



Syphilis in women coming out of the prison system: prevalence and associated factors

Sífilis em mulheres egressas do sistema prisional: prevalência e fatores associados

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Objective: to understand the existential experience of children undergoing chemotherapy on the importance of playing. **Methods:** qualitative research performed in the outpatient clinic of a teaching hospital with five children undergoing chemotherapy. Data were collected through the interviews and analyzed in the light of the Humanistic Nursing Theory. **Results:** the discourses revealed the children's understanding of their illness and their treatment, evidencing the deprivations experienced by them and the situation of emotional imbalance. Playing, according to the children's reports, elicited positive feelings and represented a way for time to pass faster. **Conclusion:** the chemotherapy treatment was considered ambiguous, being an unpleasant experience, but necessary for cure. The games in the outpatient chemotherapy service were a viable tool to deal with the discontent before the situation lived, provoking positive feelings such as happiness and satisfaction.

Descriptors: Prisons; Sexually Transmitted Diseases; *Treponema pallidum*.

Objetivo: investigar a prevalência de sífilis e seus fatores associados em mulheres egressas do sistema prisional. **Métodos:** estudo transversal realizado com 56 mulheres cumprindo pena em regime aberto e semiaberto em Centro de Reeducação Feminina. Os dados foram coletados utilizando-se formulário contendo características sociodemográficas e práticas sexuais, bem como realizado teste rápido para sífilis. Procedeu-se análise descritiva, prevalência, teste qui-quadrado e teste exato de Fisher. **Resultados:** a sífilis foi prevalente em 16,1% da amostra. Constatou-se maior prevalência em mulheres com mais de 35 anos (21,7%), cor branca (33,3%), casadas/união estável (21,4%), nível de escolaridade elevado (27,3%), evangélicas (33,3%), sem vida sexual ativa (20,0%), com múltiplos parceiros (16,7%), que relatavam usar preservativos com parceiros fixos (33,3%) e eventuais (28,0%), e que usavam drogas ilícitas (20,0%). **Conclusão:** os achados apontam para importância da utilização de métodos de rastreio da infecção e evidenciam a necessidade de estratégias preventivas que considerem especificidades contextuais.

Descritores: Prisões; Doenças Sexualmente Transmissíveis; *Treponema pallidum*.

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Introduction

Recognized as a millennial disease, syphilis breaks silence and gains visibility in the international scene. More than one million Sexually Transmitted Infections, including syphilis, is estimated to occur worldwide every day. In Brazil, from 2010 to June 2016, 227,663 cases of acquired syphilis were reported⁽¹⁾.

The rapid advance in the number of cases may be related to the effectiveness of the health care network in offering timely quality services, as well as to social, biological, cultural and behavioral aspects of the population. Studies show a higher occurrence of infection among individuals exposed to risk situations such multiplicity of partners, unprotected sex, and use of injectable drugs⁽²⁻³⁾. Other factors can still be highlighted, such as poor access to health services, low levels of education, lack of information and barriers related to gender inequality and social stigmas⁽⁴⁻⁵⁾.

Despite the presented aspects, the precarious conditions of the Brazilian prison systems pose an additional risk for infection. Precarious areas of confinement and overcrowding favor situations of violence, insalubrity, sedentarism, drug use, poor diet, lack of hygiene, inadequate or incomplete health care, among many others^(3,6-7). Furthermore, they favor unprotected sexual practices, homoaffective relationships, and parenteral exposure while making tattoos and piercings⁽⁷⁾.

In the case of women deprived of liberty, the situation is worse. The prison environment itself leads to discrimination, violence and sexual abuse. Difficult access to condoms, sharing of sharp objects, and the past history of promiscuity, family violence and drug use increase the vulnerability of these women to Sexually Transmitted Infections^(3,7-8). In turn, health care is provided but in a reductionist manner. There is no access to adequate hygiene care, quality gynecological care, and actions for disease prevention and diagnosis^(3,9).

In view of the specificity of this population, rapid tests for syphilis screening are recommended⁽³⁾.

The identification of new cases depends mainly on routine screening programs, either by detecting infections based on risk factors of asymptomatic individuals or by the manifestation of symptoms.

Early diagnosis, including asymptomatic cases, is clearly the best opportunity to provide therapeutic support, reduce transmission and prevent the development of complications and long-term sequelae⁽¹⁰⁾. Since most women with the infection are asymptomatic, these initiatives would promote early diagnosis and timely treatment, and contribute to the reduction of vertical transmission and complications from infection^(1,3).

The adoption of detection strategies should consider the most appropriate combination of screening and diagnostic approaches, based on the nature and dynamics of this infection in the population and taking into account local specificities and the tools available in the health system. More efforts are needed to detect cases, especially in specific groups that besides exposure to risky situations, have difficulty accessing diagnostic tools.

