRIPTORIOS: Vigilância em saúde pública. Neoplasias do colo do útero. Teste de Papanicolaou. Cobertura de serviços de saúde. Enfermagem.

VIGILANCIA DE SALUD Y COBERTURA DE PRUEBA DE PAPANICOLAOU: REVISIÓN INTEGRATIVA

RESUMEN: Revisión integrativa dirigida a la evidencia en la literatura en las actividades de vigilancia de salud que contribuyen al aumento de la cobertura de la citología del cuello uterino. Se llevó a cabo la búsqueda entre abril y mayo de 2014 en las bases de datos LILACS, CINAHL, MEDLINE y Scopus utilizando los descriptores: vigilancia de salud, cáncer cervical, prueba de Papanicolaou, en Portugués, Inglés y Español. Se seleccionaron 341 artículos, de los cuales 33 cumplieron los criterios de inclusión. En los estudios, las acciones han sido identificadas y agrupadas de acuerdo con dos prácticas principales de control de cáncer cervical adoptados en Brasil: la prevención primaria y prevención secundaria, con énfasis en la promoción y prevención de los factores de salud que contribuyen al aumento de la cobertura de la prueba de citopatológico del cuello uterino.

DESCRIPTORIOS: Vigilancia en salud pública. Neoplasias del cuello uterino. Prueba de Papanicolaou. Cobertura de los servicios de salud. Enfermería.

INTRODUCTION

Uterine cervical cancer (CC) has figured as a public health problem around the world, with higher morbidity and mortality rates in developing countries. In Brazil, this is the fourth type of cancer that most affects women, with an estimated number of 16,340 new cases in 2016, although the disease is curable and the health system offers prevention and early detection actions.¹

Both clinical and socioeconomic factors influence the incidence of and mortality due to cancer, related to the women's way and conditions of life, as well as to the availability and quality of care delivery at the health services.²

In the narrow sense, health surveillance actions comprise a set of actions focused on the knowledge, prediction, prevention and continuing coping with health problems.³ For the sake of CC control, primary prevention actions are aimed at providing for healthy behaviors and lifestyles, especially to avoid contamination by the Human Papillomavirus (HPV), the main agent causing the disease; secondary prevention actions are aimed at periodical screening for and early detection of precursor cancer lesions.

In Brazil, the cytopathological test (CPT) known as Pap smear is used for screening, a simple and low-cost method that represents the best way to screen for CC.⁴ This quality is due to its high specificity to detect cervical problems in healthy women⁵ and to its impact of about 80% in the reduction of the mortality rate due to CC.⁴ The CPT permits the identification of alterations in the cervical epithelium that indicate the presence of precursor lesions of CC or the disease itself. Screening in this manner targets women between 25 and 64 years of age, the population with the highest incidence rate of the disease, who should collect the test every three years after two negative (normal) annual tests.¹ The strategy the Ministry of Health created to control and reduce the mortality by CC is intended to guarantee the CPT coverage to at least 30% of the target population in one year.⁶

The CPT coverage is a management indicator used to analyze the access to the primary health

care services. This indicator is defined by the index between the tests performed in the target population in a certain place and period and one third of the target population in the same place and period. The indicator is assessed each year. The parameter adopted for this assessment is an index of 0.30, corresponding to 30% of the women with CPT in one year. Thus, in the recommended screening period (three years), at least 90% of the women between 25 and 64 years of age will have taken the CPT.⁶⁻⁷

The recommendations for the test collection, periodicity, target population and target for the CPT coverage indicator are based on studies that evidence the efficacy of the screening strategy to reduce the morbidity and mortality by CC.^{1,8-9} To maintain the morbidity and mortality rates as low as possible, however, health professionals, especially primary health care nurses who work directly in the operation of this strategy, follow the recommendations in all phases involving CC prevention, early detection and treatment. Thus, the health surveillance actions the professionals perform need to be monitored and assessed permanently, as they directly impact the quality of the prevention and control strategies for this disease.⁴

In that sense, and considering that the professional actions will affect the success of the CC prevention and control, the aim was to evidence, in the scientific publications in the area, the health surveillance actions that contribute to increase the CPT coverage.

