Cervical cancer control limiting factors and facilitators: a literature review

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Abstract *This paper reviews the limiting factors and facilitators of access to Brazilian cervical cancer care public health services. This review employed bibliographic database Medline (interface with the Virtual Health Library/BVS and PubMed) and Lilacs / SciELO portals. We sought publications for the period 2011-2016 based on the use of specific terms from the sources consulted, regarding "cervical neoplasms" and "access to health services". We found 704 papers initially, which were shortlisted to 31 following adopted criteria, which were further reduced to 19 papers to make up the final selection. Access facilitating aspects such as wide coverage of the Pap smear test and coverage of biopsies equivalent to the number of altered prevention tests were mentioned. However, access limiting aspects such as inadequate Pap smear's periodicity, difficulties in scheduling appointments and exams, high rate of advanced staging and delays in diagnosis and treatment onset were also reported.*

Key words *Access to health services, Cervical neoplasms, Unified health system, Brazil Review*

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Introduction

Cervical cancer (CC) is an important public health issue, causing the death of 5,430 women in Brazil in 2013. Some 16,340 new cases are expected to occur, with an estimated risk of 15.85 cases for every 100,000 women[1].

This cancer is mainly caused by persistent infection via sexually transmitted oncogenic subtypes of the Human Papillomavirus (HPV), which is responsible for about 70% of cervical cancers[2]. Its primary prevention, therefore, involves the use of condoms and HPV vaccination associated with health promotion actions; and its secondary prevention, or early detection, is consistent with the early diagnosis, through the Pap smear test, targeting the female population aged 25-64 years[2,3].

CC control in the public sector corresponds to management and health professionals actions, organized according to the hierarchical levels of the Unified Health System (SUS), in an articulated way, establishing health care in the perspective of integrality[4]. Thus, CC control is guided by a line of care[5-7] that signals the care flow and the corresponding protocols and clinical guidelines regarding the degrees of disease development.

Health care modalities correspond to basic and specialized care - medium and high complexity, namely: promotion, prevention, diagnosis, treatment, rehabilitation and palliative care. Promotion refers to cross-sectional actions to promote better health to the population, control diseases and health problems, including actions that increase information and curb difficulties of access to health services. Prevention involves the aforementioned actions.

For the cases with altered Papanicolaou, diagnosis is consistent with the accomplishment of tests for diagnostic investigation, such as colposcopies, biopsies, among others. The treatment involves performing oncological surgeries, radiotherapy, chemotherapy and brachytherapy. Rehabilitation includes multiprofessional action aimed at reestablishing physical-organic functionalities harmed by the disease. Palliative care is consistent with low, medium and high complexity actions and procedures, aiming at suffering prevention and relief – symptom control, pain relief, spiritual support, caregiver support – along with cases of non-clinical response to treatments performed and, therefore, life-threatening[7-9].

CC control is restrained by socioeconomic and cultural inequalities[11] and by the health system's performance level, and access to health services is one of the realms underpinning this performance.

Access to health services refers to the process of seeking health services by individuals with health needs, and the concomitant response that these services generate to such needs, expressed through the care provided to subjects, that is, access health services relates to the established relationship between individuals/community and health services[12-14].

The health services are set in a local, regional and/or national context, facilitating or limiting this access and its good organization, and the practices developed in these services are guided by precepts defining the health policy in the territory of the study, programs and specific policies of each health area and/or type/group of illness[13].

Studies on access to health services may be included in a "restricted realm", that is, they only focus on the relationship between the demand for and access to health services. However, some studies go one step further, also involving continuity of care, set in an "intermediate realm". Other more comprehensive studies build on the process that begins with the desire to obtain health care, seeking health services, entering facilities thereof, through continuity of care, achieving its results, and is understood as a "broad realm"[14]. The latter are consistent with the definition of access as the "use of health services appropriate to people's needs at the appropriate time and place"[14].

These studies analyze - in an isolated or articulated way - the provision of health services; the characteristics of the relationship between demand and use of health services, recognizing aspects and/or realms that act as facilitators or obstructors of this use by potential users; and the results of the provision of health services. From the perspective of the second mentioned aspect, Donabedian[15] showed two realms to be analyzed, namely, socio-organizational and geographical. The first concerns social, cultural, political and/or economic conditions; and the second refers to time-space, expressed in the physical distance between users and services. Travassos and Castro[14] corroborating and broadening them, denominated such realms as access barriers, specified in geographical, financial, organizational and information barriers.

