

Educational strategies for preventing female infections in prison: a scoping review

Estratégias educativas para prevenção de infecções femininas no presídio: revisão de escopo
Estrategias educativas para la prevención de infecciones femeninas en cárceles: revisión de alcance

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Abstract

Objective: To identify and map the main educational strategies for preventing infections of the female reproductive tract in the prison system.

Methods: This is a scoping review, carried out in accordance with JBI recommendations, with research in the databases MEDLINE (PubMed), Cochrane Library, LILACS, Scopus, Science Direct, Embase, Google Scholar and Proquest, from May 23 to 29, 2023. The Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) for the search and selection flowchart of review articles was used. All titles that followed the PCC strategy were included: Population: Women aged 18 and older. Concept: Use of educational strategies to prevent female RTI. Context: Prison system, with sentences served in a closed regime. Those who included an educational strategy carried out for cisgender men or women who already had an RTI diagnosis were excluded.

Results: A total of 13 studies published between 1995 and 2023 were selected, with a predominance of educational strategies aimed at preventing sexually transmitted infections, mainly caused by the Human Immunodeficiency Virus. Educational strategies prioritized group educational actions, dramatization strategy and behavioral approach technique, using pamphlets, booklets, posters, cartoon books, genital organ simulators, videos and games.

Conclusion: Collective educational sessions were the most evidenced in the literature for infection prevention, predominantly sexually transmitted, with few studies on vaginitis or vaginosis prevention.

Resumo

Objetivo: Identificar e mapear as principais estratégias educativas para prevenção de infecções do trato reprodutor feminino no sistema prisional.

Métodos: Revisão de escopo, realizada conforme a recomendações do Joanna Briggs Institute, com pesquisa nas bases de dados MEDLINE (PubMed), Cochrane Library, LILACS, SCOPUS, Science Direct, Embase; Google Scholar e Proquest, durante o período de 23 a 29 de maio de 2023. Utilizou-se o instrumento Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) para o fluxograma de busca e seleção dos artigos da revisão. Foram incluídos todos os títulos que seguiram a estratégia PCC: População: mulheres com idade a partir dos 18 anos. Conceito: uso de estratégias educativas para prevenção de ITR feminino. Contexto: sistema prisional, com cumprimento de pena em regime fechado. Foram excluídos aqueles que contemplaram estratégia educativa realizada para homens cisgênero ou com mulheres que já possuíam o diagnóstico de ITR.

Resultados: Foram selecionados 13 estudos publicados entre 1995 e 2023, com predomínio de estratégias educativas voltadas para prevenção de infecções sexualmente transmissíveis, principalmente causadas pelo

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Conflicts of interest: nothing to declare.

Vírus da Imunodeficiência Humana. As estratégias educativas priorizaram ações educativas grupais, estratégia de dramatização e técnica da abordagem comportamental, utilizando os seguintes recursos educativos: panfletos, cartilhas, cartazes, livro de desenhos animados, simuladores de órgãos genitais, vídeos e jogos.

Conclusão: As sessões educativas coletivas foram as mais evidenciadas na literatura para prevenção de infecções, predominantemente, sexualmente transmissíveis, com escassos estudos de prevenção de vaginites ou vaginoses.

Resumen

Objetivo: Identificar y mapear las principales estrategias educativas para la prevención de infecciones del tracto reproductor (ITR) femenino en el sistema penitenciario.

Métodos: Revisión de alcance, realizada de acuerdo con las recomendaciones del Joanna Briggs Institute, con búsqueda en las bases de datos: MEDLINE (PubMed), Cochrane Library, LILACS, SCOPUS, Science Direct, Embase; Google Scholar y Proquest, durante el período del 23 al 29 de mayo de 2023. Se utilizó el instrumento *Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews* (PRISMA-ScR) para el diagrama de flujo de búsqueda y selección de los artículos de la revisión. Se incluyeron todos los títulos que siguieron la estrategia PCC. Población: mujeres a partir de 18 años. Concepto: uso de estrategias educativas para la prevención de ITR femenino. Contexto: sistema penitenciario, con cumplimiento de condena en régimen cerrado. Se excluyeron aquellos que contemplaron estrategias educativas para hombres cisgénero o con mujeres que ya tenían el diagnóstico de ITR.

Resultados: Se seleccionaron 13 estudios publicados entre 1995 y 2023, con un predominio de estrategias educativas orientadas a la prevención de infecciones de transmisión sexual, principalmente causadas por el Virus de la Inmunodeficiencia Humana. Las estrategias educativas priorizaron acciones educativas grupales, estrategias de dramatización y técnicas de enfoque conductual, mediante la utilización de los siguientes recursos educativos: folletos, cartillas, carteles, libros de historietas, simuladores de órganos genitales, videos y juegos.

Conclusión: Las sesiones educativas colectivas fueron las más destacadas en la literatura para la prevención de infecciones, predominantemente de transmisión sexual, con escasos estudios de prevención de vaginitis o vaginosis.