METHOD

This integrative literature review joins and systemizes research results on surveillance actions developed as a strategy to prevent and control CC and increase the CPT coverage. Its development was based on a previously elaborated and validated protocol that contained the following steps:¹⁰ 1) definition of research questions; 2) literature search and sampling according to inclusion criteria and research objectives; 3) categorization of studies; 4) assessment of selected studies; 5) interpretation of results; and 6) synthesis and description of results obtained as presented in figure 1.

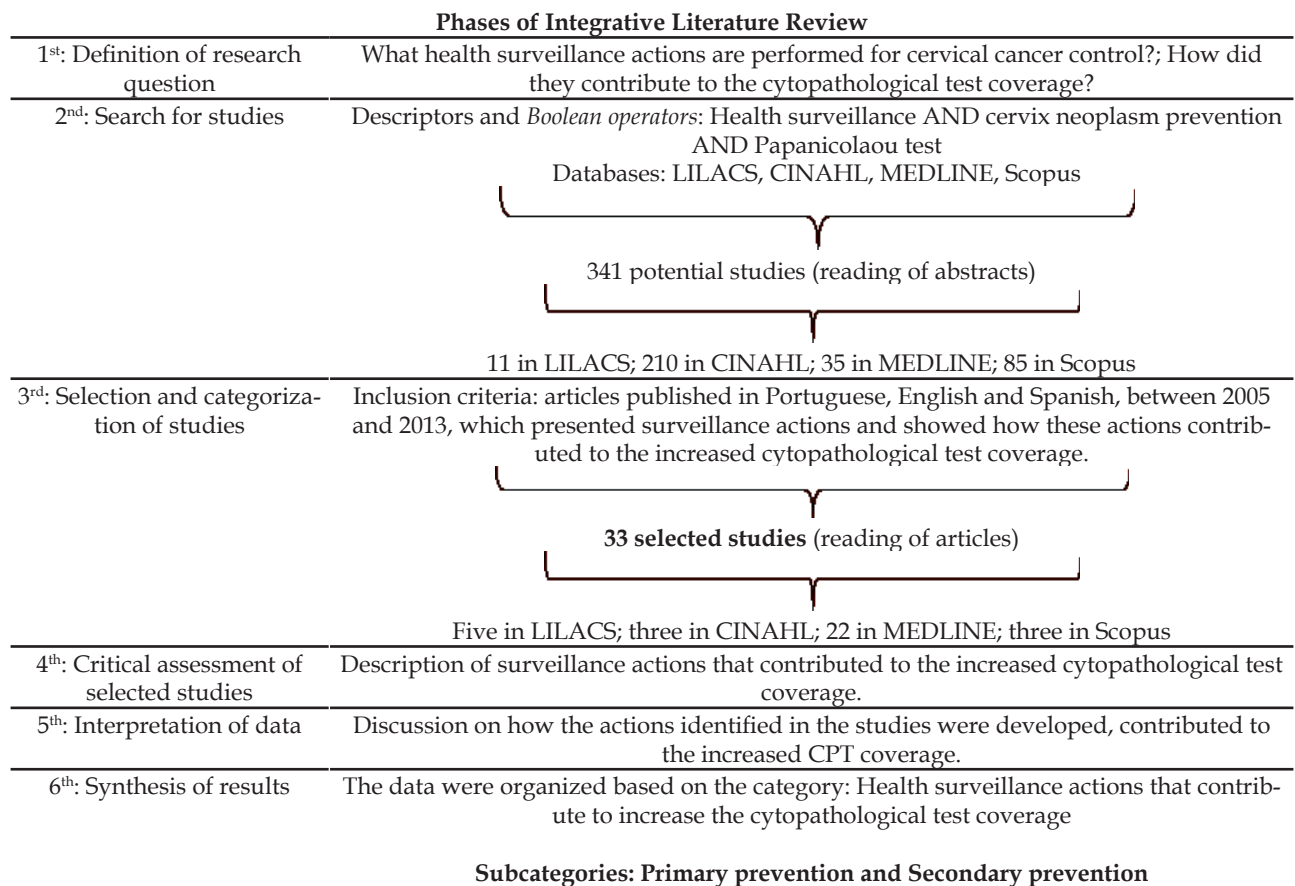


Figure 1 – Review flow chart used in this study

The study was guided by the following questions: which health surveillance actions were performed in the control and prevention of cervical cancer? How can these actions contribute to increase the CPT coverage?

The search was undertaken between April and May 2014 in the databases: *Literatura Latino Americana e do Caribe em Ciências da Saúde* (LILACS), Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medical Literature Analysis and Retrieval System Online (MEDLINE) and Scopus, using the terminology of the Health Sciences Descriptors (DeCS Bireme): health surveillance; cervix neoplasm prevention; and Papanicolaou test and the boolean operators AND and OR to delimit the search. Eleven publications were found in LILACS; 210 in CINAHL; 35 in MEDLINE and 85 in Scopus. The publications found in the database LILACS were repeated in CINAHL and were therefore considered only once. Thus, the descriptors used in the search for studied led to 341 documents.

To be included in this review, the studies should present original research results, with abstracts available online, published between 2005 and

2013, in English, Spanish and/or Portuguese, which explained the actions developed and how they contributed to the increased CPT coverage. Editorials and comments; letters and experience reports; opinions, reviews, reflections and theoretical articles; abstracts presented at congresses and published in proceedings; monographs; dissertations and theses; epidemiological bulletins; books and official documents of Brazilian and international programs and repeated studies were excluded.

The first search resulted in 341 articles. After reading the abstracts, only those studies were selected that complied with the inclusion criteria and evidenced at least one health surveillance action in CC control. Next, the articles were selected that presented the description of actions performed for the prevention and control of CC and explained how these actions contribute to the increased CPT coverage, totaling 33 studies. Data like journal, author and year of publication, objective and research method, main results, conclusions and surveillance actions developed/analyzed that contributed to the increased coverage of CPT were extracted and systemized in tables in *Microsoft Excel 2013*[®].

