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# Access to health care among female prisoners in a penitentiary in Ceará, Brazil

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**Abstract** *This study investigated access to health care among female prisoners in the state of Ceará, Brazil, and screened for common mental disorders. We conducted an analytical cross-sectional study in the only female prison in the state. Ninety detainees participated in the study. All participants were either pregnant or postpartum women or had one or more of the following health problems: hypertension, diabetes mellitus, tuberculosis, syphilis, hepatitis B, HIV/AIDS. The data were collected using a structured questionnaire. The findings reveal that access to health care was limited, violating the fundamental rights of the prisoners. Screening for diseases on admission to prison was limited, especially among non-pregnant women. Differences in health care were found between health conditions, with priority being given to pregnant and postpartum women. Most of the inmates (68.24%) were found to be at risk for common mental disorders (SRQ score > 7). A positive correlation was found between age and mental health problems (p = 0.0002). Despite legislation guaranteeing access to health care in prisons, the prison system is unprepared to meet the health needs of female prisoners with comorbidities and pregnant and puerperal women.*

**Key words** *Population deprived of freedom, Women, Women's Health, Access to health care, Comprehensive attention to women's health*

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## Introduction

The prison population is growing worldwide, with prisoners being exposed to precarious conditions that often preclude them from accessing comprehensive and effective health care[1]. The situation is no different in Brazil. According to data published by the National Penitentiary Department (DEPEN), the number of detainees in the country is on the rise. In a little under 10 years, Brazil's prison population has increased by 50.7%, from 496,251 in 2010 to 748,009 in 2019, comprising 711,080 men (95.06%) and 36,929 women (4.94%)[2].

The female prison population increased 2.9 times more than the male population (564.2% *versus* 196.2%)[2], reflecting social changes that require ongoing research and reflection.

The incarceration of women has been marked by a history of government omissions, evidenced by the limited number of public policies that consider incarcerated women to be subjects of human and, more particularly, women's rights[3]. The rights of incarcerated women are gravely violated by the state in Brazil, adversely affecting their health, reintegration into society, education, employment, and the preservation of family bonds and relationships[4].

Overcrowding of women's prisons increases the risk of health problems, especially considering that these facilities house a proportion of the socially vulnerable population. Incarcerated women in Brazil are mainly young (aged 18-29 years), black mothers who are responsible for family finances. They generally have a low level of education and income and were self-employed and/or receiving benefits from cash transfer programs such as the Bolsa Família before incarceration[2,5]. In addition, women's prisons house subgroups who are at risk for specific health problems (such as HIV/AIDS, HPV, hepatitis B, syphilis and chronic diseases like high blood pressure and diabetes mellitus) and drug users[6].

In view of the above and the health needs of the prison population, the Ministry of Justice and Ministry of Health implemented the National Health Plan for the Penitentiary System (PNSSP, Inter-Ministerial Order 1777, 09/09/2003). The plan incorporates the prison population into the country's public health system, *o Sistema Único de Saúde* (SUS) or Unified Health System, guaranteeing that the right to citizenship is upheld from a human rights perspective[7]. The main lines of action proposed by the PNSSP are the control and treatment of tuberculosis, control of hypertension and diabetes mellitus, treatment of skin diseases, especially Hansen's disease, oral health care, and women's health[7].

With regard to women's health, the PNSSP includes antenatal and intrapartum care, cervical and breast cancer prevention and control, contraceptive assistance and immunization, ensuring referral where necessary[8]. With the aim of maintaining mother-child contact, children are allowed to stay with their mothers in prison in special units, ensuring exclusive breastfeeding up to six months[7].

Prison life exposes women deprived of liberty, including pregnant and postpartum women, to vulnerabilities. The precarious social conditions of mothers who give birth in prisons, poor antenatal care, the use of handcuffs during labor, accounts of violence and low ratings for care received indicate that prison health services have acted as a barrier to guaranteeing the rights of this group[9].

In addition, there is currently a major epidemic of communicable diseases in Brazil's prisons, especially sexually transmitted infections (STIs). Data from the National Survey of Penitentiary Information-INFOPEN system for 2017[10] show that the most common morbidities among female prisoners were HIV/AIDS, syphilis, hepatitis and tuberculosis. These problems are aggravated by poor prison conditions (lack of health information or adherence to health guidance, refusal to use barrier methods, poor hygiene, among others) and social context[11].

Other health problems, often resulting from the prison setting, are also reported among prisoners. Indicators of poor mental health, such as feelings of low self-esteem, anxiety, symptoms of depression and body image issues, contribute to negative self-assessment of health. These problems can be experienced by inmates and are included within the spectrum of common mental disorders (CMDs)[12].

In view of the health problems facing women deprived of liberty, it is important to understand issues related to access to health care services provided by the penitentiary system among this group, especially in more disadvantaged states such as Ceará in the Northeast of Brazil.

Ceará has 158 prison units, only one of which is a closed women's prison. The state has the country's sixth largest prison population, with 21,789 detainees, behind only São Paulo, Minas Gerais, Rio de Janeiro, Pernambuco and Rio Grande do Sul. The number of female detainees in the state grew 129% between 2014 and 2019,

from 1,065 to 2,440. Although the number of male prisoners is far greater than the number of female inmates, the male prison population grew at a much slower rate over the same period, from 20,583 to 31,287 (53.1%)[13].