It is also worth noting that the number of studies determining the real prevalence of syphilis in women deprived of freedom or who leave the prison system are few⁽³⁾. Thus, the study proposed here reinforces the National Policy of Attention to Women in Situation of Deprivation from Freedom and Leaving the Prison System, emphasizing the importance of early diagnosis for breaking the disease transmission cycle, and preventing its complications and impact on public health⁽¹¹⁾. Research of this nature may provide valuable information for prevention strategies that effectively conform to the singularities of this group.

This study aimed to investigate the prevalence of syphilis and its associated factors in women who leave the prison system.

Methods

This is a cross-sectional study from the Biopsychosocial Training Program of the Re-educating

in the Resocialization Process, held at a Female Re-education Center in João Pessoa, Brazil. This program has acted in health assessment and education actions aimed at prevention and health promotion, including the prevention of Sexually Transmitted Infections.

The population was composed by the universe of women serving sentence in the open and semi-open modalities (n=56). After clarifying the nature and objectives of the research, all of them expressed their willingness to participate. All were over 18 years old, as it is the rule for admission to the institution.

The data were collected between June and November 2015 through interviews (average duration of 20 minutes) conducted at the Reeducation Center. The interviews were guided by a structured form prepared by the researchers addressing sociodemographic characteristics (age, color/race, marital status, schooling and religion) and sexual practices (active sexual activity, multiplicity of partners, use of condoms depending on the type of partner - permanent or casual) and use of illicit drugs. In addition to the interview, a rapid test was made using the lateral flow immunochromatography method for detection of treponemal antibodies⁽³⁾ (Alere®, São Paulo, SP, Brazil).

The tests were carried out by previously qualified researchers, licensed by the Ministry of Health and by the Secretariat of Penitentiary Administration, respecting the biosafety norms with due attention to the recommendations of storage and conservation of *kits*. Study participants with positive results for syphilis were referred for treatment at a referral center in the same city where the study was conducted. Among them, only one had a previous history of syphilis, and a small number reported having performed this test before.

The data were entered and stored in a Microsoft Office Excel 2003 spreadsheet and later analyzed through descriptive statistics (measures of central tendency and dispersion, relative and absolute frequency), bivariate analysis and prevalence. The Pearson's Chi-square test (χ^2) was used to test the association between the dependent variable (serological

condition for syphilis) and the independent variables (sociodemographic, sexual practices and use of illicit drugs) and the Fisher's exact test was used in the cases in which the expected frequency was less than 5, which was necessary for most variables. The significance level adopted was $p < 0.05$. The prevalence of the results of the rapid test for syphilis and the prevalence ratio were estimated considering a 95% confidence interval (95.0% CI), using the PASW software Statistic 22 Statistical Package for Social Sciences.

The data were collected with the express consent of the participants, through the signing of the informed consent form. In accordance with the ethical provisions on the research involving human beings contemplated in Resolution 466/2012, data collection was only started after the approval of the project by the Research Ethics Committee of the Lauro Wanderley University Hospital, under Opinion nº 1,012,530 and CAAE nº 42255115,3,0000,5183.

Results

Of the 56 women investigated in the study, the majority were aged between 21 and 60 years, with a mean age of 35.9 years (± 10.6 years), single (51.8%) and self-declared browns (61.8%), and had up to eight years of schooling (67.8%). When questioned about beliefs, 41.8% stated that they did not follow any religion, 35.4% were Catholic and 21.8% were adept of evangelical religions.

The prevalence of positive serological marker for syphilis observed in this group of women was 16.1%, with 95% CI 6.4-25.6. Regarding the sociodemographic variables and their association with the serological condition for syphilis, no statistical significance was evidenced. However, greater prevalence was observed in women aged over 35 years (21.7%), who declared to be white (33.3%), married or common-law married (21.4%), with more than 8 years of schooling (27.3%) and adept of evangelical religions (33.3%) (Table 1).

Table 1 – Prevalence (P) and prevalence ratio (PR) for syphilis among the female population leaving the prison system, according to sociodemographic variables

Variables	n	P (%)	PR (95% CI)	p*
Age, years [†]				
Up to 35	32	(12.5)	1	0.291
> 35	23	(21.7)	1.74 (0.52-5.78)	
Self-reported color [†]				
Brown	34	(14.7)	1	0.226
White	12	(33.3)	2.27 (0.73-7.07)	
Black	7	-	-	
Yellow	2	-	-	
Marital status				
Single/divorced/widowed	42	(14.3)	1	0.453
Married/common-law married	14	(21.4)	1.49 (0.43-5.22)	
Schooling (years)				
Illiterate	7	(14.3)	1.08 (0.15-7.94)	0.528
Up to 8	38	(13.2)	1	
>8	11	(27.3)	2.07 (0.58-7.34)	
Religion [†]				
None	23	(17.4)	3.48 (0.42-28.62)	0.196
Catholicism	20	(5.0)	1	
Evangelical	12	(33.3)	6.67 (0.84-52.89)	