Regarding the results, Aday and Andersen[12] acknowledge the satisfaction of health service users as a type of result of the process to access these services, which is corroborated by Donabedian[15] and reaffirmed in Andersen[13]. Donabedian understands not only the satisfaction of users,

but also the quality of services as expressions of the close relationship between structure and process of implementation of health actions being the results of this relationship.

Therefore, this review sought to synthesize findings from Brazilian studies on access to Brazilian public health services in cervical cancer care in the period 2011-2016, identifying the limiting factors and/or facilitators of such access. Thus, it aimed to highlight the barriers to access to health services for CC control and to record advances related to this access, signaled in papers addressing the Brazilian public health system and published in a recent period related to secondary prevention or early detection, diagnosis and treatment of CC.

Methods

This study was outlined from the criteria established in the Preferred Reporting Items for Systematic Reviews and Meta-Analyzes (PRISMA), considering the flowchart and the PRISMA checklist[16,17]. Thus, it had a guiding question about the search for papers and the analysis, namely: What are the limiting factors and/or facilitators of access to health care services for cervical cancer?

The collection of papers was carried out in the bibliographic Medline database (interface with the Virtual Health Library/BVS and PubMed) and in the portals Lilacs (interface with the BVS) and SciELO Brazil.

In the Lilacs portal and the Medline/BVS database, the search terms used in Portuguese were "*acesso aos serviços de saúde*" AND '*câncer de colo de útero*' OR '*neoplasia de colo de útero*' OR '*câncer cervicouterino*' OR '*câncer cervical*' OR '*câncer de colo uterino*'; and the following filters were used: publication type: paper, year of publication: 2011 to 2016; country as subject: Brazil; limits: female. In Medline / PubMed, the search involved the English terms: 'access of health services' OR 'health services accessibility' AND 'uterine neoplasms' OR 'cervical cancer' AND 'Brazil' AND '2011-2016' (year of publication). In the SciELO Brazil portal, the search terms in Portuguese were only '*acesso aos serviços de saúde*', with only use of filters referring to the year of publication, because the association with the Portuguese term '*neoplasia de colo de útero*' or synonyms did not produce results.

The selection of papers was guided by the following inclusion criteria: papers whose titles and/or abstracts indicate it is a study about access to health services for cervical cancer (CC) care, in the public health sector, related to prevention, diagnosis and/or treatment. Such papers could study access to services meaning entry into health services and/or continuity of care and coverage regarding CC care. Coverage refers to the "extent of a health measure"[18] such as the proportion of women who underwent a Pap smear test in a particular year and territory. The coverage of a health action is associated with compliance with the provision of this action and, therefore, with access to and use of health services. However, it can also mean the possibility of obtaining health care actions, which may or may not occur[18]. In this review, the included papers that addressed 'coverage' were in tune with the first meaning mentioned above.

Papers were identified in March 2017. Studies were screened by reading and analyzing the titles and abstracts of all the papers identified in each database, guided by inclusion and exclusion criteria. In the eligibility stage, after defining the papers to be included from each database, duplicate papers were excluded. We then proceeded to read in full the included studies and elaborated the synthesis of the main information in a spreadsheet, to enable descriptive and critical analyses. The review of papers sorted them according to milestones of the CC control care line, namely: 'prevention', 'diagnosis and/or treatment'.

Results and discussion

Features of the revised papers

Of the 704 papers initially identified on access to health services for cervical cancer (CC) treatment published in the period 2011-2016, 19 were included in this review (Figure 1). The excluded papers extrapolated the adopted eligibility criteria, referring to other diseases and policies or other objects of studies related to cervical cancer (CC), such as mortality, survival and quality/adequate action of health professionals in health care (Figure 1).

Approximately 3.2 papers/year were published; most were in Portuguese (78.9%). The most important journals were published by the *Cadernos de Saúde Pública*, the *Revista Brasileira de Ginecologia e Obstetrícia* and the *Revista Saúde em Debate*, which published 26.3%, 21% and 21% of the papers, respectively (Chart 1).