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Introduction

Female reproductive tract infections (RTI) are prevalent in gynecology care and have a negative impact on women's quality of life.^(1,2) They are classified into three types: endogenous (vaginitis and vaginosis), iatrogenic infections (post-abortion, post-partum infections) and sexually transmitted infections (STIs), which include the Human Immunodeficiency Virus (HIV).⁽³⁾

In the context of the female prison system, RTI prevention must be prioritized due to the unsanitary conditions that women are often exposed to, such as limiting the size of cells, overcrowding, structural scrapping, failures in basic sanitation, insufficient nutritional supply, greater exposure to violence, poor access to the healthcare network, weak access to personal hygiene items and underwear, among other factors.⁽⁴⁻⁶⁾

Health educational strategies can contribute to knowledge and changes in women's attitudes, sensitizing them to adopt better hygiene habits, sexual and health practices that help prevent female RTI, since these are generally related to the maintenance of avoidable behavioral habits, which can be alleviated through an effective educational process, in addition to offering access to quality healthcare services.⁽⁷⁻⁹⁾

Thus, the present study aimed to identify and map the main educational strategies for preventing female RTI in the prison system.

The aim is, therefore, to fill a gap in knowledge regarding the search for well-planned educational strategies aimed at preventing female RTI in the prison system. In searches carried out on the International Prospective Register of Systematic Reviews (PROSPERO) and Open Science Framework (OSF) platforms, no records of systematic and/or scoping reviews on the topic were found. The result of this review has the potential to provide support for the implementation of effective educational proposals for RTI prevention, which would benefit nursing practice, which has as one of its fronts the search for reducing vulnerabilities and promoting health, through measures of health education actions based on communication, creation of bonds, exchange of knowledge and active listening.⁽¹⁰⁾

Methods

This is a scoping review prepared in accordance with JBI,⁽¹¹⁻¹³⁾ using Preferred Reporting Items for Systematic Reviews and Meta-Analyses

Extension for Scoping Reviews (PRISMA-ScR) recommendations.⁽¹²⁻¹⁴⁾

The research question followed the PCC strategy: Population (P) - women aged 18 and over; Concept (C) - use of educational strategies to prevent female RTI; Context (C) - prison system, with sentences served in a closed regime. Thus, the following question was raised: what educational strategies are evidenced in the literature for RTI prevention in women in the prison system?

A search was carried out in databases, through the Coordination for the Improvement of Higher Education Personnel (CAPES - *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*) Journal Portal, via institutional remote access, from May 23 to 29, 2023, covering the following databases: MEDLINE (PubMed), LILACS (*Literatura Latinoamericana y del Caribe en Ciencias de la Salud*), Scopus, Cochrane Library, Embase. Furthermore, a search was carried out in other electronic libraries, such as Google Scholar and Proquest. This research was carried out on May 23 and, on May 29, 2023, a reverse search was carried out in the references of the previously identified review article. No restrictions on language, time or type of study were applied. The inclusion criteria also followed the PCC strategy: Population: Women aged 18 and older. Concept: Use of educational strategies to prevent female RTI. Context: Prison system, with sentences

served in a closed regime. Studies that included an educational strategy carried out for cisgender men or with women who already had an RTI diagnosis were excluded.

For the search, combinations of keywords and descriptors from DeCS and MeSH and their synonyms were used, as shown in Chart 1. The descriptors were combined using the Boolean operators "AND" and "OR". Initially, the search strategy was developed in MEDLINE, via PubMed, and was later adapted to other databases and electronic libraries. The research strategy used is presented in Chart 1. Study selection was carried out using the Rayyan QCR software. The titles and abstracts were analyzed by two independent researchers in order to identify potentially eligible articles. Selected titles were read in full, and disagreements were resolved by consensus among researchers.

Independent data extraction was carried out, in duplicate, using a spreadsheet created by the authors and adapted to JBI recommendations. It was tested by two researchers, in a pilot test, extracting data from two articles included in the analysis. The final sample and the selection processes carried out are presented based on the PRISMA model (Figure 1).

The extraction spreadsheet sought identification of the study from the extraction database, study title, authorship, country of study identification, lan-

Chart 1. Combination of keywords and descriptors used to search open access databases and electronic libraries

