

HIV Prevalence in Internal from Brazilian Prisons and Its Associated Factors: Integrative Literature Review

REVIEW

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Abstract

The prison populations is considered vulnerable due heterogeneity of confinement, whose predisposing factors are the lifestyle of individuals and prison conditions. This study aimed to investigate the prevalence of HIV and associated factors reported in studies conducted in prisons in Brazil. An integrative review was carried out, with a search in the databases LILACS, MEDLINE and SCIELO, including articles published from 2000. The final sample that met the inclusion and exclusion criteria totaled 11 articles. prevalences were found ranging from 3.2% to 16%. This review made it possible to find average of 10.6% prevalence. Predominated as risk factors: drug use, piercing material sharing, inappropriate sexual behavior and STDs. There was a need for more comprehensive surveys, which provides a situational diagnosis of HIV in this population, so as to reveal specific aspects of individual, social and programmatic vulnerabilities in each region of Brazil.

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Introduction

New development cycle of the AIDS epidemic is revealed in Brazil, with low prevalence rates in the general population, in contrast to high prevalence in some population subgroups [1]. Among the populations of greater vulnerability to HIV status, lies the population private of freedom (PPL), considered highly vulnerable in a high risk environment, due to heterogeneity of confinement in the same space, greater exposure to physical, psychological risk and transmission of infectious diseases [2].

Brazil has experienced an increase in its prison population of 143% in the 1995-2005 period, when went from 148,000 to 361,402 inmates in a decade, with annual growth rates of around 12% per

Keywords

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year. Between 2005 and 2009, the increase was 31.05%, in 2009, the last year available by the system for evaluation, records indicate the existence of 473,626 inmates, featuring 243.35 prisoners per 100,000 inhabitants in the country. In the same year, the State of Piauí had 2,591 prisoners, a total rate of the prison population of 82.38 per 100,000 inhabitants [3].

The prison population in Brazil in 2014 was 563,526 prisoners, while the prison had capacity for 357,219. In the state of Piauí, in June 2014, there were around 3,240 prisoners, with real capacity to 2,760 resulting in overcrowding in prisons. Brazil has the fourth largest prison population in the world and is second only to the United States (2,228,424), China (1,701,344) and Russia (676,400) [4].

Studies indicate unfavorable structural conditions to carry out health promotion and disease prevention in the prison environment. With respect to HIV, there are difficulties in access devices offered by the government for the prevention and early knowledge of serostatus [5]. In the prison environment there are prospects of high rates of HIV prevalence, thus it is necessary to study about the characteristics of this infection and the risk factors present in this context. Thus, seeking to contribute to a better view of the situation addressed in the specific characteristics of Brazil, this study aimed to investigate the prevalence of HIV and factors associated with infection by this virus in prisons in Brazil.

Methods

This is an integrative literature review, an important method in evidence-based practice, which provides a standard of identification, and points out gaps. [6]

This review was prepared by bibliographic survey on the following basis: Latin American and Caribbean Health Sciences (LILACS), Medical Literature Analysis and Retrieval System on-line (MEDLINE) and Scientific Electronic Library Online (SCIELO).

The key words used were: HIV (and) Prevalence (and) Prison (or) Penitentiaries, (or) Prisoners in Portuguese and English. To guide this review, formulated the question: What is the prevalence of HIV in prisons built in Brazil and what the risk factors associated with infection?

In order to elaborate, the following steps were followed: definition of guiding question, establishment of the review objectives and the inclusion and exclusion criteria for the sample selection, categorization and definition of information to be obtained from the selected articles, analysis of results, discussion of findings and presentation of the review.

For the refinement of the studies was defined the following inclusion criteria: original studies published in any language, provided it has been held in prisons in Brazil and raised the prevalence of HIV among internal as well as the risk factors for infection. They excluded studies with publications prior to 2000, duplicate articles and theses and/or dissertations.

The survey was conducted in January 2015. After the procedure the electronic search, the publications were pre-selected for reading the title and abstract in respect of compliance with the inclusion criteria. Then, those that passed this filter were read in their entirety to compose the final sample.