In view of the above, it is important to understand the characteristics and needs (sexual and reproductive health, chronic diseases and mental health) of the female prison population. This information is essential to determine the scale of the challenge and ensure adequate planning in order to guarantee female prisoners' the right to health and design policies tailored to the reality of women deprived of liberty. The aim of the present study was therefore to investigate access to health care among incarcerated women in Ceará and screen for CMDs among this population.

## Methods

We conducted an analytical cross-sectional study in the only female prison in Ceará. Prison health facilities include a medical consulting room, obstetrics and gynecology consulting room, dental consulting room, nursing post, ward and storeroom[14], which were undergoing reorganization to meet the criteria of the PNSSP at the time of data collection.

At the time of data collection, the prison housed 998 inmates held under a closed system. Information was collected from all women whose health records stated they had been diagnosed with high blood pressure (hypertension), diabetes mellitus, tuberculosis, syphilis, hepatitis B and/or HIV/AIDS, and all pregnant and postpartum women, totaling 90 study participants.

Before data collection, we contacted the Ceará State Public Security Department (SSP), the body that runs the state's prisons, and explained the purpose and procedures of the study and its importance. We also contacted the prison management and prison health professionals to obtain a list of the women and their health problems. Prison officers were also contacted to request that they accompanied the researchers during data collection to ensure their safety.

The data were collected between September 2019 and February 2020 using a structured questionnaire prepared by the authors based on the study '*Nascer na Prisão*' (Born in Prison)[9], the documents that make up the PNSSP[7], SUS guidelines[15] and tuberculosis[16], diabetes and hypertension[17], and STI/HIV-Aids control programs[18]. The respondents were invited to participate in the study and signed an informed consent form confirming they had been fully informed as to the nature of study and its objectives.

The questionnaire encompassed the following aspects related to the study topic: demographic characteristics (age, education level, place of birth, etc.); socioeconomic characteristics (marital status, religion, beneficiary of the *bolsa família* program before confinement, etc.); vulnerability (history of violence, health history, etc.); main potential health risks (drug user, history of infectious diseases, smoking and drinking, etc.); access to health services; non-communicable diseases (hypertension –diagnosis, risk factors, treatment, tests, prevention methods, etc. – diabetes – diagnosis, consultation, medication, follow-up, etc. – tuberculosis – diagnosis, consultation, medication, follow-up, etc.); and mental health (administration of the Self-Reporting Questionnaire, used to screen for factors related to CMDs)[19].

The study data were organized and analyzed in the light of the relevant literature using Stata 14.1.

The study protocol was approved by the University of Fortaleza's research ethics committee (code number 2.934.233).

## Results

Ninety female detainees participated in the study. There were no refusals. Thirty of the respondents (34.3%) were pregnant (n = 13) or postpartum women (n = 17), 35 (38%) had been diagnosed with hypertension and/or diabetes mellitus (DM) and 25 (27.7%) had been diagnosed with infectious diseases: 15 with AIDS/HIV, two with tuberculosis (TB) and 12 with syphilis. Some women had more than one health problem and/or pregnancy-related condition (Table 1). According to the medical records, none of the detainees had been diagnosed with hepatitis B.

Most of the respondents (n = 65; 72.22%) were brown, 47 (52.22%) were protestants, 50 (50.55%) had not completed junior high school, 54 (60%) had not received support from the *Bolsa Família* program before confinement, 82 (91.11%) were smokers and 56 (62.22%) were drinkers. Most of the women had been involved in drug trafficking (n = 56; 62.22%) and had been detained at least twice (n = 50; 55.55%).

Concerning health care, most of the respondents received health advice from prison health

**Table 1.** Sociodemographic, offence and health characteristics of incarcerated women in a female penitentiary in Fortaleza, Ceará, Brazil, 2020.