Access was mostly addressed in terms of hindrances to the early detection of cervical cancer,
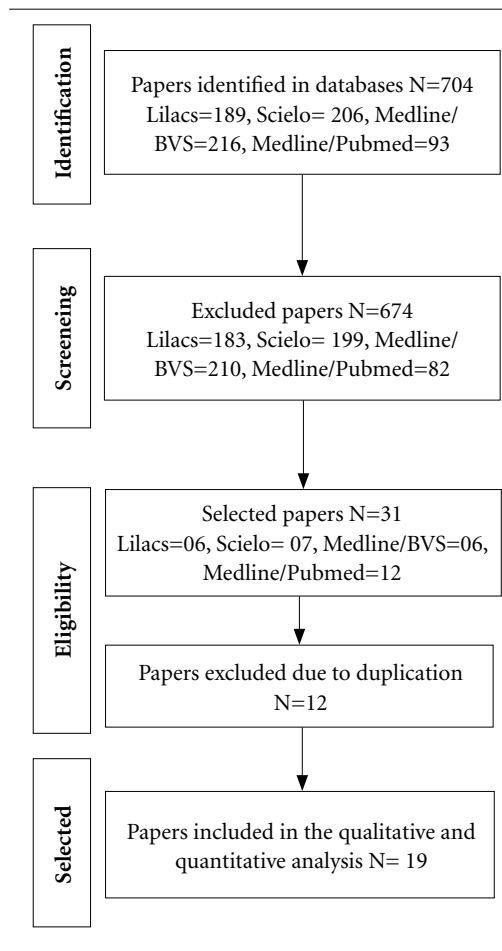
Papers identified in databases N=704
Lilacs=189, Scielo= 206, Medline/
BVS=216, Medline/Pubmed=93

Excluded papers N=674
Lilacs=183, Scielo= 199, Medline/
BVS=210, Medline/Pubmed=82

Selected papers N=31
Lilacs=06, Scielo= 07, Medline/BVS=06,
Medline/Pubmed=12

Papers excluded due to duplication
N=12

Papers included in the qualitative and
quantitative analysis N= 19

Figure 1. Flowchart of information on the
identification, selection and inclusion of review paper.

Source: Authors' own elaboration.

corresponding to 63.2% of the papers. Limits on access to CC diagnosis and treatment were addressed by 36.8% of the papers. In papers that dealt with *early detection*, the objects of study referred to Pap smears and/or factors related to failure to perform this test (58.3%) and to early detection of the poor and/or vulnerable segments of the population (41.7%). In the papers that addressed *diagnosis and/or treatment*, the objects of study were CC integrality/continuity of care (57.1%), factors related to late diagnosis (28.6%) and waiting time for treatment (14.3%) (Chart 1).

The quantitative study design was predominant (73.7% of papers). All papers that emphasized the *CC early detection* adopted the quantitative approach, unlike papers that stressed *CC*

diagnosis and/or treatment, which were diversified, since 57.1% of them elaborated their analyses from a qualitative approach, followed by those who adopted a quantitative (28.6%) and both quantitative and qualitative (14.3%) approaches. The interview was the most used data source and method (73.7% of papers), followed by documentary analysis (31.6%), use of secondary databases (21%), direct or participant observation (10.5%) and previous research data (10.5%), and it should be noted that approximately 47.4% of papers used the combination of more than one method/source (Chart 1).

Access to services for the early detection of cervical cancer

Most of the papers related to the prevention of cervical cancer indicated a Pap smear coverage of more than 80% of the study population, with an increase in this coverage, especially among vulnerable segments or those with low compliance with the preventive examination, such as women that are single, black and with a low level of schooling. However, one of the papers[19] pointed to high rates of non-performance of Pap smear and a large number of cases in advanced staging, which reinforces the importance of performing the preventive exam and refers to the evidence of segments of the female population even under these circumstances. Coverage and adequate periodicity of Pap smears are restrained by the socioeconomic and demographic disparities, with a predominance of opportunistic tracking[20-23] (Chart 2).

Most women know the 'preventive examination', but even so, some women do not. The appropriate periodicity, on the other hand, is not widely known[24], and the lack of information is a barrier to its compliance.

CC screening is influenced by social and subjective-cultural factors experienced by women, the organizational context and the characteristics of health professionals' actions (Chart 2). Thus, organizational barriers and social, economic, cultural and racial inequalities hinder such action[19,23,25-34].

Access to services for the diagnosis of cervical cancer

The diagnosis of cervical cancer occurs late in Brazil, with 'advanced-stage cases' especially associated with age equal to or greater than 50 years, due to the fact that patients live without

Chart 1. Characteristics of the articles included in the review.