Following the above mentioned details were located 465 studies in the mentioned bases, of these, 443 have not gone through all the inclusion criteria, with only 22 studies selected for reading in full, this, were excluded: five because they are theses and/or dissertations four in its publications occur before 2000 and two because they were duplicates. Thus, the final sample of this integrative review consisted of 11 articles.

The presentation of results and discussion of the data was done descriptively. For the organization and tabulation of the data, we used an instrument for the collection of information contained in the articles, such as title search, journal, year

of publication, authors, study site, article objectives, HIV prevalence, subjects studied, results found and completion. To calculate the average prevalence found was used simple descriptive statistics weighted average taking into account the sample size in each study.

Results

Of the 11 articles analyzed, seven (63.7%) were published in English and four (36.3%) in Portuguese.

In a little over a decade 2000 to 2013 was observed downward trend in the distribution of number of publications over time, when they were published, respectively, in 2000 (4) 2001 (3) 2007 (2) 2008 (1) and 2013 (1), the year 2000 was the period in which there was a greater number of publications on the subject, with 36.3%. **Table 1** shows the distribution of selected articles as final sample included in this literature review.

The population included in the final sample of this review makes a quantity of 5,196 inmates, of which

Table 1. Summary of articles selected for the integrative review. Teresina/PI – 2015.

Order	Title	Journal	Aim
A1	Prevalence of HIV-1/2, HTLV-I/II, hepatitis B virus (HBV), hepatitis C virus (HCV), Treponema pallidum and Trypanosoma cruzi among prison inmates at Manhuaçu, Minas Gerais State, Brazil. [7]	Revista da Sociedade Brasileira de Medicina Tropical	To determine the prevalence of HIV-1/2, HTLV-I/II, HBV, HCV, Treponema pallidum and Trypanosoma cruzi.
A2	Seroprevalence and Risk Factors for HIV Infection Among Incarcerated Men in Sorocaba, Brazil. [8]	Journal AIDS and Behavior	Universidade Estadual do Paraná, Campus de Curitiba II – Rev Científica – Ano II – Vol 2. 2012.
A3	Correlation between HIV and HCV in Brazilian prisoners: evidence for parenteral transmission inside prison. [9]	Revista de Saúde Pública	To estimate the incidence density of HIV infection in the prison population with application of mathematical techniques.
A4	Sexually transmitted diseases among female prisoners in Brazil: prevalence and risk factors. [10]	Journal of the American Venereal Disease Association.	To determine the prevalence and risk factors for sexually transmitted diseases among female prisoners in a prison of the Espírito Santo.
A5	High Prevalence of Hepatitis C Infection in a Brazilian Prison: Identification of Risk Factors for Infection. [11]	The Brazilian Journal of Infectious Diseases	To determine the prevalence of HCV among prisoners in the House of Detention in Sao Paulo; Identify risk factors and to compare the prevalence of HCV with other sexually transmitted diseases.
A6	Prevalência de HIV, papilomavírus humano e sífilis na Penitenciária Feminina da Capital, São Paulo, 1997-1998. [12]	Caderno Saúde Pública	To estimate the prevalence of HIV, HPV and syphilis in women of the Women's Penitentiary in São Paulo.
A7	Prevalência de infecção pelo HIV e sífilis em sistema correccional para adolescentes. [13]	DST – J brasileiro de Doenças Sexualmente Transmissíveis	To determine the seroprevalence of HIV and syphilis; Identify risk factors among adolescent in Victoria's correctional system
A8	Estudo de comportamento associado à infecção pelo HIV e HCV em detentas de um presídio de São Paulo. [14]	Caderno Saúde Pública	Obtain information on the HIV infection and HPV in the female prison population; Identify aspects associated with risk factors.
A9	HIV prevalence and risk factors in a Brazilian penitentiary. [15]	Caderno Saúde Pública	To estimate the prevalence of HIV and risk factors in male prison population of Ribeirão Preto Prison.
A10	Prevalência de anti-HCV, anti-HIV e co-infecção HCV/HIV em um presídio feminino do Estado do Rio Grande do Sul. [16]	Revista brasileira de análises clínicas	To estimate the prevalence of HIV and risk factors in male prison population of Ribeirão Preto Prison.