Data sources	Keywords or descriptors
MEDLINE (via PubMed)	<p>Population: #1 ("Women" [MeSH Terms] OR "Woman" [Title/Abstract] OR "Female" [MeSH Terms] OR "Females" [Title/Abstract])</p> <p>Concept: #2 ("Health Education" [MeSH Terms] OR "Education, Health" [Title/Abstract] OR "Community Health Education" [Title/Abstract] OR "Education, Community Health" [Title/Abstract] OR "Health Education, Community" [Title/Abstract] OR "Educational Activities" [Title/Abstract] OR "Educational strategies" [Title/Abstract] OR "Health literacy" [Title/Abstract])</p> <p>#3 ("Genital Diseases, Female" [MeSH Terms] OR "Gynecologic Diseases" [Title/Abstract] OR "Diseases, Gynecologic" [Title/Abstract] OR "Gynecologic Disease" [Title/Abstract] OR "Female Genital Diseases" [Title/Abstract] OR "Diseases, Female Genital" [Title/Abstract:~0] OR "Female Genital Disease" [Title/Abstract] OR "Genital Disease, Female" [Title/Abstract] OR "Reproductive Tract Infections" [MeSH Terms] OR "Infection, Reproductive Tract" [Title/Abstract] OR "Infections, Reproductive Tract" [Title/Abstract] OR "Reproductive Tract Infection" [Title/Abstract] OR "Genital Tract Infections" [Title/Abstract] OR "Genital Tract Infection" [Title/Abstract] OR "Infection, Genital Tract" [Title/Abstract] OR "Infections, Genital Tract" [Title/Abstract] OR "Sexually Transmitted Diseases" [MeSH Terms] OR "Disease, Sexually Transmitted" [Title/Abstract] OR "Diseases, Sexually Transmitted" [Title/Abstract] OR "Sexually Transmitted Disease" [Title/Abstract] OR "Venereal Diseases" [Title/Abstract] OR "Disease, Venereal" [Title/Abstract] OR "Diseases, Venereal" [Title/Abstract] OR "Venereal Disease" [Title/Abstract] OR "STDs" [Title/Abstract] OR "Sexually Transmitted Infections" [Title/Abstract] OR "Infection, Sexually Transmitted" [Title/Abstract] OR "Infections, Sexually Transmitted" [Title/Abstract] OR "Sexually Transmitted Infection" [Title/Abstract] OR "Transmitted Infection, Sexually" [Title/Abstract] OR "Transmitted Infections, Sexually" [Title/Abstract] OR "STIs" [Title/Abstract] OR "STI" [Title/Abstract])</p> <p>Context: #5 ("Prisoners" [MeSH Terms] OR "Prisoner" [Title/Abstract] OR "Hostages" [Title/Abstract] OR "Hostage" [Title/Abstract] OR "Jails" [MeSH Terms] OR "Jail" [Title/Abstract] OR "Detention Centers" [Title/Abstract] OR "Center, Detention" [Title/Abstract:~0] OR "Centers, Detention" [Title/Abstract] OR "Detention Center" [Title/Abstract] OR "Gaois" [Title/Abstract] OR "Gao" [Title/Abstract] OR "Prisons" [MeSH Terms] OR "Prison" [Title/Abstract] OR "Penitentiaries" [Title/Abstract] OR "Penitentiary" [Title/Abstract] OR "Persons deprived of liberty" [Title/Abstract:~0])</p> <p>#4= #1 AND #2 AND #3 #6= #4 AND #5</p>

Continue...

Continuation.

