Microbiological and Cytopathological Cervical Changes in Incarcerated Women: A Scoping Review Protocol

Alterações cervicais microbiológicas e citopatológicas em mulheres privadas de liberdade: protocolo de revisão de escopo

Alteraciones cervicales microbiológicas y citopatológicas en mujeres privadas de libertad: protocolo de revisión de alcance

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REVISA

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RESUMO

Objetivo: mapear as alterações microbiológicas e citopatológicas do colo do útero e os fatores associados em mulheres privadas de liberdade. Material e método: será uma scoping review no método Joanna Briggs Institute (JBI); As etapas metodológicas e a apresentação dos resultados serão orientadas pelas diretrizes do Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA-ScR). As bases de dados serão: Latin American and Caribbean Literature in Health Sciences (LILACS); National Library of Medicine - National Institutes of Health (NIH); Sci Verse Scopus; Embase; e Web of Science (WoS), via Portal de Periódicos da CAPES por meio do acesso à Comunidade Acadêmica Federada (CAFe). A extração de dados será realizada por dois revisores para verificar os dados descritos. Uma lista de verificação contendo informações sobre a publicação, características do estudo, participantes do estudo e resultados foi preparada para esta etapa. Registro de revisão na plataforma Open Science Framework (OSF) – 2026, com DOI: 10.17605/OSF.IO/P3Y75.

Descritores: Prisioneiros; Prevalência; Teste de Papanicolaou.

ABSTRACT

Objective: to map the microbiological and cytopathological changes of the uterine cervix and the associated factors among incarcerated women. Materials and methods: this will be a scoping review conducted according to the Joanna Briggs Institute (JBI) methodology. The methodological steps and reporting of results will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR) guidelines. The databases to be searched include: Latin American and Caribbean Literature in Health Sciences (LILACS); the National Library of Medicine – National Institutes of Health (NIH); SciVerse Scopus; Embase; and Web of Science (WoS), accessed through the CAPES Journals Portal via the Federated Academic Community (CAFe). Data extraction will be performed independently by two reviewers to verify the reported information. A checklist containing publication data, study characteristics, participant information, and outcomes was prepared for this stage. The review was registered on the Open Science Framework (OSF) platform in 2026, with DOI: 10.17605/OSF.IO/P3Y75.

Descriptors: Prisoners; Prevalence; Papanicolaou Test.

RESUMEN

Objetivo: mapear las alteraciones microbiológicas y citopatológicas del cuello uterino y los factores asociados en mujeres privadas de libertad. Materiales y métodos: se realizará una revisión de alcance (scoping review) siguiendo la metodología del Joanna Briggs Institute (JBI). Las etapas metodológicas y la presentación de los resultados estarán orientadas por las directrices del Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR). Las bases de datos incluidas serán: Latin American and Caribbean Literature in Health Sciences (LILACS); la National Library of Medicine – National Institutes of Health (NIH); SciVerse Scopus; Embase; y Web of Science (WoS), a través del Portal de Periódicos de CAPES mediante el acceso a la Comunidad Académica Federada (CAFe). La extracción de datos será realizada de forma independiente por dos revisores para verificar la información descrita. Para esta etapa se preparó una lista de verificación con datos sobre la publicación, características del estudio, participantes y resultados. La revisión fue registrada en la plataforma Open Science Framework (OSF) en 2026, con DOI: 10.17605/OSF.IO/P3Y75

Descriptores: Prisioneros; Prevalencia; Prueba de Papanicolaou.

Introduction

Access to sexual and reproductive health care for women deprived of liberty remains restricted in several countries. These limitations are intensified by vulnerabilities associated with gender inequalities[1] and constitute a major public health challenge on a global scale[2],[3].

In this context marked by gender inequities, essential care, such as the cervical cytopathological examination, often receives little attention. As a result, women deprived of liberty present a higher risk of abnormalities in this examination compared to the general population[4] ,[5] .

The cervical cytopathological examination is recommended for all women[6] , including those living in prison settings[1],[2]. This screening test can detect early cellular changes in the cervix and has been shown to be effective in reducing cancer-related morbidity and mortality[7] ,[8] .

The main cause of abnormalities in the cervical cytopathological examination is the Human Papillomavirus (HPV)[8] . However, a significant proportion of women deprived of liberty are unaware of this viral agent, the availability of the vaccine, and its possible complications[9] . In addition, there has been growing interest in the use of cytopathological examination to identify cervicovaginal infections, recognized as a relevant diagnostic alternative in different healthcare settings[10] ,[11],[12],[13].