Papers selected	Journals	Population and study setting	Study design	Data source and methods used	Care Line Milestones	Object of Study
Silva MR et al. (2016)	Saúde Debate	Women with cervical cancer (CC) in the state of Pernambuco.	Qualitative	Documentary analysis (medical records) + Primary data collection (interviews)	Diagnosis and/ or treatment	Integrality / continuity of care
Nascimento MI, Azevedo GS (2015b)	Rev. Saúde Pública	Women with CC referred for radiotherapy at the General Hospital of Nova Iguaçú / RJ.	Quantitative	Documentary analysis (medical records and HBCR) + Database (SIM of SES/RJ)	Diagnosis and/ or treatment	Waiting time for treatment
Rangel G et al. (2015)	Saúde Debate	Women with CC at INCA.	Qualitative	Direct observation + Primary data collection: interviews	Diagnosis and/ or treatment	Factors related to late diagnosis
Carvalho BG et al. (2015)	Saúde Debate	Women with altered oncology cytology at a UBS in the south of the country.	Qualitative	Documentary analysis (the monitoring report of the PNCCU of the UBSs) + Primary data collection: interviews	Diagnosis and/ or treatment	Integrality / continuity of care.
Sadovsky AD et al. (2015)	Cad. Saúde Pública	Women from Brazilian capitals and Federal District	Quantitative	Database (VIGITEL)	Prevention	Access to the Pap smear by segments of the population in situations of poverty and / or vulnerability
Brito-Silva K et al. (2014)	Rev. Saúde Pública	Women from a reference municipality in the northeast of São Paulo	Quantitative-Qualitative	Database (Hygiaweb), regional Siscolo and of the SES/SP) + Primary data collection : interviews	Diagnosis and/ or treatment	Integrality / continuity of care
Oliveira MV et al. (2014)	Cienc. & Saúde Colet	Quilombola Women, in Vitória da Conquista (Bahia)	Quantitative	Primary data collection: interviews	Prevention	Access to the Pap smear by segments of the population in situations of poverty and / or vulnerability
Girianelli VR et al. (2014)	Rev. Bras. Ginecol. e Obstet	Women assisted by the ESF, in Duque de Caxias and Nova Iguaçú (RJ)	Quantitative	Primary data collection: interviews	Prevention	Factors related to failure to perform Papanicolau
Thuler LC et al. (2014).	Rev. Bras. Ginecol. e Obstet	Women with CC in Brazil.	Quantitative	Documentary analysis (Hospital-based Cancer Registries)	Diagnosis and treatment	Factors related to late diagnosis
Augusto EF et al. (2013)	Arch. of Gynecol. and Obstet	Women assisted by the Family Doctor Program of Niterói / RJ	Quantitative	Documentary analysis (Papanicolau reports) + Primary data collection: interviews.	Prevention	Factors related to failure to perform Papanicolau
Goes EF, Nascimento ER (2013)	Saúde Debate	White and black women living in Bahia, who had responded to UNDP in 2008.	Quantitative	Prior Research Data: Health Supplement Data from the National Household Sample Survey (UNDP) / 2008.	Prevention	Access to the Pap smear by segments of the population in situations of poverty and / or vulnerability
Correa MS et al. (2012)	Cad. Saúde Pública	Women who had a child in the last two years prior to the survey, living in southern and northeastern Brazilian states, by sampling	Quantitative	Primary data collection: interviews	Prevention	Coverage and adequacy of the Pap smear

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Papers selected	Journals	Population and study setting	Study design	Data source and methods used	Care Line Milestones	Object of Study
Freitas MCM et al. (2012)	Rev. Bras. Ginecol. e Obstet	Elderly women living in the northern area of Juiz de Fora (MG).	Quantitative	Primary data collection: interviews	Prevention	Access to the Pap smear by segments of the population in situations of poverty and / or vulnerability
Gomes CHR et al. (2012)	Rev. Bras. de Cancerologia	Women with invasive CC, in UNACON of Northern Minas Gerais.	Quantitative	Documentary analysis (medical records) + Primary data collection: interviews.	Prevention	Factors related to failure to perform Papanicolau
Borges MF et al. (2012)	Cad. Saúde Pública	Women living in the municipality of Rio Branco (Acre), between 2007 and 2008.	Quantitative	Primary data collection: interviews	Prevention	Pap smear coverage and / or associated factors
Gasperin SI (2011)	Cad. Saúde Pública	Women living in the urban area of Florianópolis, Santa Catarina.	Quantitative	Primary data collection: interviews (use of closed-ended questionnaire)	Prevention	Pap smear coverage and / or associated factors
Bairros FS et al. (2011)	Cad. Saúde Pública	White and black women from two cities in southern Brazil.	Quantitative	Primary data collection: interviews.	Prevention	Access to the Pap smear by segments of the population in situations of poverty and / or vulnerability
Soares MC et al. (2011)	Rev. Gaucha de Enferm.	Women of a certain municipality, identified in SISCOLO	Qualitative	Participatory observation + Primary data collection: interviews.	Diagnosis and treatment	Integrality / continuity of care
Ozawa C, Marcopito LF (2011)	Rev. Bras. Ginecol. e Obstet	Women participating in two household surveys in the city of São Paulo.	Quantitative	Data from household surveys conducted in the city of São Paulo + Database (SIM)	Prevention	Pap smear coverage and / or related factors