Scopus	<p>POPULATION: K9147[8TITLE-ABS-KEY (("Women" OR "Woman" OR "Female" OR "Females"))]</p> <p>CONCEPT: TITLE-ABS-KEY (("Health Education" OR "Education, Health" OR "Community Health Education" OR "Education, Community Health" OR "Health Education, Community" OR "Educational Activities" OR "Educational strategies" OR "Health literacy"))</p> <p>TITLE-ABS-KEY (("Genital Diseases, Female" OR "Gynecologic Diseases" OR "Diseases, Gynecologic" OR "Gynecologic Disease" OR "Female Genital Diseases" OR "Diseases, Female Genital" OR "Female Genital Disease" OR "Genital Disease, Female" OR "Reproductive Tract Infections" OR "Infection, Reproductive Tract" OR "Infections, Reproductive Tract" OR "Reproductive Tract Infection" OR "Genital Tract Infections" OR "Genital Tract Infection" OR "Infection, Genital Tract" OR "Infections, Genital Tract" OR "Sexually Transmitted Diseases" OR "Disease, Sexually Transmitted" OR "Diseases, Sexually Transmitted" OR "Sexually Transmitted Disease" OR "Venereal Diseases" OR "Disease, Venereal" OR "Diseases, Venereal" OR "Venereal Disease" OR "STDs" OR "Sexually Transmitted Infections" OR "Infection, Sexually Transmitted" OR "Infections, Sexually Transmitted" OR "Sexually Transmitted Infection" OR "Transmitted Infection, Sexually" OR "Transmitted Infections, Sexually" OR "STIs" OR "STI"))</p> <p>CONTEXT: TITLE-ABS-KEY (("Prisoners" OR "Prisoner" OR "Hostages" OR "Hostage" OR "Jails" OR "Jail" OR "Detention Centers" OR "Center, Detention" OR "Centers, Detention" OR "Detention Center" OR "Gaols" OR "Gao" OR "Prisons" OR "Prison" OR "Penitentiaries" OR "Penitentiary" OR "Persons deprived of liberty"))</p>
Cochrane Library	<p>POPULATION: (("Women" OR "Woman" OR "Female" OR "Females"));ti,ab,kw</p> <p>CONCEPT: (("Health Education" OR "Education, Health" OR "Community Health Education" OR "Education, Community Health" OR "Health Education, Community" OR "Educational Activities" OR "Educational strategies" OR "Health literacy")); ti,ab,kw</p> <p>(("Genital Diseases, Female" OR "Gynecologic Diseases" OR "Diseases, Gynecologic" OR "Gynecologic Disease" OR "Female Genital Diseases" OR "Diseases, Female Genital" OR "Female Genital Disease" OR "Genital Disease, Female" OR "Reproductive Tract Infections" OR "Infection, Reproductive Tract" OR "Infections, Reproductive Tract" OR "Reproductive Tract Infection" OR "Genital Tract Infections" OR "Genital Tract Infection" OR "Infection, Genital Tract" OR "Infections, Genital Tract" OR "Sexually Transmitted Diseases" OR "Disease, Sexually Transmitted" OR "Diseases, Sexually Transmitted" OR "Sexually Transmitted Disease" OR "Venereal Diseases" OR "Disease, Venereal" OR "Diseases, Venereal" OR "Venereal Disease" OR "STDs" OR "Sexually Transmitted Infections" OR "Infection, Sexually Transmitted" OR "Infections, Sexually Transmitted" OR "Sexually Transmitted Infection" OR "Transmitted Infection, Sexually" OR "Transmitted Infections, Sexually" OR "STIs" OR "STI")); ti,ab,kw</p> <p>CONTEXT: (("Prisoners" OR "Prisoner" OR "Hostages" OR "Hostage" OR "Jails" OR "Jail" OR "Detention Centers" OR "Center, Detention" OR "Centers, Detention" OR "Detention Center" OR "Gaols" OR "Gao" OR "Prisons" OR "Prison" OR "Penitentiaries" OR "Penitentiary" OR "Persons deprived of liberty") : ti,ab,kw</p>
LILACS	<p>POPULATION: #1: "Mulheres"</p> <p>CONCEPT: #2:("Educação em Saúde" OR "Educação" OR "Letramento em Saúde") #3: ("Doenças dos Genitais Femininos" OR "Infecções do Sistema Genital" OR "Infecções Sexualmente Transmissíveis")</p> <p>CONTEXT: #4: ("Prisioneiros" OR "Prisões locais" OR "Prisões")</p>
Embase	<p>POPULATION: #1: 'female'/exp OR female</p> <p>CONCEPT: #2: 'health education' OR 'health literacy' OR 'hiv education' OR 'self care education' OR 'education, health'</p> <p>#3: 'gynecologic diseases' OR 'female genital tract infection' OR 'female genital tract inflammation' OR 'vagina disease' OR 'vulva disease' OR 'vulvovaginal disease' OR 'sexually transmitted disease'</p> <p>CONTEXT: #4: 'prisoner' OR 'hostage' OR 'correctional facility'</p> <p>#5 = #1 AND #2 AND #3 AND #4</p>
Web of Science	<p>POPULATION: ALL=("Women" OR "Woman" OR "Female" OR "Females")</p> <p>CONCEPT: ALL=("Health Education" OR "Education, Health" OR "Community Health Education" OR "Education, Community Health" OR "Health Education, Community" OR "Educational Activities" OR "Educational strategies" OR "Health literacy")</p> <p>ALL=("Genital Diseases, Female" OR "Gynecologic Diseases" OR "Diseases, Gynecologic" OR "Gynecologic Disease" OR "Female Genital Diseases" OR "Diseases, Female Genital" OR "Female Genital Disease" OR "Genital Disease, Female" OR "Reproductive Tract Infections" OR "Infection, Reproductive Tract" OR "Infections, Reproductive Tract" OR "Reproductive Tract Infection" OR "Genital Tract Infections" OR "Genital Tract Infection" OR "Infection, Genital Tract" OR "Infections, Genital Tract" OR "Sexually Transmitted Diseases" OR "Disease, Sexually Transmitted" OR "Diseases, Sexually Transmitted" OR "Sexually Transmitted Disease" OR "Venereal Diseases" OR "Disease, Venereal" OR "Diseases, Venereal" OR "Venereal Disease" OR "STDs" OR "Sexually Transmitted Infections" OR "Infection, Sexually Transmitted" OR "Infections, Sexually Transmitted" OR "Sexually Transmitted Infection" OR "Transmitted Infection, Sexually" OR "Transmitted Infections, Sexually" OR "STIs" OR "STI")</p> <p>CONTEXT: ALL=("Prisoners" OR "Prisoner" OR "Hostages" OR "Hostage" OR "Jails" OR "Jail" OR "Detention Centers" OR "Center, Detention" OR "Centers, Detention" OR "Detention Center" OR "Gaols" OR "Gao" OR "Prisons" OR "Prison" OR "Penitentiaries" OR "Penitentiary" OR "Persons deprived of liberty")</p>
Google Scholar	<p>("Mulheres") AND ("Health Education" OR "Health literacy") AND ("Doenças dos Genitais Femininos" OR "Infecções do Sistema Genital" OR "Infecções Sexualmente Transmissíveis") AND ("Prisoners" OR "Jails" OR "Prisons")</p>
Proquest	<p>("Mulheres") AND ("Health Education" OR "Health literacy") AND ("Doenças dos Genitais Femininos" OR "Infecções do Sistema Genital" OR "Infecções Sexualmente Transmissíveis") AND ("Prisoners" OR "Jails" OR "Prisons")</p>

guage and year of publication, study characteristic, objective(s), study design, population and educational strategy/technology identified, type of RTI addressed in the educational action and main results. As results, a synthesis table of selected studies was presented (Chart 2).