Although there are reviews addressing the sexual and reproductive health of women deprived of liberty[1],[13],[14] , this study differs by adopting the cervical cytopathological examination as a diagnostic method, considering both cytopathological and microbiological alterations. This examination is a predictor of the quality of women's healthcare, is low-cost, and is feasible in contexts with trained human resources and limited infrastructure, such as most prison units[15] .

Given the growing body of scientific evidence associating microbiological and cytopathological alterations, especially among groups of women in vulnerable situations, it became necessary to identify the most prevalent cervical alterations, as well as associated factors, in women deprived of liberty.

It is believed that this effort may support screening, prevention, and gynecological care in the prison context, in addition to assisting healthcare teams and the planning of public policies aimed at reducing inequities.

In this sense, the aim of the study was to map microbiological and cytopathological alterations of the cervix and associated factors in women deprived of liberty.

Method

Type of Study

This will be a scoping review following the *Joanna Briggs Institute* (JBI) methodology[16] . The methodological steps and presentation of results will be guided by the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews* (PRISMA-ScR)[17] , in order to ensure transparency, reproducibility, and uniformity in the synthesis of evidence.

A scoping review is a methodological approach widely used to identify and systematize scientific production on a given topic[18] . This method makes it possible

to map existing studies, examine the breadth, scope, and characteristics of the investigations conducted, as well as synthesize and disseminate available findings, also contributing to the identification of gaps in scientific knowledge[18] ,[19] .

A scoping review comprises six stages[18] ,[20] : identifying the research question; identifying relevant studies; selecting studies to be included in the review; charting the data; collating, summarizing, and reporting the results; and consulting stakeholders (optional)[20] .

Protocol Registration

This study led to the development of a scoping review protocol[21], which was registered on the Open Science Framework (OSF) platform on January 22, 2026, under the registration number: https://doi.org/10.17605/OSF.IO/P3Y75.

Research Question

The PVO acronym was used to formulate the research question (Chart 1)[22]. Thus, the review sought to answer the guiding question: "What cytological and microbiological alterations and associated factors identified in the cervical cytopathological examination are most prevalent among women deprived of liberty worldwide?"

Chart 1. Development of the Research Question

-	P	V	O
Definition of the acronym	Population	Variable of Interest	Outcomes
Question component	Women deprived of liberty	Cervical cytopathological examination	Cytological and/or microbiological alterations and associated factors

Information Sources

Searches will be conducted in the following databases: *Latin American and Caribbean Literature in Health Sciences* (LILACS); *National Library of Medicine – National Institutes of Health* (NIH); *SciVerse Scopus; Embase; and Web of Science* (WoS), via the CAPES Journal Portal through access to the Federated Academic Community (CAFe)[23].

Search Strategies

The search strategy will be developed using the Boolean operators "AND" and "OR". The strategy will be adapted according to each database, maintaining alignment between controlled and uncontrolled descriptors: Prisoners; Prisioneiros; Prisioneros; Prevalence; Prevalência; Prevalencia; Papanicolaou Test; Teste de Papanicolaou; Prueba de Papanicolaou (Chart 2)