After the critical analysis of the studies, the results were organized according to the review objective, in the category: Health surveillance actions that contribute to the increased CPT coverage. These actions, evidenced in the studies, were grouped in two subcategories: Promotion and primary prevention of cervical cancer and Secondary prevention of cervical cancer.

RESULTS

The results consist of the study characteristics, followed by the descriptive analysis of the subcategories obtained by summarizing the knowledge produced and published between 2005 and 2013. Table 1 presents the studies analyzed in this review.

Table 1 - Studies that evidence the increased cytopathological test coverage through cervical cancer prevention actions, published between 2005 and 2013

Authors	Title	Actions
Menon, Szalacha, Prabhugate, 2012 ¹¹	Breast and cervical cancer screening among South Asian immigrants in the United States	Health education; Investigation of women's health situation and factors interfering in compliance with cytopathological test.
Ackerson, 2010 ¹²	Personal influences that affect motivation in pap smear testing among African American women.	Health education; Investigation of women's health situation and factors interfering in compliance with cytopathological test..
Tung, 2010 ¹³	Benefits and barriers of pap smear screening: differences in perceptions of Vietnamese American women by stage.	Health education; Investigation of women's health situation and factors interfering in compliance with cytopathological test..
Dunn, Tan, 2010 ¹⁴	Cervical cancer screening in Malaysia: are targeted interventions necessary?	Health education; Dissemination of cervical cancer screening strategy; Search for women.
Fernández et al. 2009 ¹⁵	Effectiveness of cultivando la salud: a breast and cervical cancer screening promotion program for low-income Hispanic women.	Health education; Search for women; Home visit by Community Health Agent.
Ackerson, Pohl, Low, 2008 ¹⁶	Personal influencing factors associated with pap smear testing and cervical cancer.	Health education; Investigation of women's health situation and factors interfering in compliance with cytopathological test..
Mock et al., 2007 ¹⁷	Effective lay health worker outreach and media-based education for promoting cervical cancer screening among Vietnamese American women.	Health education; Dissemination of cervical cancer screening strategy.
Rogers, Cantu, 2009 ¹⁸	The nurse's role in the prevention of cervical cancer among underserved and minority populations.	Health education.
Martin, 2008 ¹⁹	Do women comply with recommendations for papanicolaou smears following colposcopy? A retrospective study.	Health education; Search for women; Registering of data relevant to screening strategy.