Results

Articles were published between 1995 and 2023 in Brazil (n=6) and the United States of America (n=7). Regarding study design, four are methodological works, construction and validation of ed-

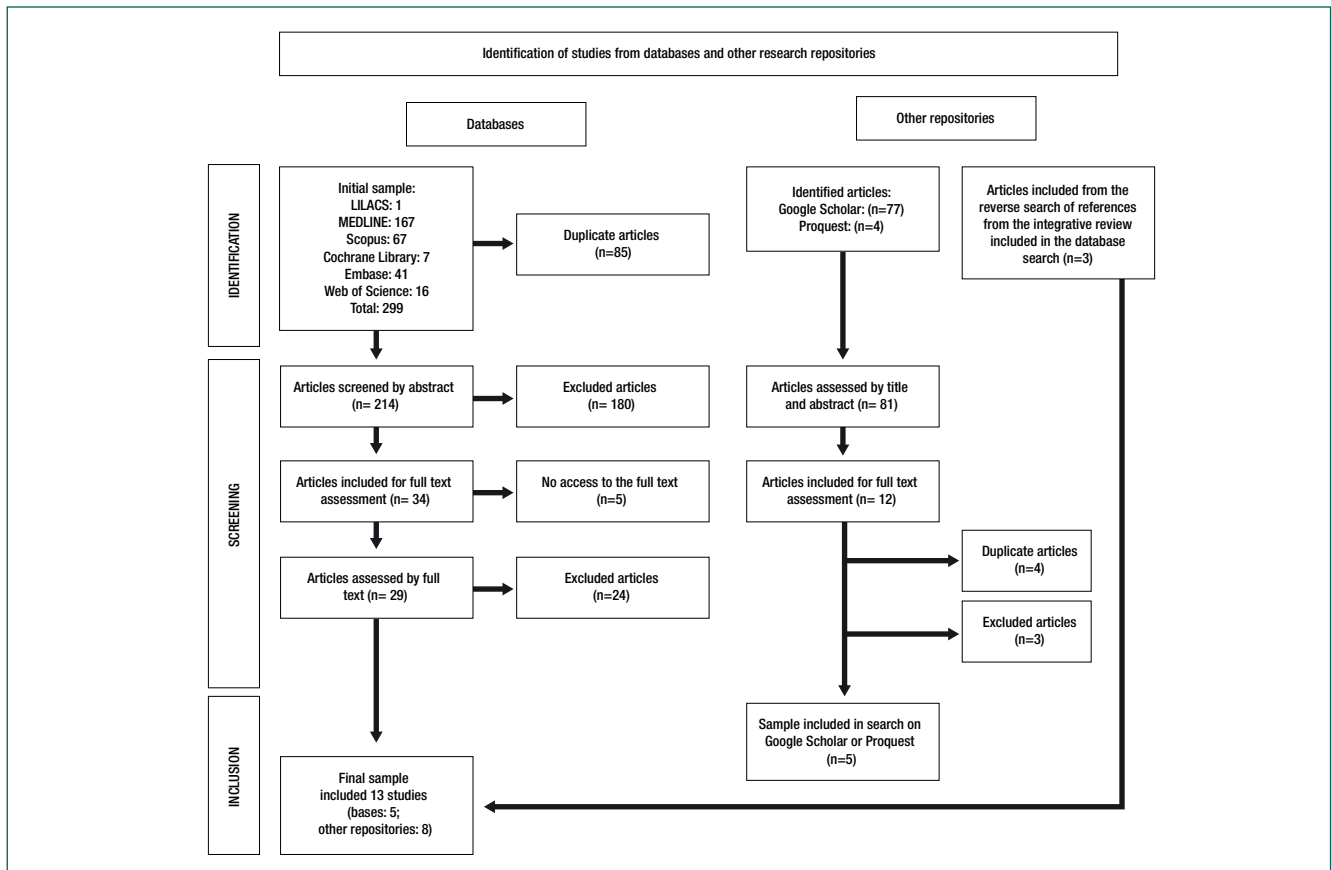


Figure 1. Article selection according to PRISMA-ScR

educational technology^(13,14) and adaptation of an educational strategy previously validated and applied to the female prison environment.^(15,16) Four are experimental studies and controlled and randomized clinical trials.⁽¹⁷⁻²⁰⁾ Three are experience reports on the application of an educational strategy with women in the prison system.⁽²¹⁻²³⁾ One is an integrative literature review and one is a quasi-experimental cohort study.^(24,25)

The majority of selected studies (n=12) included educational strategies carried out to prevent STIs in general. Among these, three did not specify the type of infection,⁽²²⁻²⁴⁾ and four worked on the topic of STIs, but prioritized HIV infection prevention.^(13,15,16,19) Four focused exclusively on HIV prevention,^(17,18,20,25) and one worked on a specific STI prevention, syphilis.⁽¹⁴⁾ Only one study addressed vaginal discharge prevention through good intimate hygiene practices.⁽²¹⁾ Reading the latter allowed us to conclude that it was about the vaginitis and/or vaginosis prevention, despite these terms not appearing directly in the text.