| Variable | Pregnant and postpartum women N (%)[1] | Hypertension and DM N (%)[1] | HIV/TB/ Syphilis N (%) [1] |
|---|---|---|---|
| Marital status | | | |
| Single | 16 (53.33) | 10 (27.03) | 10 (40) |
| Married | 3 (10) | 5 (16.22) | 4 (16) |
| Stable union | 11 (36.67) | 15 (43.24) | 8 (32) |
| Widow/divorced | -- | 5 (13.51) | 3 (12) |
| Self-declared race | | | |
| White | 2 (6.67) | 5 (16.22) | 3 (12) |
| Black | 1 (3.33) | 5 (16.22) | 8 (32) |
| Brown | 27 (90) | 25 (67.56) | 13 (52) |
| Religion | | | |
| Catholic | 9 (30) | 11 (32.44) | 7 (28) |
| Protestant | 19 (63.34) | 18 (51.35) | 10 (40) |
| Spiritism | 1 (3.33) | -- | 3 (12) |
| Jehovah's witness | -- | 1 (2.70) | 1 (4) |
| Education level | | | |
| Completed junior high school | 14 (46.67) | 24 (67.57) | 12 (48) |
| Did not complete junior high school | 2 (6.67) | 4 (10.81) | 3 (12) |
| Completed high school | 10 (33.33) | 2 (8.11) | 9 (36) |
| Did not complete high school | 4 (13.33) | 5 (13.51) | 1 (4) |
| Received bolsa família before confinement? | | | |
| Yes | 9 (30) | 13 (37.84) | 14 (56) |
| No | 21 (70) | 22 (62.16) | 11 (44) |
| Offence | | | |
| Drug trafficking | 14 (46.67) | 25 (67.57) | 17 (68) |
| Robbery | 3 (12) | --- | 3 (12) |
| Theft | 7 (19.33) | 3 (5.41) | --- |
| Murder | 3 (12) | 2 (5.41) | --- |
| Other | 3 (10) | 5 (16.22) | 5 (20) |
| Legal status | | | |
| Convicted | 10 (33.33) | 24 (67.57) | 6 (24) |
| Awaiting judgement | 20 (66.67) | 11 (32.43) | 19 (76) |
| Number of times in prison | | | |
| Once | 10 (33.3) | 16 (45.95) | 6 (24) |
| Two or more | 20 (66.7) | 19 (54.05) | 19 (76) |
| Current stay in prison | | | |
| 1 day-12 months | 23 (76.66) | 14 (45.94) | 19 (76) |
| 13-36 months | 4 (13.32) | 8 (24.33) | 4 (16) |
| More than 37 months | 3 (10.02) | 13 (29.73) | 2 (8) |

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professionals (n = 69; 76.66%), did not do routine gynecology check-ups (n = 54; 64.44%) and did not use contraceptive methods (n = 80; 88.8%), as shown in Table 1.

Five of the pregnant women (38.48%) had had up to three antenatal consultations. Of the women who had had antenatal consultations, 92.31% (n = 12) had an antenatal card.

**Table 1.** Sociodemographic, offence and health characteristics of incarcerated women in a female penitentiary in Fortaleza, Ceará, Brazil, 2020.

| Variable | Pregnant and postpartum women N (%)[1] | Hypertension and DM N (%)[1] | HIV/TB/ Syphilis N (%) [1] |
|---|---|---|---|
| Smoker | | | |
| Yes | 24 (80) | 34 (97.30) | 24 (96) |
| No | 6 (20) | 1 (2.70) | 1 (4) |
| Drinker | | | |
| Yes | 22 (73.33) | 18 (51.35) | 16 (64) |
| No | 8 (26.67) | 17 (48.65) | 9 (36) |
| Recent drug use? | | | |
| Yes | 25 (83.33) | 16 (45.95) | 18 (72) |
| No | 5 (16.67) | 19 (54.05) | 7 (28) |
| Health information source | | | |
| Health professional | 9 (30) | 11 (31.4) | 8 (32) |
| TV/social media | 5 (16.6) | 2 (5.71) | 7 (28) |
| Family/friends | 4 (13.3) | 9 (25.71) | 6 (24) |
| Don't know | 12 (40.1) | 13 (37.18) | 4 (16) |
| Receives information on condom use? | | | |
| Yes | 17 (56.67) | 16 (43.24) | 19 (76) |
| No | 13 (43.33) | 19 (56.76) | 6 (24) |
| Receives condoms in prison? | | | |
| Yes | 1 (3.33) | 1 (2.70) | --- |
| No | 29 (96.67) | 34 (87.30) | 25 (100) |
| Is seen by health professionals in prison | | | |
| Yes | 26 (86.67) | 28 (78.38) | 15 (60) |
| No | 4 (13.33) | 7 (21.62) | 10 (40) |
| Does gynecology check-ups in prison | | | |
| Yes | 16 (53.33) | 12 (35.14) | 4 (16) |
| No | 14 (46.67) | 23 (64.86) | 21 (84) |
| How often are gynecology check-ups done? | | | |
| Annually | 6 (37.50) | 8 (60) | 3 (75) |
| Biannually | 1 (6.25) | 2 (20) | 1 (25) |
| Six-monthly | 9 (56.25) | --- | --- |
| Has a sexual partner | | | |
| Yes | 23 (76.67) | 15 (46.95) | 13 (52) |
| No | 7 (23.33) | 20 (53.05) | 12 (48) |
| Type of partner | | | |
| Stable | 19 (63.33) | 13 (38.89) | 12 (48) |
| Non-stable | 11 (36.67) | 22 (61.11) | 13 (52) |
| Has sexual relations with people in the prison | | | |
| Yes | 3 (10) | 2 (8.11) | 6 (24) |
| No | 26 (86.67) | 33 (91.89) | 18 (72) |
| Use a contraceptive method | | | |
| Yes | 7 (23.33) | 1 (2.70) | 2 (8) |
| No | 23 (76.67) | 34 (97.30) | 23 (92) |
| Which contraceptive method is used? | | | |
| OCs* | 1 (14.29) | --- | --- |
| IUD** | 2 (28.57) | 1 (100) | --- |
| Injected | 3 (42.85) | --- | 1 (50) |
| Tubal ligation | 1 (14.29) | --- | 1 (50) |

*OCs = oral contraceptives; **IUD = intrauterine device; 1 n (%) = number of participants (percentage).