Authors	Title	Actions
Tung, Lu, Cook, 2010 ²⁰	Papanicolaou screening in Taiwan: perceived barriers and self-efficacy.	Health education; Dissemination of cervical cancer screening strategy; Investigation of women's health situation and factors interfering in compliance with cytopathological test..
Gamarra, Paz, Griep, 2009 ²¹	Social support and cervical and breast cancer screening in Argentinean women from a rural population.	Health education;
Liao et al., 2006 ²²	Addressing Taiwan's high incidence of cervical cancer: factors associated with the Nation's low compliance with Papanicolaou screening in Taiwan.	Health education; Investigation of women's health situation and factors interfering in compliance with cytopathological test..
Feliciano; Christen; Velho, 2010 ²³	<i>Câncer de colo uterino: realização do exame colposcópico e mecanismos que ampliam sua adesão.</i>	Health education; Investigation of women's health situation and factors interfering in compliance with cytopathological test..
Park, Chang, Chung, 2005 ²⁴	Effects of a cognition-emotion focused program to increase public participation in papanicolaou smear screening.	Health education; Investigation of women's health situation and factors interfering in compliance with cytopathological test..
Marshall et al., 2010 ²⁵	Regional variations in cancer screening rates found in women with diabetes.	Health education; Search for women; Opportunistic screening.
Kessler, 2012 ²⁶	Increasing mammography and cervical cancer knowledge and screening behaviors with an educational program.	Health education; Search for women; Opportunistic screening.
Chen et al., 2013 ²⁷	Low Papanicolaou smear screening rate of women with HIV infection: a nationwide population-based study in Taiwan, 2000-2010.	Investigation of women's health situation and factors interfering in compliance with cytopathological test.; Registering of data relevant to the screening strategy.
Khadilkar, Chen, 2013 ²⁸	Rate of cervical cancer screening associated with immigration status and number of years since immigration in Ontario, Canada.	Investigation of women's health situation and factors interfering in compliance with cytopathological test.
Mauad, et al., 2009 ²⁹	Adherence to cervical and breast cancer programs is crucial to improving screening performance.	Test collection at mobile service; Dissemination of cervical cancer screening strategy.
Taylor et al., 2010 ³⁰	Evaluation of a cervical cancer control intervention using lay health workers for Vietnamese American women.	Search for women; Home visit by Community Health Agent.
Morrell, et al., 2009 ³¹	Outcomes from a mass media campaign to promote cervical screening in NSW, Australia	Dissemination of cervical cancer screening strategy.
Watts, et al., 2009 ³²	Understanding barriers to cervical cancer screening among Hispanic women.	Dissemination of cervical cancer screening strategy; Investigation of women's health situation and factors interfering in compliance with cytopathological test..