The majority of educational strategies identified (n=11) focused on carrying out collective educational sessions, using active methodologies and space for speech among participants. Some of these use videos,^(15,19,23,25) telephone calls,^(15,18,19) educational group dynamics,^(21,22) dramatization,⁽²²⁾ printed materials,^(13,22,24) educational games,^(14,24) genital organ simulators⁽²⁴⁾ and other educational objects, such as the “safe sex kit”, containing male and female condoms, information leaflets on how to use them, hygiene kits, nail clippers, a whistle on a keychain, mini lubricants, dental dams and a booklet reviewing information about safe sex and community resources⁽¹⁶⁾ and educational materials, such as photos of sexually transmitted diseases STI/HIV, contraceptive methods, breast self-examination simulator, simulator on how to use female/male condoms, which were used as an aid in the training process.⁽²³⁾

One of the studies assessed the effectiveness of using individual and personalized motivational in-

interviews, according to imprisoned women's reality, associated with the use of a traditional educational action of a behavioral nature.⁽²⁰⁾

The use of a behavioral intervention approach with the aim of producing changes in risk behaviors for disease prevention was also identified in studies.^(15-17,20,25) Strategies using specific skills training for the use of condoms, use of materials for injecting drug consumption, importance of drug treatment, negotiation performance with partners or for handling situations in cases of violence were carried out in some selected studies.^(16,20,23,25) The results of studies showed positive results regarding the sexual and reproductive rights of female inmates⁽²³⁾ aiming to reduce risky behavior among female prisoners, sexual practice without using condoms, use of psychoactive substances, high number of sexual partners,^(13,15-20,20,24,25) significant increase in knowledge about HIV, reduction of barriers to condom use, coping with marital abuse and conflict management^(16,19) and improving self-esteem and confidence among women,⁽²²⁾ in addition to a positive effect among the facilitators of educational actions, with increased knowledge about the vulnerabilities experienced by this group and breaking down prejudices and fears related to the prison context.^(21,22) The main characteristics of included studies are in Chart 2.

Discussion

Although vaginitis and vaginosis are among the most common RTI complaints,^(1,2) selected studies showed a greater prevalence of educational actions aimed at STI prevention, with a focus on HIV and AIDS. Only one study addressed an educational strategy for preventing vaginitis and vaginosis, through education on intimate hygiene.⁽²¹⁾

The prevalence of HIV in prisons is still higher than in the community, posing a challenge for the health system and the judiciary.^(27,28) Studies reveal high rates of infections caused by HIV, syphilis, viral hepatitis and tuberculosis among the population in the prison system.⁽²⁸⁻³⁰⁾ No studies were identified on the prevalence of vaginitis and vaginosis in the prison population.

The high prevalence of HIV in female inmates is related to drug use, unprotected sexual relations, and the risk of transmission from mother to child during prison. Furthermore, the condition may be worsened due to limited access to sexual and reproductive healthcare services, conditions of poverty, discrimination, marginalization, social prejudice and interruption of necessary healthcare services during deprivation of liberty.⁽⁴⁻⁶⁾

Syphilis is also a reality among women prisoners. The prevalence of syphilis was lower among women who received condoms at school, revealing a positive relationship between the presence of preventive reproductive health actions and the lower presence of syphilis among women prisoners.⁽³¹⁾

It is imperative that the prison environment is equipped with a healthcare service aimed at meeting the specific demands of the female population, including the insertion of preventive diagnostic measures through effective educational actions, in addition to therapeutic measures to control the progression of STIs and other RTIs.^(5,6,32)

In the educational strategies evidenced in the literature, the predominance of group actions was noticed. Studies that assessed the effectiveness of group educational strategies, through randomized clinical trials, reported that these strategies were more beneficial in changing risk behaviors to prevent STIs.⁽¹⁷⁻¹⁹⁾ Some highlighted the use of educational tools to conduct actions, such as the use of printed materials (e.g., pamphlets, booklets, posters and cartoon books). The use of genital organ simulators and other educational objects, videos, games, educational dynamics and use of the dramatization strategy was also identified.