Source: Authors.

Four of the pregnant women (30.77%) reported having had some type of abortion. Most of the postpartum women reported that their newborn baby stayed with them in prison (n = 10; 58.82%) and nine (52.94%) had been seen by a doctor in prison (Table 2).

Data on the women with hypertension (n = 35) and DM (n = 11) are shown in Table 3. Twenty-two (57.89%) of the women with hypertension and nine (81.82%) of those with DM were diagnosed before confinement. Twenty (55.26%) of the women with hypertension and four (36.36%) of those with DM reported that they received medication; however, 12 (34.21%) and five (9.09%), respectively, mentioned that there were constant medicine shortages in the prison.

None of the respondents reported participating in health promotion activities (conversation circles, counseling, etc.). Fifteen (42.11%) of the women with hypertension and six (54.55%) of those with diabetes said that they rarely had access to medical consultations.

With regard to infectious disease screening on admission to prison, 30 (32.58%) of the non-pregnant women did not do the rapid HIV test, 60 (67.42%) did not have a hepatitis A test, 60 (67.42%) did not do a hepatitis B test, 33 (32.96%) did not have a syphilis test and 80 (88.76%) did not do a sputum test for tuberculosis (Table 4).

The proportion of respondents with a risk of common mental disorders (SRQ score > 7) due to health problems was 68.24%. This rate was 53.85% among pregnant women and 27.78% in postpartum women, which is considerably lower than in the overall study population.

The findings show a positive correlation between age and mental health problems, with SRQ scores (risk of CMD) increasing with age ($p = 0.0002$ and $r_s = 0.3925$), and age and length of stay in prison ($p = 0.0213$ and $r_s = 0.2424$). However, no correlation was found between SRQ score and length of stay in prison ($p = 0.5005$ and $r_s = 0.0741$) or between categorical SRQ (SRQ score < 7 or >7) and legal and marital status ($p > 0.05$) (chi-squared test).

## Discussion

The findings indicate poor access to health care among the incarcerated women, reinforcing evidence of the existence of violations of the right to health in prisons. The results also reveal limitations in infectious disease screening on entry to prison, especially among non-pregnant women. Considering that access to health care is a universal right enshrined in the Brazilian Constitution and that prisoners do not have access to private health care, the findings reveal poor access to health care among female detainees, violating their fundamental rights. In addition, differences in care were observed between conditions, with priority being given to pregnant and postpartum women, who received better, albeit limited, health care than non-pregnant women.

Health policies began to prioritize women during the first decades of the twentieth century, initially focusing on pregnancy and childbirth care[21]. This approach appears to have been adopted by health professionals, who tend to focus on the reproductive health of women during training[22].

Although Brazil has made significant strides in improving access to pregnancy and intrapartum care, inequities persist, particularly when it comes to care quality, which is generally lower for women with low socioeconomic status[20]. A large part of the prison population come from socially disadvantaged groups, which is confirmed in our study by the high prevalence of women with a low level of education. In addition to this risk factor, women who go through pregnancy and childbirth in prison are even more vulnerable than other female prisoners[9]. This vulnerability is aggravated by specific factors linked to giving birth and motherhood in a prison setting[23].

While the findings show that pregnant women appear to receive better care than non-pregnant women, other studies show a lack of public policies to guarantee access to comprehensive health care in prisons to this group. The penitentiary system is not fully prepared to receive this group of women, who have specific health needs and require specialist services[24].

Our findings confirm this, revealing fragile antenatal care services, with most pregnant and postpartum women reporting a maximum of three consultations, which is well below the six appointments recommended by the Ministry of Health[25]. Most pregnant and postpartum women did not receive health advice, increasing susceptibility to other health problems (of both women and their babies) and raising questions as to the effectiveness of the state in guaranteeing the health rights of this group, given that incarcerated women do not have the option to use private health services.

**Table 2.** Characteristics of incarcerated pregnant and postpartum women: situation and antenatal care. Fortaleza. Ceará. 2020.