Authors	Title	Actions
Studts, et al., 2012 ³³	A community-based randomized trial of a faith-placed intervention to reduce cervical cancer burden in Appalachia.	Dissemination of cervical cancer screening strategy; Search for women; Home visit by Community Health Agent.
Peterson, et al., 2012 ³⁴	Improving cancer screening among women with mobility impairments: randomized controlled trial of a participatory workshop intervention.	Search for women; Opportunistic screening.
Lechuga, Martínez, 2008 ³⁵	<i>Uso de la citología vaginal en mujeres afiliadas al régimen subsidiado atendidas en la Unidad Hospitalaria La Manga de Barranquilla (Colombia), 2006.</i>	Health education.
Salas, Guzman, Cazor, 2005 ³⁶	<i>Estrategias efectivas para aumentar la Cobertura del Papanicolaou en el programa de detección del cáncer cervicouterino.</i>	Health education; Search for women; Investigation of women's health situation and factors interfering in compliance with cytopathological test; Registering of data relevant to the screening strategy; Test collection at home.
Dietrich, et al., 2006 ³⁷	Telephone care management to improve cancer screening among low-income women.	Search for women; Registering of data relevant to the screening strategy.
Chang, et al., 2007 ³⁸	Comparison of a community outreach service with opportunity screening for cervical cancer using Pap smears.	Search for women; Opportunistic screening; Test collection at mobile service.
Lindel, et al., 2012 ³⁹	Self-sampling of vaginal fluid and high-risk human papillomavirus testing in women aged 50 years or older not attending Papanicolaou smear screening.	Test collection at home.
Katz, et al., 2007 ⁴⁰	Do cervical cancer screening rates increase in association with an intervention designed to increase mammography usage?	Opportunistic screening.
Matthews, et al., 2006 ⁴¹	A qualitative evaluation of a faith-based breast and cervical cancer screening intervention for African American women.	Search for women; Opportunistic screening.
Fehringer, et al., 2005 ⁴²	Comparison of Papanicolaou (Pap) Test Rates Across Ontario and Factors Associated with Cervical Screening.	Search for women; Registering of data relevant for the screening strategy.
Obeidat, Amarin, Alzachal, 2012 ⁴³	Awareness, practice and attitude to cervical Papanicolaou smear among female health care workers in Jordan.	Health education.

Study characteristics

Among the 33 articles analyzed, 25 (75%) were indexed in CINAHL, five (15%) in MEDLINE and three (10%) in Scopus. The publications were disseminated in 29 articles, among which the American Journal of Public Health presented three (9%) studies and the Journal of Women's Health and Public Health Nursing two (6%) each. Other journals

presented only one (3%) article. The largest number of publications was found in 2010 with eight (25%) studies, followed by 2012 with six (18%) and 2009 with five (15%) studies. The years 2008, 2007, 2006 and 2005 presented three (9%) studies each, and 2013 presented two (6%) studies. No publications were found in 2011.

As regards the country in which the studies were developed, the United States of America (USA)

presented 17 (52%) studies, followed with lesser proportions by China with four (12%) studies; Brazil and Canada with two (6%) each. Colombia, Chile, Korea, Malaysia, Jordan, Sweden, Australia and Argentina each presented one (3%) Study. Twenty-six (79%) of the studies were quantitative and seven (21%) qualitative.

Health surveillance actions that contribute to the increased coverage of the cytopathological test

Eight surveillance actions were identified that contribute to the increased CPT coverage, four of which were related to primary prevention: Health education, discussed in 19 (28%) studies; Search for women to take the test, 13 (19%) studies; Investigation of factors that interfere in the women's compliance with the test, 12 (17%) articles; and Disclosure of the screening strategy, seven (10%) studies; and four to secondary prevention: Registering of data relevant for the screening in six (9%) studies; Opportunistic screening, five (7%) studies; Test collection, four (6%) studies; and Home visit by health agent, three (4%) studies.

The actions evidenced were organized based on the CC³ control practices in: 1) Primary prevention, including promotion and protection; and 2) Secondary prevention, with specific CC screening actions.