STI and other RTI prevention in women in the prison system must value an educational approach with an expanded health focus, including discussions about drug use, issues of gender and power in relationships, physical and sexual violence by an intimate partner, management of risky sexual behavior, family planning, in addition to contemplating issues of mental health and social reintegration projects.^(15, 18,19,23,25)

However, despite recent discussions about the rights of people deprived of liberty, health educa-

Chart 2. Presentation of articles included in the review

References	Objective	Participants	Study design	Educational strategy/educational technology	Type of RTI/STI	Main results
Magura et al., 1995 ⁽¹⁷⁾	Report the results of an AIDS prevention education program for female inmates and drug users.	Control group (CG): 48 women Intervention group (IG): 53 women.	Controlled randomized clinical trial	IG: Collective educational sessions, with the formation of small groups of participants. Resource use: Collective discussion. CG: Did not participate in any additional HIV prevention interventions.	HIV	Positive assessment of participants; CG and IG did not differ significantly in reducing risk behavior. The educational action associated with treatment for drug use reduced the occurrence of risk behaviors.
Lawrence et al., (1997) ⁽²⁵⁾	Compare an intervention based on social cognitive theory (SCT) against a comparison condition based on gender and power theory (GP).	90 female inmates	Cohort study	Formation of four cohort groups (two for each type of intervention) containing 8-15 participants in each. Interventions in the SCT group: Use of the resource: Short videos, collective discussion, training in risk reduction skills covered in the theoretical field. Interventions in the GP group:	HIV	There were no statistical differences in improvement in skills, knowledge or attitudes between the two interventions, except for the improvement in the ability to use condoms in the SCT group.
Lessa et al., 2012 ⁽²²⁾	Report the experience of an educational strategy on STIs in a women's prison in the state of Ceará.	26 female inmates	Experience report	Collective educational sessions with the formation of small groups of participants; Resource use: Collective discussion, use of pamphlets, posters, cartoon book, group dynamics, dramatization, delivery of a certificate of participation.	STI	An increase in female prisoners' self-esteem, satisfaction and confidence was noticed. The activity contributed to reducing fear and prejudice among those facilitating the action. The direct benefit of the action in relation to STI prevention was not presented.
Fasula et al., 2013 ⁽¹⁵⁾	Adapt an evidence-based intervention for HIV/AIDS prevention among female inmates.	Groups of 5 to 6 female inmates, seronegative, in each of the two participating prison units and who had short-term sentences.	Methodological study	Educational strategy called Power, which consists of: Eight initial collective educational sessions plus a reinforcement session (one month after the 8 th session), with the formation of small groups of participants. After participants were released, they received 3 telephone calls to reinforce the content of the intervention and review their personal goal plans. Resource use: Telephone calls, short videos, collective discussion, establishment of agreed goals.	STI, focus on HIV	SAFE project ⁽²⁴⁾ was satisfactorily adapted for the creation of the POWER project, addressing social, behavioral and mental health factors that relate to HIV transmission prevention.
Knudsen et al., 2014 ⁽¹⁸⁾	Assess the RRR-HIV intervention model on its impact on changing the sexual behaviors of women in the prison system.	346 female inmates who used drugs before prison and who were scheduled for release six weeks after recruitment.	Randomized clinical trial	CG: Use of a 17-minute educational video on drug use and HIV. IG: Educational strategy called "Reducing Risk Relationships for HIV (RRR-HIV)", which consists of an educational video (same as the CG), five collective educational sessions, with the formation of small groups of participants; Both groups received a telephone call approximately 90 days after release. Resource use: Educational video, collective discussion, post-release telephone call.	HIV	IG participants reported fewer unprotected sexual behaviors post-release.
Fogel et al., 2015 ⁽¹⁹⁾	Test the effectiveness of an evidence-based adapted behavioral intervention for STI.	521 female inmates	Randomized clinical trial	CG: A standard STI prevention educational session of about an hour in length. IG: Educational strategy called Power13, which consists of: Collective educational sessions, with the formation of small groups of participants; Resource use: telephone calls to participants after release; use of short educational videos.	STI, focus on HIV	The intervention group showed a significant reduction in risk behaviors (unprotected sexual intercourse, number of sexual partners), significant increase in knowledge about HIV, reduction in barriers to condom use and improvement in coping with marital abuse.
Johnson et al., 2015 ⁽¹⁶⁾	Adapt an HIV prevention intervention for women to address sexual safety among female inmates with a history of interpersonal violence victimization.	14 women arrested on the verge of being released.	Methodological study	Educational strategy called Women's (CoOp), which consists of: Collective educational sessions, with the formation of small groups of participants, took place before release and 2, 5 and 8 months after release. Resource use: Collective discussion, skills training on covered content, delivery of a "safe sex" kit.	STI, focus on HIV	Decrease in the number of unprotected sexual relations, substance use and increased tolerance of suffering and improvement in conflict management among participants.
Guedes et al., 2015 ⁽²³⁾	Report the experience of carrying out educational actions to prevent STIs in female inmates.	Educational groups with a maximum of 15 female inmates.	Experience report	Collective educational sessions, with the formation of small groups of participants, carried out by nursing students; resource: Collective discussion, educational material on sexual and reproductive health for skills training, short videos.	STI	The educational actions carried out provided opportunities for discussion about the sexual and reproductive rights of female inmates. The study did not report on the effectiveness of the action in relation to STI prevention.
Staton et al., 2018 ⁽²⁰⁾	Analyze the effectiveness of using an educational intervention to reduce the risk of HIV for rural female inmates and drug users.	381 rural female inmates, drug users and reporting risky sexual practices in the last three months prior to incarceration.	Randomized clinical trial	IG: Participation in up to 4 motivational interview sessions until release of an individualized approach; CG: NIDA standard intervention only, with a collective approach and traditional style education. The intervention was carried out through telephone contact, sending letters, internet research and social networks.	HIV	A reduction in HIV risk behavior was observed in both groups assessed, with a greater increase in those participants in IG, but without statistical significance.