| Variables | n | % |
|---|---|---|
| **Pregnant women** | 13 | 100 |
| Pregnancy was planned/wanted | | |
| Yes | 4 | 30.77 |
| No | 9 | 69.23 |
| Gestational age | | |
| 16-5 weeks | 5 | 38.45 |
| 27-36 weeks | 5 | 38.45 |
| 37-40 weeks | 3 | 23.1 |
| Number of antenatal consultations | | |
| 0-3 | 5 | 38.48 |
| 4-7 | 4 | 30.76 |
| 10 or more | 4 | 30.76 |
| Has antenatal card | | |
| Yes | 12 | 92.31 |
| No | 1 | 7.69 |
| History of abortion | | |
| Yes | 4 | 30.77 |
| No | 9 | 69.23 |
| If yes, how many | | |
| 0 | 9 | 69.23 |
| 1 | 3 | 23.08 |
| 3 | 1 | 7.69 |
| Got pregnant in prison | | |
| Yes | 2 | 15.38 |
| No | 11 | 84.62 |
| Receives visits from child's father | | |
| Yes | 1 | 7.69 |
| No | 12 | 92.31 |
| Pregnancy complications | | |
| Yes | 5 | 38.5 |
| No | 8 | 61.5 |
| Received care inside or outside the prison for pregnancy complications | | |
| Inside | 4 | 80 |
| Outside | 1 | 20 |
| **Postpartum women** | 17 | 100 |
| Drug use during pregnancy | | |
| Marijuana | 6 | 35.29 |
| Cigarettes | 3 | 17.64 |
| Didn't answer | 8 | 47.07 |
| Last birth type | | |
| Vaginal | 7 | 41.18 |
| Cesarean | 10 | 58.82 |
| Did the baby stay in the prison after birth? | | |
| Yes | 10 | 58.82 |
| No | 7 | 41.18 |
| Seen by a doctor after delivery | | |
| Yes | 9 | 52.94 |
| No | 8 | 47.06 |
| Did the baby have a health problem after birth? | | |
| Yes | 10 | 58.82 |
| No | 7 | 41.18 |

Source: Authors.

**Table 3.** Characteristics of incarcerated women with hypertension and DM, Fortaleza, Ceará, 2020.

| Variable | Hypertension* (n = 35) n(%) | DM* (n = 11) n(%) |
|---|---|---|
| Diagnosed with hypertension or DM before or after entering prison? | | |
| Before | 22 (57.89) | 9 (81.82) |
| After | 13 (42.11) | 2 (18.18) |
| Do you have access to medicines for hypertension or DM? | | |
| Yes | 20 (55.26) | 4 (36.36) |
| No | 3 (10.53) | 2 (54.55) |
| Yes, but there are shortages | 12 (34.21) | 5 (9.09) |
| Do you receive the medicines in a timely manner? | | |
| Always on time | 11 (31.58) | 2 (18.18) |
| Cases when medicines are not received | 7 (21.05) | 2 (18.18) |
| Frequent shortages | 12 (34.21) | 2 (18.18) |
| Rarely has access | 5 (13.16) | 5 (45.46) |
| Is there dietary care in the prison? | | |
| Yes | 15 (42.11) | 2 (18.18) |
| No | 16 (44.74) | 7 (63.64) |
| Sometimes | 4 (13.15) | 2 (18.18) |
| Receives follow-up from a nutritionist | | |
| Upon entry | 1 (2.63) | --- |
| Yes | 1 (2.63) | --- |
| Never | 33 (94.74) | 11 (100) |
| Takes part in health promotion conversation circles | | |
| Yes | --- | --- |
| No | 35 (100) | 11 (100) |
| Frequency of medical consultation | | |
| Monthly | 6 (18.42) | 2 (18.18) |
| Only when ill | 14 (39.47) | 3 (27.27) |
| Rarely had access | 15 (42.11) | 6 (54.55) |
| Frequency of nursing consultation | | |
| Weekly | 1 (2.63) | --- |
| Monthly | 6 (18.42) | 2 (18.18) |
| Only when ill | 15 (42.11) | 3 (27.27) |
| Rarely had access | 13 (36.84) | 6 (54.55) |
| Does physical exercise | | |
| Yes | --- | --- |
| No | 35 (100) | 11 (100) |

* Hypertension = systemic arterial hypertension. ** DM = diabetes mellitus.

Source: Authors.

Pregnant women in prison settings require special attention, especially when it comes to antenatal and postpartum care. However, health care in prison settings does not uphold the principles of comprehensiveness, responsiveness and humanization governing the SUS[26].

Brazilian prisons pose a number of health risks for prisoners, including a range of morbidities such as hypertension and diabetes, which are variables investigated in the present study. According to the World Health Organization (WHO), non-communicable diseases are the leading cause of death worlwide. Medicines and health promotion should be provided in accordance with public health policy recommendations, which should be adopted by multiprofessional health teams[27].

Disease prevention and health promotion activities guaranteed under the SUS should be a priority for the female prison population. How-

**Table 4.** Infectious diseases among incarcerated women in a prison in Fortaleza, Ceará, 2020.

| Variable | HIV * n (%) [1] | Hep A ** n (%) [1] | Hep B *** n (%) [1] | Sífilis n (%) [1] | TB **** n (%) [1] |
|---|---|---|---|---|---|
| Has an infectious disease | | | | | |
| Yes | 15 (16.67) | - | - | 12 (13.33) | 2 (2.22) |
| No | 75 (83.33) | 90 (100) | 90 (100) | 78 (86.67) | 88 (97.78) |
| Has done rapid test after entering the prison (non-pregnant women) | | | | | |
| Yes | 60 (67.42) | 30 (32.58) | 30 (32.58) | 57 (64.05) | 10 (11.24) |
| No | 30 (32.58) | 60 (67.42) | 60 (67.42) | 33 (35.95) | 80 (88.76) |
| Access to medication | | | | | |
| Prison clinic | 13 (86.67) | - | - | 10 (83.33) | - |
| Family | 2 (13.33) | - | - | 2 (16.67) | - |
| No access | - | - | - | - | 1 (50) |
| Cases of shortages | - | - | - | - | 1 (50) |

*HIV = Human Immunodeficiency Virus Infection; **Hep A = hepatitis A; ***Hep B = hepatitis B; ****TB = tuberculosis[1]
n (%) = number of participants (percentage).