Primary cervical cancer prevention

Among the primary prevention actions, *health education* was the action the studies in this review discussed most in general. It was developed in the form of educational programs for the immigrant population in the USA, and for women with low socioeconomic conditions.¹¹⁻¹⁷

The health education strategies evidenced in the studies included educational material, direct orientation during individual appointments and home visits. Both the material and orientations paid attention to the adaptation of the language, in order to effectively reach the target public.¹⁸⁻²² The main themes these strategies addressed were aimed at orientation about the test procedure, with a view to demystifying beliefs that negatively affect the compliance, discussing aspects of the disease and factors that increase the risk for its development: the recommendations regarding annual and/or three-annual periodicity; the target population of the screening; case monitoring based on the test re-

sults; and other cancer prevention methods related to health promotion.²⁰⁻²⁴

The studies discussed health education by all professionals, emphasizing health agents' participation and attributing a fundamental role to the nurse in the development of this strategy.^{11-12,18,20,23,25} They also appointed the importance of developing intersectoral strategies to better accomplish the community education activities. The partnership with churches and other community institutions contributed to re-elaborate the women's beliefs and taboos regarding the CPT collection, and also to strengthen the social support network.²⁵⁻²⁶

Other studies focused on the investigation of factors that interfere in the women's compliance with the test as a strategy that expands the CPT coverage. This approach allows the professionals to get to know aspects that act as barriers for taking the test. The factors include sociodemographic and economic; cognitive; cultural; process characteristics, involving past test collection experiences, emotional aspects like anxiety, concern and fear of the test; or constraint to collect the test, mainly when involving male professionals; and the women's health situation, paying attention to the existence of any condition that implies distinguished care for the screening.²⁷⁻²⁸

Another action highlighted in the studies was the home visit by a Health Agent as a way to inform, educate and search for women to take the CPT. A study developed in Brazil identified that the home visit by a community health agent was responsible for finding 45.6% of the women selected for an opportunistic CC screening program.²⁹ A study developed at the border between the USA and Mexico assessed the efficacy of a strategy to capture Hispanic women for the screening, identifying among the women who attended the test collection that the majority visited the service after a visit from a health agent.¹⁵ Interventions based on visits by a health agent take place to capture women who have taken the test at some moment in their life, but not women who have never been screened. In this case, to increase the test coverage, strategies need to be combined with the home visit, such as the disclosure of actions for example.³⁰

The disclosure of the CC screening strategy appeared in seven studies, being proposed by the electronic (television and radio)^{14,17,29,31-32} and printed media (information bulleting, newspaper, posters, folder and stickers).^{14,20,33} The sensitization by television and radio contributes to reach female low-income populations, promoting positive health

behaviors, especially when developed by celebrities or spokespersons of an ethnic group.^{29,31,33}

Mass media campaigns can contribute to changes in health behaviors in the screening for cervical cancer, especially when the motivational commercials are personally relevant to the women and are not solely aimed at reaching audience.³¹ The dissemination through printed media, on the other hand, expands the information of different groups of women as the material circulates in different places. A study developed in Taiwan was disseminated through newspapers, posters or stickers in public places, such as restaurants, supermarkets, shopping malls, and contributed to the dissemination of cervical cancer screening, increasing the participation of Taiwanese women in organized screening.²⁰

The combined disclosure (collection form and places) was also proposed as a strategy to expand the compliance with the test, aiming for cervical screening promotion as well as health education and information to the population about the risks to catch the disease. A multimodal approach of community sensitization strategies, particularly using health agents and radio commercials, can improve the search for women to take part in mass screening, better reaching low-income populations with low education levels.^{14,29,31-32}

Secondary cervical cancer prevention

Among the secondary prevention actions found in the studies, the *search for women to take part in the cytopathological test* figured in 13. Overall, information poster and phone call systems were created to schedule tests, as a way to promote and stimulate the women to comply with and maintain the cervical screening, especially of the women identified as being at high risk for the development of cancer and whose test collection is delayed.^{14,19,29,34-36}