Table 2. Review of articles according to HIV prevalence and risk factors associated with infection in prisons in Brazil. Teresina/PI, 2015.

Order	Local	Year	Sample	Sex	HIV Prevalence	Factors associated with HIV infection	Main findings
A1	Minas Gerais	2000	63	men	3.2% (2)	Low socioeconomic status and education; use intravenous drugs; risky sexual behavior.	Prisoners are a high risk group for HIV; screening tests and counseling are recommended as routine in the prison.
A2	São Paulo	2000	914	Men	12.6% (115)	Injecting drug use and risky sexual behavior	Urgent need to develop prevention programs for this population.
A3	São Paulo	2000	631	Men	16% (101)	Injecting drug use and prevalence of other sexually transmitted diseases	The risk of acquiring HIV increases with jail time, peaking around three years after incarceration.
A4	Espírito Santo	2000	121	Women	9.9% (12)	Drug use in general and injectables; presence of STDs; not use condoms often; blood transfusion.	The high prevalence points to the potential importance of prevention activities targeting this population.
A5	São Paulo	2001	121	Women	13.7% (105)	risky sexual behavior and abuse of illicit drugs.	Initiation of control measures to prevent ongoing transmission after incarceration should be done.
A6	São Paulo	2001	256	Women	14.5% (37)	Low education level; prevalence of other STDs; use of licit and illicit drugs; risky sexual behavior.	High prevalence of STD-HIV justifies the need for early diagnosis, individual medical evaluation and preparation of a program of education/prevention.
A7	Espírito Santo	2001	103 Teenagers	(95 men e 8 women)	4.9% (5)	Not using condoms; STD history; use of drugs.	Teenagers are at significant risk for HIV infection. It is emphasize the urgent need for educational, preventive and therapeutic activities during incarceration.
A8	São Paulo	2007	267	women	13.9% (37)	Sociodemographic variables; use of drugs; risky sexual practices.	The implementation of control strategies in this population is needed. Treatment and control of these infections contribute to the reduction of their disseminations, both inside and outside the prison.
A9	São Paulo	2007	333	Men	5.7% (19)	Use of drugs; sharing needles and syringes; sex with partners drug users	There is a clear need for ongoing epidemiological studies to provide updated information on the health status of inmates.
A10	Rio Grande do Sul	2008	76	Women	9.21% (7)	Use of drugs; sexual practices of risk; containment conditions; marginal social status; poor health services.	Incarcerated women constitute a risk group, vulnerable to HCV, HIV and HCV/AIDS co-infection and should be carried out prevention campaigns and screening tests for these diseases in this population.
A11	Porto Alegre	2013	1.667	Men	6.6% (110)	Use of intravenous and inhaled drugs; risky sexual behavior; performing tattoos in prison.	Providing in prisons across the country, better access prevention measures, carry out HIV screening at the entrance in prison and between the prisoners and ensure access to treatment to reduce HIV transmission.

82% located in the Southeastern states (São Paulo, Minas Gerais and Espírito Santo) and 18% located in the south (Rio Grande do Sul), and that prevailed in southeastern studies in the state of São Paulo (67%). The studied population deprived of liberty, 4,468 (86%) were male and 728 (14%) female.

Research on HIV infection and the risk factors associated with infection were found in all selected articles lying prevalence ranging between 3.2% and 16%. The highest detection rates for HIV were 16.0% and 14.5% both in prisons located in São Paulo. This review made it possible to find a weighted average of HIV prevalence in Brazilian prisons 10.6% taking into account the positive results and samples in each study. When we analyze the prevalence by sex, we found an average of 82.7% among men and 17.3% among women, with a male/female ratio in the order of 4.7.