Chart 2. Search strategy conducted on January 15, 2026

	Terms	National Library of Medicine - National Institutes of Health (NIH)	Web of Science (WoS)	Embase	Sci Verse Scopus	LILACS
#1	**Population (P)**	Prisoners ("Prisoners"[Mesh]) OR (Prisoner)	Prisoners ("Prisoners"[Mesh]) OR (Prisoner)	Prisoners ('prisoner'/exp OR 'incarcerated offender' OR 'incarcerated offenders' OR 'incarcerated population' OR 'inmate' OR 'inmates' OR 'prisoner' OR 'prisoners')	Prisoners	MH:"Prisoners" OR (Prisioneiros) OR (Prisoners) OR (Prisioneros) OR (Cativo) OR (Cativos) OR (Detento) OR (Detentos) OR (Encarcerado) OR (Encarcerados) OR (Pessoa Encarcerada) OR (Pessoa Privada de Liberdade) OR (Pessoas Encarceradas) OR (Pessoas Privadas de Liberdade) OR (População Privada de Liberdade) OR (Preso) OR (Preso Político) OR (Presos) OR (Presos Políticos) OR (Prisioneiro Político) OR (Prisioneiros Políticos) OR MH:M01.729*
	Result	36.162	33.120	29.232	49.997	1.359
#2	**Exposure (E)**	Prevalence ("Prevalence"[Mesh]) OR (Prevalences) OR (Period Prevalence) OR (Period Prevalences) OR (Prevalence, Period) OR (Point Prevalence) OR (Point Prevalences) OR (Prevalence, Point)	Prevalence (Prevalences) OR (Period Prevalence) OR (Period Prevalences) OR (Prevalence, Period) OR (Point Prevalence) OR (Point Prevalences) OR (Prevalence, Point)	Prevalence 'prevalence'/exp OR 'prevalence' OR 'prevalence study')	Prevalence	MH:"Prevalence" OR (Prevalência) OR (Prevalence) OR (Prevalencia) OR (Coeficiente de Prevalência) OR (Prevalência de Período) OR (Prevalência de Ponto) OR (Taxa de Prevalência) OR MH:E05.318.308.985.525.750* OR MH:N01.224.935.597.750* OR MH:N06.850.505.400.975.525.750* OR MH:N06.850.520.308.985.525.750* OR MH:SP5.467.413.770.861.782*
	Result	4.027.356	1.439.838	1.647.300	1.495.150	125.300
#3	**Outcome (O)**	Papanicolaou Test ("Papanicolaou Test"[Mesh]) OR (Test, Papanicolaou) OR (Pap Test) OR (Test, Pap) OR (Pap Smear) OR (Smear, Pap) OR (Papanicolaou Smear) OR (Smear, Papanicolaou)	Papanicolaou Test ("Papanicolaou Test"[Mesh]) OR (Test, Papanicolaou) OR (Pap Test) OR (Test, Pap) OR (Pap Smear) OR (Smear, Pap) OR (Papanicolaou Smear) OR (Smear, Papanicolaou)	Papanicolaou Test ('papanicolaou test'/exp OR 'pap smear' OR 'papanicolaou test' OR 'pap stain' OR 'pap test' OR 'papanicolaou cytology' OR 'papanicolaou method' OR 'papanicolaou smear' OR 'papanicolaou stain')	"Papanicolaou Test"	MH:"Papanicolaou Test" OR (Teste de Papanicolaou) OR (Papanicolaou Test) OR (Prueba de Papanicolaou) OR (Esfregaço Corado pelo Método de Papanicolaou) OR (Esfregaço de Papanicolaou) OR (Exame Colpocitológico) OR (Exame Papanicolau) OR (Papanicolau) OR (Teste de Papanicolau) OR E01.370.225.500.384.100.422* OR E01.370.225.998.054.422* OR E04.074.422* OR E05.200.500.384.100.422* OR E05.200.998.054.422* OR E05.242.384.100.422*
	Result	14.947	30.469	27.157	18.348	1.173

#4	**Combination of operators**	**#1 AND #2 AND #3**	**#1 AND #2 AND #3**	**#1 AND #2 AND #3**	**#1 AND #2 AND #3**	**#1 AND #2 AND #3**
	Result	**15**	**3**	**8**	**13**	**3**

Criteria for Including Studies in the Review

Inclusion Criteria

Articles published in English, Spanish, and Portuguese, with no time restriction, using different methodological designs and addressing cytological and microbiological alterations in women deprived of liberty based on the cervical cytopathological examination, will be included.

Exclusion Criteria

Theses, dissertations, conference abstracts and proceedings, editorials, comments, opinion papers, reflection articles, and literature reviews will be excluded.

Type of Population
Women deprived of liberty.

Type of Exposure
Cervical cytopathological examination and cytological and/or microbiological alterations and associated factors.

Type of Comparator
General population of women.
Types of outcomes assessed

Primary Outcomes

To map microbiological and cytopathological alterations of the cervix described in women deprived of liberty, as evidenced in published studies.

Secondary Outcomes

To identify factors associated with cervical alterations; describe epidemiological patterns and reported prevalences; analyze aspects related to access to screening and gynecological care within the prison system; and identify existing gaps in scientific production.