Studies evidenced that searching for women by telephone was effective to increase the screening rates, especially at community health services³⁷ and involving women of low socioeconomic level with mobility difficulties.^{36,38} In addition, invitation letters forwarded by mail or delivered at home by health agents were effective as systematic reminders of the test collection within the recommended period, expanding the women's compliance with the screening.^{30,38}

The test collection was another action discussed in the studies in this review. In Taiwan, a study developed in a community not covered by the test identified that making possible the CPT collec-

tion through mobile services in rural areas distant from the health services can contribute to include more women in periodical screening, increasing the coverage of the female population at greater risk of developing the disease.³⁸ Similarly, in Brazil, a study developed in the interior of São Paulo analyzed the impact of the collection through a mobile service on the test coverage, identifying women's increased compliance in communities without access to the public screening services. Besides offering the collection by health professionals at a mobile service, a Swedish study offered the collection at home through self-sampling of vaginal fluid, for 3,618 women between 50 and 65 years, enhancing the coverage for women who did not used to attend the service for the test collection.³⁹

Opportunistic screening was another action discussed in six studies in this review, as a strategy to increase the CPT coverage. In four studies, screening was performed in women who participated in specific actions to undertake mammograms, contributing to increase the coverage in women who were not included in screening strategies.^{26,34,40-41} Similarly, in a study involving women with diabetes, it was identified that monitoring women with this disease can be an effective opportunity to increase cervical cancer screening, as they regularly attend the health services.²⁵ Another study compared the offering of screening to women living in areas of difficult access to organized screening, identifying that, the more distant they live from the place where the service is offered, the lesser the women's participation.³⁸

Besides these actions, the registering of data on the screening strategy was another action that promotes the increased CPT coverage. This action offers elements to analyze the women's situation, plan actions, produce reports and guarantee the monitoring of the most recent test; and permits the identification and capturing of the women who are not inserted in the screening strategy.¹⁹ In addition, the availability of data and information on the female population permits a more complete analysis of women's participation in the CPT,⁴²⁻⁴³ strengthening the need for a computer system to improve the participation in the screening strategy and the test coverage.^{37,42}

DISCUSSION

Most studies were developed in North American countries, mainly the USA, involving Asian, African and Hispanic women without health coverage. This can be due to the multifactorial history of

CC, which includes socioeconomic factors among the main related aspects. In addition, studies developed in Sweden, Australia, China and Brazil stood out, whose surveillance actions represent primary and secondary promotion and prevention practices consolidated as CC control strategies.

Among the health surveillance actions found, health education was the main promotion strategy adopted to increase the test coverage and developed with the use of educational material. Health education contributes to the understanding that the test is a simple way to detect the disease early, permitting interventions and treatment of lesions before they become invasive.^{20,23} This strategy should consider the culture, language and variation in teaching styles to correspond to the needs of a particular population and to overcome obstacles, such as the limited knowledge on the factors related to CC.¹⁸ As the women get to know its purpose, the test is demanded more frequently, through the adoption of an active self-care posture, increasing the health services' CPT coverage.¹⁸⁻¹⁹

For the health educations strategies to influence the CPT coverage, however, the health professionals need to be permanently trained to provide recommendations coherent with scientific evidence;³⁵⁻³⁶ addressing the way the test is collected, presenting the material used and emphasizing the positive aspects of the screening;^{12,22-24} with a view to the suitable collection of the cells, guaranteeing the quality of the sample and the peculiarities of the women, their beliefs and perceptions;¹² and with a view to support and monitoring in case the disease is detected.^{24,43}

A study involving 1449 Taiwanese women infected by the human immunodeficiency virus (HIV), for example, identified this group's low participation in the CC screening strategy. Only 14.7% had collected the test during the year after the diagnosis of the infection. This kind of information supports the planning of new strategies, justifying that the investigation of the women's health situation should be part of the professional practices, as a way to expand the participation of specific groups in the cervical screening.²⁷

Research equips the professional for care by permitting the planning of actions coherent with each woman's need, as well as to implement strategies to capture the women not covered.²⁴ Community nursing professionals, who have easier access to the population, could incorporate this information (beliefs, barriers and benefits) in the planning, organization and development of their activities,

aiming to stimulate the women's participation and involvement in cervical cancer screening.^{13,23,36} The professionals' proactive posture is important to stimulate the women towards periodical screening and to advise them on when to visit the services.