Source: Authors' own elaboration.

Chart 2. Summary of the limits and facilitators of access to services, according to the cervical cancer care line.

Care Line Milestone	Access limiting factors related to public management and / or health professionals.	Access limiting factors, of a subjective-cultural realm.	Facilitators or positive aspects for access
Prevention	. Some females do not perform a Pap smear test. . Women lack of information about adequate Pap smear periodicity. . Socioeconomic and demographic disparities restrains the performance of a Pap smear test. . Difficulties in scheduling exams and consultations, with low flexibility and bureaucratization. . Institutional racism. . Lack of interest, indifference, ill will and lack of patience by professionals scheduling exams and consultations and by doctors. . Shortage of doctors. . Lack of counter-referrals. . Lack of professional secrecy. . Lack of credibility in the collection performed by nurses	. Fear, shame . Women's lack of time due to work and family care . Belief that Papanicolaou is unnecessary for women over 60	. Pap smear coverage above 80%. . Increased Pap smear coverage versus vulnerable segments. . Extensive knowledge of the Pap smear by women.
Diagnosis	. Low supply of services . Shortage of human resources . Overcrowding . Great proportion of cases with advanced staging . Difficulties in scheduling consultations and/or examinations . Delays in attendance . Delays in the delivery of test results and loss of these results . Payment request by doctors to obtain differential access in the health care network . Delay in medical referrals by postponing appointments for diagnostic investigations . Doctors and/or laboratories issuing wrong diagnoses; . Poor quality of care due to non-identification of the disease by reason of undue consideration of initial complaints . Noncompliance with protocols . Reference wrong . Lack of technical preparation of health professionals . Important disagreements among professionals over the service provided . Evidence of favoritism and disregard for the queue . Lack of reception . Lack of resolve . Poor communication between levels of health care . Flaws in patient data storage . Poor reception and bond		. Adequate coverage of biopsies

a partner, are black and have a low educational level[35]. With regard to advanced-stage diagnosis, Nascimento and Silva[36] detected 78.9% of the women studied in the intermediate stages and 5% in the advanced stages of the disease, corroborating with the perspective that more advanced ages and social and racial inequalities are correlated with a higher CC risk and prevalence.

The limited access to cervical cancer (CC) diagnosis services was related to organizational barriers and limited action by health professionals[33,37,38]. The biopsy examination that was cru-

Chart 2. Summary of the limits and facilitators of access to services, according to the cervical cancer care line.

Care Line Milestone	Access limiting factors related to public management and / or health professionals.	Access limiting factors, of a subjective-cultural realm.	Facilitators or positive aspects for access
Treatment	. Low supply of health services for this purpose . Delayed treatment onset . Difficulty of access to treatment, due to geographical barriers.		. Predominance of treatment through SUS with access to medicines . In most cases, waiting time for radiotherapy did not exceed 60 days . EquiChart access to radiotherapy . Reception and bond . Good infrastructure of treatment facilities . Management of clinical sessions . Users are satisfied with chemotherapy and radiotherapy services

Source: Authors' own elaboration.

cial to the diagnostic conclusion was compatible with the number of altered Pap smears, which were more frequent in younger women. However, the most severe diagnoses of both cytology and biopsy have prevailed in women of a later age[32,38].

The adequate coverage of biopsies, however, did not ensure continuity of treatment, due to weaknesses in the reception and bond and difficult access to treatment[38]. In addition, delaying tumor staging often prolongs the onset of disease treatment[36] (Chart 2).

Access to services for treatment of cervical cancer

Cervical cancer treatment may involve surgery, chemotherapy, radiotherapy and/or brachytherapy, and it is predominantly performed in the Unified Health System (SUS)[20]. In Brazil, there is a legal definition of the maximum term for the initiation of treatment by the SUS of 60 days from the establishment of the diagnosis obtained with the biopsy result[39]. According to Nascimento e Silva[36], this period was considered taking into account the onset of radiotherapy, by most of the "patients". The same study evidenced equiChart access to radiotherapy, that is, waiting time for

the start of radiotherapy was lower as the cases were diagnosed with increased advanced stages (Chart 2).