As for risk factors related to HIV infection, the authors were unanimous in bringing associations with situations of vulnerability, namely: use of licit and illicit drugs especially injectables, sharp objects sharing, especially during performing tattoos inside and outside the prison environment; inappropriate sexual behavior without the use of condoms; presence of other sexually transmitted diseases before or during the research (co-infection).

Table 2 summarizes the key information that characterize the studies and allow to highlight the achievement of the objectives it has set itself this literature review.

Discussion

It is observed in all HIV prevalence reports of studies associated with injecting drug use. It should be noted that this risk of exposure to HIV is assuming over time downward trend, the prevalence be compared found in previously published studies to 2007 (7-13) most current studies (14-17), when observed drop in detection rates associated with injecting drug use, which can be attributed to the transformation that

took place in the scenario of the use of illicit drugs, in which intravenous who were more used up to half of the 90s, currently have lost room for inhaled drugs. Not only in the prison environment, but also outside it, the transmission of HIV experienced a reduction in this type of exposure. [1]

It is important to mention that the usage scenario and drug abuse did not move away from the context of HIV transmission since, any legal or illegal substances that alter the perception of the individual against the risk of infection can enter it in a vulnerable situation. Studies show high drug use rates among HIV positive internal to which on average had a variation of 71% to 97%, involving alcohol, tobacco, marijuana, cocaine and crack. [8, 11, 15, 17]

Studies showed the sexual via as the most important route of HIV transmission in the prison environment corroborating data disclosed by the Ministry of Health. [1] In relation to information on sexual exposure, according to the prisoners themselves, on average 66% have heterosexual relationships through conjugal visits and 10% maintain homosexual relations between inmates, 69% reported that their relations with multiple partners. The rate of HIV infection was higher (26%) among those who reported sex with drug use and 20% among homosexual relations with multiple partners. [7-17] Drug use can enhance sexual risk behavior, especially if there is unavailability of condoms at the time of the sexual act.

In Brazil, unprotected sexual activity is considered the most significant risk factor for the transmission of STDs especially HIV in prisons, which makes the condom something essential in the prison system. Without the necessary conditions for preventing the prison system can function as a centralized high-risk conditions for the acquisition and transmission of these infections, which contributes to the high prevalence of HIV, Syphilis, Hepatitis B and C and other STDs found in studies with this population group. [18]

The national control program of HIV/AIDS, considered among those who have obtained the best results in the world, especially to prioritize human rights, has added efforts throughout the history of HIV/AIDS in Brazil, with a variety of strategies deployment initiatives in fields of prevention, diagnosis, care and treatment in order to strengthen confronting the epidemic. [19] However, programmatic actions seem to find barriers to its effectiveness, especially if the scenario is the prison environment, especially activities related to prevention, availability of condoms and informative health education activities.

It should be noted that research addressing risk of exposure to HIV through sex in the prison environment, generally are biased because of possible omissions and inconsistencies in internal reports on their practices, either for fear of exposure of their intimacy, fear, or shame, among other reasons. Changes that may occur in their routines should also be considered, that go beyond sexual preference, for circumstantial reasons of their own prison environment, predominantly by coercions, threats, payments, trade and other occasional needs. In these various scenarios occur where inappropriate sexual behavior causing risk, there are no effective prevention strategies, with minimal, it would be a simple supply of condoms as a right.

Sexually transmitted diseases are a serious public health problem and reach the poorest segments of the population access to health services. Internal, independent of age, gender and color, are exposed and more vulnerable to STD by the containment situation. Among the many difficulties the precarious stands out access to the health sector for prevention and treatment. Professionals in the criminal justice system in greater contact with the internal usually prison guards, who often keep the people arrested, some devaluation of their complaints about the health status, perceived as hidden, indolent and incapable. [20] Often the failure to meet their needs are used as oppression or punishment.