*Fisher's exact test p<0.05; [†]n lower than the total population of the study due to omission of responses by some participants to the variable

Regarding variables related to sexual practices and illicit drug use, 91.1% of the women were sexually active, 78.6% said to have a single partner, 48.2% practiced unprotected sex, 57.4% said they did not use condom with permanent partner and 46.3% did not use it with casual partners. It was also observed that 9.4% of the women used illicit drugs.

The association between the serological condition and most variables of sexual practices and illicit drug use was not significant. Contrary to expectations, the prevalence of syphilis in this group was higher among women who did not have an active sexual life (20.0%), and who reported using condoms with permanent partners (33.3%) and with casual partners (28.0 %). However, the prevalence was also higher among those with multiple partners (16.7%) and those who used illicit drugs (20.0%) (Table 2).

Table 2 – Prevalence (P) and prevalence ratio (PR) for syphilis among the female population leaving the prison system, according to variables of sexual practices and use of illicit drugs

Variables	n	P (%)	PR (95% CI)	p*
Sexually active				
Yes	51	15.7	0.78 (0.121-5.063)	0.598
No	5	20.0	1	
Multiple partners				
Yes	12	16.7	1.05 (0.249-4.404)	0.626
No	44	15.9	1	
Use of condoms with permanent partner [†]				
Yes	15	33.3	3.44 (1.95-12.5)	0.047‡
No	31	9.7	1	
Not applicable	8	12.5	-	
Use of condom with casual partner [†]				
Yes	25	28.0	-	0.672
No	10	-	-	
Not applicable	19	10.5	-	
Use of illicit drugs [†]				
Yes	5	20.0	1.20 (0.18-7.73)	0.662
No	48	16.7	1	

*Fisher's exact test, p<0.05; [†]n lower than the total population of the study due to omission of response by some participants to the variable; [‡]Pearson's chi-square test, p<0.05

Women who reported using condoms with the permanent partner had a prevalence approximately four-fold higher than those who did not use a condom in this situation, which is a contradictory finding (PR=3.44). It is also worth noting that some categories of the investigated variables did not present positive reagent for syphilis, which made it impossible to calculate the prevalence for these groups, as it was the case of black and yellow women and those who reported not using condoms with eventual partners.

Discussion

Although the sample used in the study consisted of the whole population of women serving sentence in an open and semi-open system, the size may not have been enough to generalize the results found

because, the results were statistically non-significant, constituting a limitation of the study. The non-evaluation of information on women's access to condoms and on the diagnosis of syphilis during the incarceration period (closed system) also suggests a fragility to the follow-up of the dynamics of this infection in this vulnerable population.

The sociodemographic profile of the investigated women was similar to that presented in the national literature. It was observed that 74.5% of the women declared to be brown or black, corresponding to a percentage of 6.5% above the national average, according to the National Survey of Penitentiary Information⁽¹²⁾. However, in this study, although the brown color was predominant, the prevalence of syphilis was higher among white women. This finding suggests that other studies of greater magnitude need to be performed to understand the influence of this variable on the dynamics of the infection.

Infection was more prevalent among women over 35 years old. This is in line with the results found in a study carried out in Piauí with women deprived of freedom which pointed out a higher prevalence of syphilis among women over 31 years of age⁽³⁾. Although the profile of women deprived of freedom points to a higher percentage of younger women in this system⁽¹²⁾, the increase in age may be related to a greater time of exposure to situations of vulnerability. This hypothesis needs to be investigated.

With regard to the marital status, the greater occurrence of infection among married or common-law married women may be justified by the lack of adherence to the use of condoms with permanent partners⁽⁶⁾. Reiterating this hypothesis, the results showed that condom use was reported more frequently by interviewees with casual partners (46.3%) than in those with permanent partners (27.7%).

Such behavior can stem from the understanding that a stable sexual/affective relationship eliminates the need to use contraceptives. This thinking, based on the perception of experiencing a relationship of trust with the partner, the fear of provoking mistrust

and rejection, and the difficulty of suggesting the use of condoms increases the vulnerability of these women to Sexually Transmitted Infections⁽⁶⁾.

The number of illiterate women (12.5%) was higher than the national scenario for the incarcerated women, which is 4.0%⁽¹²⁾. Studies indicate that the level of schooling is a powerful predictor of a risk factor for Sexually Transmitted Infections. People with more schooling tend to assimilate information better, adopt prevention and health promotion actions, besides having greater access to health services and to purchase of condoms^(5,13).