Continue...

Continuation.

Carvalho et al., 2020 ⁽²⁴⁾	Analyze in the scientific literature the educational technologies on STIs used in health education for female inmates.	Eight articles included, covering 1,771 female inmates participating in educational actions.	Integrative review	Motivational interviewing use; Collective educational sessions, with the formation of small groups of participants; Resource use: Printed material, genital organ simulators, short videos and interactive games.	STI	The educational interventions highlighted proved to be a viable strategy for reducing risk behaviors and consequently preventing STIs in female inmates.
Vieira et al., 2020 ⁽²¹⁾	Report the experience of carrying out an educational activity carried out by health academics for female inmates.	The number of women participants was not identified.	Experience report	Collective educational sessions, with the formation of small groups of participants; Use of resources: Collective discussion, group dynamics and playful activities.	Vaginitis/vaginosis	The action allowed the participants to share experiences and information. The facilitators were able to have a broader view of the difficulties faced by inmates in receiving healthcare in the prison system. The work did not demonstrate the benefit of the action for female inmates.
Nascimento et al., 2021 ⁽¹⁴⁾	Assess the development and validation of the board game "Race Against Syphilis" aimed at preventing and controlling syphilis in female inmates.	22 health and ten education professionals participated in content validation. Appearance assessment occurred with 10 female inmates.	Methodological study	Resource use: Board game (elaboration and validation).	Syphilis	The board game was assessed as suitable for the target audience and indicated that it could assist health education activities within the prison.
Borges et al., 2023 ⁽¹³⁾	Describe the process of developing and validating educational technology for HIV/AIDS prevention for the female inmate population.	Eight experts participated in validating educational technology content and appearance and 20 female inmates participated in material clinical validation.	Methodological study	Collective educational sessions, with the formation of small groups of participants; Use of resources: Informative material in booklet format, entitled "Beyond the bars: discussing STI/HIV/AIDS and human sexuality"; collective discussion among inmates.	STI, focus on HIV	The produced and validated material showed good internal consistency across both groups of evaluators. It proved to be reliable, reproducible and capable of being incorporated into educational practice aimed at preventing and controlling STI/HIV/AIDS in female inmates.

tion in this environment is still sometimes seen as a certain benefit offered to prisoners, due to the culture of prejudice and stigmatization that socially exists with this population. However, offering educational activities in this environment is one of the tools to guarantee the right to education for everyone, without exception, in addition to allowing incarceration to function as an opportunity for people to take care of their health.^(5,32,33)

It is necessary to consider prisoners as comprehensive beings, with specific needs that need to be met to guarantee effectiveness in changing behaviors and practices.⁽³³⁾ Inmates' prevalent pathologies and living conditions must direct health missions towards education and promotion actions.⁽³⁴⁾

In the studies included in this review, the use of active methodologies in the teaching-learning process was evident, providing greater interaction among participants, greater critical reflection and creativity. Furthermore, the use of behavioral educational approaches was evidenced, the practice of skills learned in the theoretical field, focusing on

content assimilation and changing risk behaviors as a way of preventing RTI.

As a limitation, there was a lack of detailed description of the educational strategies used regarding RTI in prison systems, making it difficult to reproduce the methodology used in the action. Because the review presents titles published between 1995 and May 2023, it is possible to infer that, due to the broad temporal spectrum, changes have occurred in recommendations and clinical practices related to female RTI prevention over the years. Therefore, this point is also highlighted as a limitation, since the educational strategies described may not necessarily reflect the most up-to-date and effective practices.

Finally, the inclusion of studies with female inmates in a closed regime is also considered a limitation, given that women in a semi-open regime may have more opportunities to access health education information, whereas those in a closed regime may face additional challenges due to restricted freedom and lack of available resources. However, these ob-

servations can be explored in future research and interventions to ensure the effectiveness of educational strategies as well as promoting women's health in the prison context.

Conclusion

Scientific evidence has elucidated that there are a small number of published studies on educational strategies for preventing female RTI in the prison system. Studies focus on STI prevention, with a lack of material on other infection prevention, which are not necessarily linked to unprotected sex practice. The educational strategies highlighted prioritized group sessions, using technologies that facilitate the teaching-learning process, using printed materials, genital simulators and other educational objects, videos, games and use of dramatization strategies. The behavioral approach and skills practice technique were also present in several studies. In terms of the knowledge gap, there was a greater prevalence of educational strategies aimed at STIs and HIV. Others need to be planned, executed and published in the literature to prevent RTIs, not necessarily sexually transmitted, but related to precarious living conditions in the prison environment.

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