Source: Authors.

ever, our findings highlight the precariousness of these activities in the prison, including lack of testing and medicine shortages. Despite being mandatory for this population, the findings show lack of screening and poor health care, including shortages of medicines taken regularly for chronic diseases like hypertension and DM, which when not properly controlled can result in health risks and adverse health outcomes. A large proportion of the respondents were smokers, drinkers and/or drug users, increasing the risk of certain health problems. Health professionals are prisoners' main source of information, and it is important that these professionals develop disease prevention and health promotion activities for inmates to avoid the development and deterioration of health problems. However, this was not the case in the prison analyzed by this study, with more than one-fifth of the respondents reporting that they had not been seen by a health professional in the prison.

Unhealthy conditions and overcrowding are risk factors for infectious diseases, especially for female prisoners[28]. Women deprived of liberty are susceptible to STIs due to lack of knowledge about sexual and reproductive health and prison conditions, increasing risky behavior among this group[29]. Lack of health education contributes to lack of knowledge among female detainees about hygiene and body care and facilitates the spread of misinformation and prejudice regarding sexual health and the use of contraceptives, especially when the latter are not properly distributed.

Nicolau *et al.*[30] found that female prisoners were not offered condoms during intimate visits, indicating lack of protection against STIs among this group. The results of our study corroborate these findings, with the respondents reporting poor access to condoms.

To prevent the transmission of STIs/AIDS, public policies should focus on reducing vulnerability to these diseases by providing access to information/health education and implementing support networks to promote early detection and treatment, taking into account the specific characteristics of each population group, including female prisoners[31].

Another important finding of this study is the low percentage of rapid HIV, syphilis and hepatitis B tests upon admission to prison and during prison stay, especially among women living with HIV. The Ministry of Health recommends that all inmates should undergo rapid tests for STIs. Our study reveals that most participants did not undergo rapid tests, constituting a risk factor for transmission to other female detainees. This situation in prisons is a serious problem and should be widely discussed in order to reduce its consequences.

The lack of control of women prisoners with HIV/AIDS can facilitate the spread of this disease in jail, placing not only the already infected women at risk but also those who could potentially become infected in the prison environment (through sexual relations, contact with infected blood or other bodily fluids, transmission during childbirth or breastfeeding, etc.)

It is evident therefore that the prison system is unprepared to meet the needs of female prisoners, who live in an unhealthy and overcrowded environment and are susceptible to infectious diseases due to gaps in access to adequate disease prevention and health promotion policies[29].

Similar results were found by a scoping review of 49 studies in Africa, which revealed substandard health care provision and prison clinics, characterized by medicine shortages, lack of trained health personnel and routine medical check-ups, limited availability of equipment or lack of basic investigation equipment, and poor gynecological care coverage[32]. In addition to physical health problems, the resulting prison situation and unhealthy conditions associated with the lack of health actions and poor health services can lead to mental health disorders.

The Pan American Health Organization emphasizes that health problems resulting from confinement can be drivers of psychosocial problems, requiring closer attention from professionals to identify possible mental disorders and alcohol and/or drug use[33]. Audi *et al.*[34] highlight that prisoners leave prison with prison-acquired physical and mental health illnesses or aggravated pre-existing health problems. The impact of imprisonment on women can therefore trigger mental disorders or aggravate existing problems and affect their ability to look after their children both inside and outside prison, affecting not only their own health but also that of their children.

Prisoners' mental health is cause for concern in Brazil's prison system, especially that of female prisoners, who are five times more likely to have mental health problems than non-imprisoned women[35]. This reality makes the mental health of female prisoners a topic that warrants further in-depth study.

In a study addressing mental health during confinement with 40 female prisoners in a penitentiary in Rio de Janeiro, respondents reported anxiety, stress, depression, changing sleeping patterns, misuse of psychotropic drugs and other legal and illegal drugs, sexual abstinence, precarious prison conditions and family disruption[36]. Our findings show that two-thirds of the incarcerated women were at risk of CMDs, which is much higher than the average rate among women. However, rates were lower among pregnant and postpartum women.

The literature on non-imprisoned women demonstrates that the rate of CMDs among pregnant and postpartum women is frequently higher than in other women[37]. Our findings show that this relationship was inverted in the prison, which may be explained by the care imprisoned pregnant and postpartum women receive. These women are separated from other inmates in units that are more suited to pregnancy, the post-partum period and breastfeeding. It may be assumed therefore that if prison conditions and health care were better, there would be lower risk of CMDs and perhaps a better environment for resocialization, facilitating the social reintegration of incarcerated women.