Nevertheless, although the number of women with more than 8 years of schooling represented only 11.0% of the population investigated, this group showed a higher positivity in the diagnostic test for syphilis. This finding corroborates that access to information, or a higher degree of schooling, does not necessarily imply the transfer of such knowledge to the level of preventive health behaviors^(3,14).

Although the higher level of education favors the economic empowerment and autonomy of women, affective and sexual relationships are marked by a gender imbalance in decision making and care about sexual and reproductive health. Compliance with the normative standards for social roles of men and women rules their choices and preventive practices. In addition, the situation of confinement intensifies the vulnerability of these women, regardless the level of schooling. Prisons are spaces that favor the sharing of sharp objects, unprotected sex and violence. In order to have the right for intimate visits, there is a need to prove the conjugal relationship, and not always condoms are made available⁽⁷⁾.

Regarding religious affiliation, it was observed that women without religion or affiliated with evangelical religions showed a higher prevalence of the infection. It is noteworthy that more rigid religious doctrines create the expectation that people who follow these religions have more restrictive attitudes toward sexual practices, while non-religious people would be more liberal⁽¹⁵⁾. Studies show that, although religion

influences the knowledge, attitudes and practices related to sexual life, caution is required with the concept of "being religious" and with the various forms of interpretation of a given religious denomination^(5,15). Normative discourses of the religious community are sometimes at odds with discourses of social life. Therefore, any statement regarding the influence of this variable on the occurrence of a Sexually Transmitted Infection would require investigating interactions with other behavioral and cultural variables.

The results indicated that syphilis was more prevalent among women who had intercourse with multiple partners, thus confirming that such exposure may increase the risk of infection⁽⁵⁻⁶⁾.

Contrary to expectations, the prevalence of infections was higher among women who reported to use condoms in their sexual relations. In this case, a possible explanation may be an inappropriate use of the condom, or irregularity of use, depending on the sexual practice. Studies show higher rates of consistent condom use in vaginal sex, and lower rates in receptive anal sex and oral sex, either with permanent or casual partners⁽¹⁶⁻¹⁷⁾. It should also be noted that women may feel embarrassed to report at the time of the interview that they do not use the condom in their sexual relations, what may justify this contradiction.

Therefore, it is necessary to review the understanding of these women regarding the use of condoms and their relation to safe sex. This finding corroborates the literature in the sense that knowledge about condoms among imprisoned women or those who leave the prison system is still flawed. Health professionals should give special attention to this gap and actively participate as facilitators of the teaching-learning process during preventive and health promotion actions carried out within the institution⁽⁷⁾.

The use of illicit drugs has been reported in the literature as a risk behavior for the occurrence of Sexually Transmitted Infections⁽¹⁸⁻¹⁹⁾. Although not considered a direct cause, it is believed that this practice tends to influence sexual behavior in an interrelated

manner. The use of these substances exposes individuals to a situation of greater vulnerability to risk behaviors, violence and/or unprotected sexual intercourse⁽³⁾.

The prevalence of syphilis in imprisoned women or those who leave the prison system is not yet widely known⁽¹²⁾. In this study, a percentage of 16.1% of reactive tests was observed in women serving sentences in open and semi-open modalities. A study conducted with a sample of 131 participants showed a prevalence of 25.2% among women in the closed regimen, which may be related to non-use or irregular use of condoms⁽³⁾.

Although in this study the association of variables with the results of the rapid test for syphilis was not significant, there are studies in the national literature that pointed out that unprotected sexual activity is a significant risk factor and is associated with the spread of Sexually Transmitted Infections in prisons, aggravating the health status of these women and leading to an epidemic^(2,8).

Conclusion

The prevalence of positive results in the rapid test for syphilis found in the study points to the importance of the use of infection screening methods and the need for health strategies aimed at prevention and early diagnosis among women leaving the prison system. They should be grounded on the contextual specificities of these women: married or common-law married, over 35 years of age, with higher schooling, who reported using condoms and illegal drugs.

These characteristics are factors that determine the vulnerability and risk of infection, indicating that interactions and behaviors take place and gain meaning for women living in such a real and peculiar setting. These considerations have implications for the health field, in which elements that can guide the promotion of care must be taken into account.

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Collaborations

Silva PAS, Gomes LA and Lima KPN contributed to the collection and analysis of data and writing of the article. Amorim-Gaudêncio C contributed to the conception and design, analysis and interpretation of the data. Medeiros LB and Nogueira JA contributed to the analysis and interpretation of data and critical review of the intellectual content and final approval of the version to be published.

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