The maximum term for initiation of cancer treatment in Brazil mentioned above is a valid parameter used in some studies, but Nascimento e Silva[36] emphasize that the treatment should occur as soon as possible and should not adopt the 60 days defined by law as the deadline. This term has relevance in terms of legal interpellation, but there are countries with a deadline of less than 30 days, as in the case of Canada.

The limits of access to services for CC treatment were eminently of an organizational realm. The reception and bond were favorable aspects, since they were pointed out as practices found in the oncological treatment stage, performed only at this stage of the care line. In addition to these, other aspects favoring oncological treatment were indicated[31,33] (Chart 2).

Thus, the results shown by the papers included in this review have implications for the cervical cancer care policy regarding the CC prevention, diagnosis and treatment, with a view to its improvement. (Chart 3).

Regarding the assurance of timely access (Chart 3), it is worth mentioning that opportu-

nistic tracking should be associated to population screening in a complementary manner. The latter refers to a systematized action, allowing greater control of actions and information regarding tracking, including the coverage achieved, which signals a greater effectiveness, equity and efficiency. However, due to the difficulties of accessing health services in this review, part of the women in the target age range of the population screening programs may not participate in it. Thus, timely actions are relevant for early detection, that is, the one performed when the woman seeks the health service for another reason and the health professional seizes the opportunity to perform the Pap smear test[40].

Final considerations

Cervical cancer (CC) control has been advancing in Brazil, as there are records of a greater coverage of Pap smears, compatibility among the number of biopsies and of altered Pap smears and CC oncological treatment, mainly by the Unified Health System (SUS).

However, segments of the female population that have never undergone a preventive examination, who do not know or do not comply with the indicated periodicity of this examination were registered. These facts may in some cases be associated with individual issues, such as fear and shame, which is difficult to resolve, but also

Chart 3. Suggestions for improving access to early detection, diagnosis and treatment of cervical cancer, according to papers included in the review.

CC care line milestones	Suggestions for improvement	Cross-cutting suggestions for CC care line milestones
Prevention	. Expanding access to primary care . Ensuring timely access . Performing active search to ensure the screening of women at the appropriate ages and intervals . Strengthening preventive actions among the most vulnerable groups . Providing sChart teams, in order not to constantly change their members . Ensuring privacy and respect to female service users . Trainings and qualification of the professional team with a view to understanding the beliefs and emotional limits experienced by service users . Performing educational actions for women and men on CC prevention.	. Evaluate a CC program in addition to aspects such as coverage of exams, including the operation of network services. . Reorganize health services in order to ensure the integrality of care
Diagnosis	. Decentralization of cancer diagnosis services. . Reduced time to complete the diagnosis of CC, with definition of tumor staging.	. Encourage / provide the link between users, professionals and services at all times in the line of care.
Treatment	. Initiate CC treatment in the shortest time possible, not exceeding 60 days provided by law. . Decentralization of reference centers for the treatment of cancer. . Ensuring rapid access to computed tomography and MRI for treatment planning and case follow-up	. Creation of care coordination mechanisms, such as protocols, referral and counter-referral system.

Source: Authors' own elaboration.

with issues related to public management and/or health professionals, which are challenges to this management.

In this regard, in cross-sectional terms to cervical cancer control, emphasis was placed on the need to evaluate the operation of the service network, to ensure integrality of care, to create care coordination mechanisms, to ensure a process between services with ease and promotion of the reception-bond across the whole CC care line.

Among the specific suggestions regarding CC prevention were tracking, especially among women in situation of poverty and/or vulnerability, who are more than 50 years of age and living in places distant from the health services; expanded access to health services; and assurance of privacy of the users in the services. Regarding the diagnosis in particular, it is necessary to reduce the time to complete CC diagnosis and defining tumor staging. With regard to treatment, there is also a need to ensure its onset in the shortest possible time, with rapid access to examinations for treatment planning and reduction of geographical barriers of access, decentralizing reference centers for treatment in order to reduce territorial and/or regional inequalities.

Collaborations

JM Ribeiro worked on the conception of the article and the elaboration of its critical review. VAS Lopes worked on the conception of the article, the bibliographical research and the writing of the article.

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