While incarceration increases the risk of CMDs, the findings of the present study did not show a significant relationship between SRQ score and length of prison stay. These findings corroborate the results of a study undertaken with 287 women in a female prison in Porto Alegre, Rio Grande do Sul, showing that symptoms of depression did not increase with increasing length of detention. On the contrary, the findings showed that symptoms were less frequent in women who had spent more than 26 months in prison[38].

The situation outlined above underlines that there are still major challenges in improving access to health services and humanizing women's health care in prisons, despite formal guidance on the provision of comprehensive care in prisons. It is important to highlight that people deprived of liberty should not be deprived of their other rights, including the right to health, enshrined in law as a universal right.

Despite its importance, this study has some limitations. These include potential bias due to the fact that we only interviewed women with the existing conditions outlined above and pregnant and postpartum women. In addition, we had originally intended to investigate a larger group; however, this was made impossible by the onset of the COVID-19 pandemic. We believe that the inclusion of female detainees without existing health problems would have revealed an even more precarious situation in relation to prison health care services.

## Conclusion

The findings of this study suggest that the prison system is unprepared to meet the health needs of female detainees. Pregnant and postpartum women do not have access to ideal conditions for labor and childbirth and non-pregnant women are susceptible to the development and deterioration of infectious diseases, as they do not have adequate

access to disease prevention and health promotion policies and contraceptives and most do not have routine gynecology check-ups and rapid tests for HIV, hepatitis B and syphilis. In addition, access to medicines and other tests is limited.

Our results indicate that, despite current legislation guaranteeing access to health care for the female prison population, services are limited in quantity and quality. Our findings are new for the region where this study was conducted and have the potential to guide actions to improve women's health care in prisons as they show gaps in care provision and the shortcomings of the state, reinforcing the need for dignified and humanized care for women deprived of liberty, as enshrined in law.

## Collaborations

APGF Vieira-Meyer: contributed substantially to the conception and design of the work; data acquisition and analysis; critically revised the manuscript for important intellectual content; approved the version to be published; She is responsible for all aspects of the work, ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. ILB Campelo: contributed substantially to the conception and design of the work; data acquisition and analysis; critically revised the manuscript for important intellectual content; is responsible for all aspects of the work, ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. RGLA Ferreira, GA Albuquerque, APP Morais, JMX Guimarães e ADC Bezerra: participated in the analysis and interpretation of results and writing of the manuscript.