Some studies also showed situations coinfection. [10,15-16] Noteworthy is the prevalence of hepatitis B and C in this review, because of the similarities with HIV, both as regards transmission routes (parenteral and sexual), and the peculiarities of treatment and management of the strategies clinical cases. Studies show the prison environment as favorable for the spread of these diseases, in addition to the factors already discussed about inappropriate sexual behavior and risky parenteral exposure, adds one more aggravating, sharing the sharp piercing and other materials inside the prison, including needle and ink between internal groups in performing tattoos. [7]

Authors investigating HIV associated with confinement situation in the female public, reiterate that the feminization of AIDS also occurs in the prison environment. [21-22] Studies that reflect the vulnerability of women prisoners facing the risk of STD/HIV, point out that in the field of affective relationships, the biggest difficulty is condom negotiation with the partner so that sexual relations are safer. This is probably associated culturally power inequalities between genders, economic dependence and the need not to break with social values that place women as responsible for family stability, in addition to the fear of being abandoned or abused by their partners that may result in forcing unprotected sex. [23]

A research [13] whose subjects were adolescents from the correctional system indicates drug use among 50% of the inmates, especially the same observed in adults in other studies of this review, such as marijuana, crack, cocaine inhalation. There was also a predominance of alcohol (35.3%) and smoking in use (66.5%) among respondents. Another strong association with HIV in this population group was related to findings of other sexually transmitted diseases, especially syphilis, 30% of the sample and reports of recurring stories of STDs before and during the advent of the prison associated with not using condoms as practice habitual.

Another closely related factor to HIV factor is the level of knowledge about the infection. In studies focused larger samples [8, 9, 11, 15, 17], observes personal reports that the majority of prisoners, around 60% had less than 6 six years of schooling, which reflects the difficulty in access to school, or probably early withdrawal. And consequently seropositive for HIV remained the lowest socioeconomic level, provided with little information about the knowledge of means of transmission and ways to prevent infection.

The coping history of HIV/AIDS in Brazil, all the conditioning factors involved, whether social, economic and cultural aspects, is marked by the experience of living unfavorable situations composed of challenges at different levels and spheres of activity.

Conclusion

In the context of the structural organization of the Brazilian penal system as a corrective entity, responsible for the internal re-entry into society, researchers demonstrate concern for the results related to health in these environments since, are observed, adverse situations to health promotion. A high rate of disease detection and dissemination of the same between internal and individuals involved in the context (work and family) are observed. Most of the prisons health services, where they exist, are weak, unprepared, without operating conditions for achieving effective assistance.

Early diagnosis becomes concrete as an essential strategy for controlling the HIV/AIDS and directly affects the quality of life of people living with HIV. However, despite specific research, such studies used in this review, with outbreaks in the South and Southeast, there is the need for more comprehensive surveys in the country as a whole, providing a wider situational diagnosis and current HIV in private population of freedom, so as to reveal specific aspects of individual, social and programmatic vulnerabilities in each region of Brazil. Among the

findings, taking into account criteria established by the authors of this review, it is emphasized the lack of publications in the form of articles that portray North, Northeast and Midwest.

In summary, given the available findings it is clear that HIV/AIDS in the penal system is associated with low socioeconomic status, low education, exposure to common risk practices represented by the use/abuse of drugs and multiple unprotected sex, socio-cultural issues and gender, and the unfavorable institutional conditions for the effectiveness of health programs public, that allow health promotion and disease prevention, as well as appropriate treatment and quality care.

It is observed that the risk factors associated with HIV are not usually isolated, consequently leads to a vulnerability another, being joined in some way to a context that although independent occasion may appear directly proportional. Considering this factor, it is interesting that the strategies to control HIV interact simultaneously, the joints between areas and sectors take place in line that are geared to the local situation context, taking into account mainly the individual vulnerability and human rights, in order to to better results in the context of health in prisons.

With the look of promoting care focused on public health, incarceration may represent a opportune time for intervention and addressing social inequities in this specific population. It is also important to note that the conflict situation in the context of health in the prison environment, reflects directly and indirectly in society in general, and weigh Brazilian citizens, as known, the costs are lower investments in prevention than spend resources on treatments costly.

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