The nurses were considered to be the professionals capable of communicating information to the patients, families and community effectively, due to the proactive care they develop and their position in the health teams. These professionals pay attention to the languages the population speaks and contribute to raise awareness on the importance of CC prevention, influencing a positive health behavior and encouraging the screening, especially in poorer areas.^{11-12,18,21,24-25} Together with the increased understanding about the consequence on non-compliance, intervention efforts should focus on these perceptions, with a view to expanding the disposition and access to cancer screening and increasing the women's confidence in the CPT.²⁰ In Canada, a study has shown that high CPT coverage rates are associated with a higher family income, a higher education level, younger age and being married. Higher education was associated with a 10% higher test coverage within the recommended screening interval.²⁸

Prevention practice should also include collection, dissemination and registration strategies of relevant information for screening, with a view to expanding the access of women beyond the coverage. The collection of the test within an organized screening strategy requires that the women's access to the collection services is guaranteed, as well as to diagnostic confirmation services in case lesions are detected. Therefore, the disclosure of the screening should be part of the professionals' work and be promoted by the health managers.³³ Multiple communication channels and material using language adapted to the target public increase the impact of the cancer prevention strategies, informing the population, clarifying myths related to the CPT and mainly attracting the women who have not been screened within the recommended period.^{14,31-32}

Besides the organized strategy, the opportunistic collection of the test can also be effective to increase the coverage, as it intends to reach populations that are uncovered, aiming to guarantee the screening and timely treatment. Whether during other health care and/or through a specific action, such as test collection by a mobile service, opportunistic screening can be an ally for initial contact and bonding with more women,⁴¹ also contributing to the collection of data and information that will

permit a global analysis of the test coverage, helping to manage the organized strategy.²⁵

The registration and availability of data on the current coverage and earlier actions should be part of the professionals' actions as a way to improve the management of screening actions. The monitoring of information permits following the women's health history, contributing to the effective capturing of the women who have not participated, as well as to a coherent analysis of the test coverage. In that sense, the use of computerized systems is a fundamental element to monitor the women,^{18,36} identifying the women who require special care, guaranteeing the management of the screening strategy and promoting equitable practices in health.²⁷

Although not considered in the studies reviewed, the vaccine against HPV is a primary prevention tool. HPV vaccination started in March 2014 (first dose) in Brazil, for girls between 11 and 13 years of age, the second dose being administered in September of the same year. In 2015, the age range was expanded, including girls of 9, 10 and 11 years of age, maintaining the timetable of March and September for the first and second doses, respectively. Nevertheless, it should be observed that the vaccine currently available does not protect against all types of high-risk HPV; it does not grant protection against sexually transmitted diseases and does not replace CC screening (Papanicolaou).⁴⁴

CONCLUSIONS

The actions found in this review are surveillance actions developed in the form of primary and secondary CC prevention and that contribute to the CPT coverage, as they permit new forms of health access and information to the women who need the screening and equip the professionals to manage screening strategies.

The access to the test is the first step towards an effective CC prevention and control strategy. It should mainly be guaranteed to women at greater risk of the disease. Health information is a cross-sectional screening strategy, whether through educational actions, with a view to cooperating with the construction and adoption of a positive care posture or through the analysis of records that permit the identification of women in situations of vulnerability and that guarantee higher quality to the professional actions.

Thus, the surveillance actions are essential for the effective management of CC screening strategies, as they promote the coverage of the popula-

tion at greater risk and appoint ways to reduce the morbidity and mortality rates due to this disease.

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