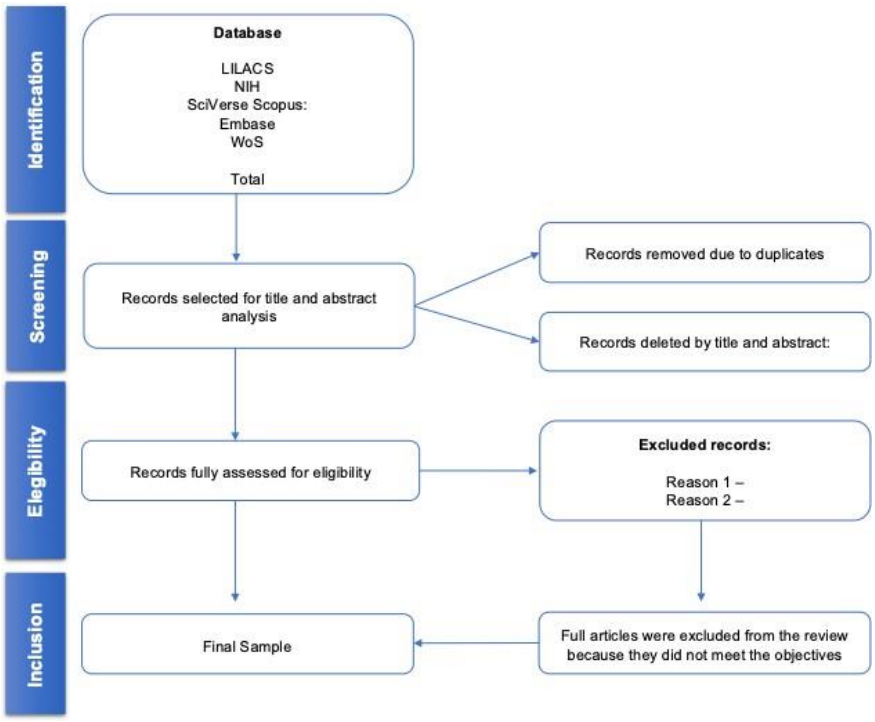
Data Collection and Extraction Procedures

Data Collection

The process of identification, screening, eligibility, and inclusion of studies will be described through a flowchart, according to the PRISMA-ScR guidelines[17] .

The diagram will present the number of records identified in the databases, records after duplicate removal, studies selected by title and abstract, full texts assessed, and studies included in the final synthesis (Figure 1).

Figure 1*:* Flowchart of the study selection process included in the scoping review, according to the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA-ScR).



Legend: Latin American and Caribbean Literature in Health Sciences (LILACS); National Library of Medicine – National Institutes of Health (NIH); and Web of Science (WoS).

Data Extraction

Data extraction will be conducted in accordance with the guidelines outlined in Chapter 7 of the JBI Manual for Evidence Synthesis[16] . The information will be recorded in a spreadsheet developed by the authors using *Microsoft Excel 365*®.

Study selection will be carried out by two independent reviewers through the reading of titles, abstracts, and full texts. The screening process will be supported by Rayyan® software[24] , developed by the *Qatar Computing Research Institute* (QCRI).

Rayyan® is a computational tool designed to support the development of systematic reviews, with scientific evidence demonstrating its effectiveness in the automated identification of true duplicates[24] . Unlike other platforms, the exclusion of duplicate records occurs only after careful validation by the researcher[25] ,[26] .

Data Extraction Tool

The extracted data will include specific details regarding: type of alteration, study characteristics, study design, country/location of the prison, population, prevalence of alterations, associated factors, and relevant findings to answer the review question(s).

The preliminary version of the data extraction tool will be modified and revised as necessary during the extraction process for each included study. The full scoping review report will detail any modifications made. Any disagreements

between reviewers will be resolved through discussion or with the assistance of a third reviewer. Study authors will be contacted for missing or additional data when necessary.

Sample Size

The sample size will be determined after completing the procedures conducted using *Rayyan® software*[24] ,[25] ,[26] .

The search results will be imported into *Rayyan®*, where the following steps will be performed: removal of duplicates and screening by title and abstract based on the previously defined exclusion criteria, with inclusion of studies that meet the established criteria at this stage. The platform allows the use of the *Blind ON* or *Blind OFF* features, enabling the management of blinding between reviewers and the identification of potential conflicts during the selection process.

After a pilot calibration test, two or more independent reviewers will assess titles and abstracts according to the eligibility criteria. Eligible references will have their full texts retrieved and carefully analyzed, with reasons for exclusion recorded. Disagreements at any stage will be resolved by consensus or by the decision of a third reviewer with expertise in the subject.

The process of identification, selection, and inclusion of studies will be described in detail in the final scoping review and presented in a flowchart, in accordance with PRISMA-ScR recommendations[17] , ensuring transparency and methodological rigor in the presentation of results.

Analysis Plan

In the analytical stage, data will be organized according to the modalities of expert participation in the Health Technology Assessment (HTA) process. Findings will be presented in graphical, schematic, and/or tabular formats, supported by tables and/or charts, in addition to a narrative description explicitly relating the results to the objective and guiding question of the review.

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