## References

1. Lima GMB, Pereira Neto AF, Amarante PDC, Dias MD, Ferreira Filha MO. Mulheres no cárcere: significados e práticas cotidianas de enfrentamento com ênfase na resiliência. *Saude Debate* 2013; 37(98):446-456.
2. Brasil. Departamento Penitenciário Nacional. Levantamento nacional de informações penitenciárias: dezembro 2019 [Internet]. 2020. [acessado 2020 out 24]. Disponível em: https://app.powerbi.com/view?r=eyJrIjoiZTlkZGJjODQtNmJlMi00OTJhLWFlMDktNzRlNmFkNTM0MWI3IiwidCI6ImViMDkwNDIwLTQ0NGMtNDNmNy05MWYyLTRiOGRhNmJmZThlMSJ9
3. Santos BRM, Rezende VA. Sistema carcerário feminino: uma análise das políticas públicas de segurança com base em um estudo local. *Cad EBAPEBR* 2020; 18(3):583-594.
4. Ribeiro SG, Lessa PRA, Monte AS, Bernardo EBR, Nicolau AIO, Aquino PS, Pinheiro AKB. Perfil gineco-obstétrico de mulheres encarceradas no estado do Ceará. *Texto Contexto Enferm* 2013; 22(1):13-21.
5. Bartholo L, Passos L, Fontoura N. Bolsa Família, autonomia feminina e equidade de gênero: o que indicam as pesquisas nacionais? *Cad Pagu* 2019; 55:e195525.
6. Santos MV, Alves VH, Pereira AV, Rodrigues DP, Marchiori GRS, Guerra JVV. A saúde física de mulheres privadas de liberdade em uma penitenciária do estado do Rio de Janeiro. *Esc Anna Nery* 2017; 21(2):e20170033.
7. Brasil. Ministério da Saúde (MS). Portaria Interministerial nº 1.777, de 9 de setembro de 2003. Implementa o Plano Nacional de Saúde no Sistema Penitenciário (PNSSP). *Diário Oficial da União* 2003; 10 set.
8. Galvão MCB, Davim RMB. Ausência de assistência à gestante em situação de cárcere penitenciário. *Cogitare Enferm* 2013; 18(3):452-459.
9. Leal MC, Ayres BVS, Esteves-Pereira AP, Sánchez AR, Larouzé B. Nascer na prisão: gestação e parto atrás das grades no Brasil. *Cien Saude Colet* 2016; 21(7):2061-2070.
10. Brasil. Departamento Penitenciário Nacional. Levantamento Nacional de Informações Penitenciárias (INFOPEN) [Internet]. 2017. [acessado 2020 nov 5]. Disponível em: https://dados.mj.gov.br/dataset/infopen-levantamento-nacional-de-informacoes-penitenciarias.
11. Soares Filho MM, Bueno PMMG. Demografia, vulnerabilidades e direito à saúde da população prisional brasileira. *Cien Saude Colet* 2016; 21(7):1999-2010.
12. Constantino P, Assis SG, Pinto LW. O impacto da prisão na saúde mental dos presos do estado do Rio de Janeiro, Brasil. *Cien Saude Colet* 2016; 21(7):2089-100.
13. Brasil. Ministério da Justiça (MJ). Política Nacional de Atenção às Mulheres em Situação de Privação de Liberdade e Egressas do Sistema Penitenciário [Internet]. 2014. [acessado 2020 nov 5]. Disponível em: https://www.diariodasleis.com.br/legislacao/federal/226123-politica-nacional-de-atencao-as-mulheres-em-situacao-de-privacao-de-liberdade-e-egressas-do-sistema-prisional
14. Ceará. Departamento de Monitoramento e Fiscalização do Sistema Carcerário e do Sistema de Execução de Medidas Socioeducativas. Relatório de inspeções: estabelecimentos prisionais do estado do Ceará [Internet]. 2022. [acessado 2023 maio 30]. Disponível em: https://www.cnj.jus.br/wp-content/uploads/2022/05/relatorio-de-inspecoes-prisionais-no-estado-do-ceara-web-2022-05-09.pdf
15. Brasil. Ministério da Saúde (MS). Lei nº 8.080 de 19 de setembro de 1990. Dispõe sobre as condições para a promoção, proteção e recuperação da saúde, a organização e o funcionamento dos serviços correspondentes e dá outras providências. *Diário Oficial da União* 1990; 19 set.
16. Brasil. Ministério da Saúde (MS). Programa Nacional de Controle da Tuberculose [Internet]. 2016. [acessado 2020 nov 5]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/ProgramaTB.pdf
17. Organização Pan-Americana da Saúde (OPAS). Linhas de cuidado hipertensão arterial e diabetes [Internet]. 2010. [acessado 2020 nov 5]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/linhas_cuidado_hipertensao_diabetes.pdf
18. Brasil. Ministério da Saúde (MS). Política Nacional de DST/AIDS princípios, diretrizes e estratégias [Internet]. 1999. [acessado 2020 nov 5]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/cd03_17.pdf
19. Gonçalves DM, Stein AT, Kapczinski F. Performance of the Self-Reporting Questionnaire as a psychiatric screening questionnaire: a comparative study with Structured Clinical Interview for DSM-IV-TR. *Cad Saude Publica* 2008; 24(2):380-390.
20. Viellas EF, Domingues RMSM, Dias MAB, Gama SGN, Theme Filha MM, Costa JV, Bastos MH, Leal MC. Assistência pré-natal no Brasil. *Cad Saude Publica* 2014; 30(Suppl. 1):S85-S100.
21. Brasil. Ministério da Saúde (MS). Política Nacional de Atenção Integral a Saúde da Mulher [Internet]. 2004. [acessado 2020 nov 5]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/politica_nac_atencao_mulher.pdf
22. Lima ACSD, Alves MJH, Pereira EV, Pereira AP, Albuquerque GA, Belém JM. Gênero e sexualidade na formação de enfermeiros no ensino superior público brasileiro: estudo documental. *Rev Enferm Cent-Oeste Min* 2021;11:387.
23. Tomkin J. *Orphelins de justice A la recherche de l'intérêt supérieur de l'enfant lorsqu'un parent est en prison: analyse juridique*. Geneva: Quaker UN Off; 2009.
24. Araújo MM, Moreira AS, Cavalcante EGR, Damasceno SS, Oliveira DR, Cruz RSBLC. Assistência à saúde de mulheres encarceradas: análise com base na Teoria das Necessidades Humanas Básicas. *Esc Anna Nery* 2020; 24(3):e20190303.
25. Brasil. Ministério da Saúde (MS). Cadernos de atenção básica: atenção ao pré-natal de baixo risco (nº 32) [Internet]. 2012 [acessado 2020 nov 5]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/cadernos_atencao_basica_32_prenatal.pdf
26. Reis CA, Zucco LP. Saúde sexual e saúde reprodutiva no cárcere. *Front Rev Catarin Historia* 2019; 33:66-86.

27. Ribeiro AG, Cotta RMM, Ribeiro SMR. A promoção da saúde e a prevenção integrada dos fatores de risco para doenças cardiovasculares. *Cien Saude Colet* 2012; 17(1):7-17
28. Diuana V, Ventura M, Simas L, Larouzé B, Correa M. Direitos reprodutivos das mulheres no sistema penitenciário: tensões e desafios na transformação da realidade. *Cien Saude Colet* 2016; 21(7):2041-2050.
29. Tres AB, Sena AD, Caires DA, Lima IMB, Coelho K, Rigo LE, Silva LO, Ribeiro RS, Santos VB, Machado EFA. Saúde sexual e reprodutiva no cárcere: discussão sobre os desafios das mulheres privadas de liberdade. *Rev Eletr Acervo Saude* 2021; 13(7):e7891.
30. Nicolau AIO, Aquino PS, Ximenes LB, Pinheiro KB. Determinantes sociais proximais relacionados ao câncer cervicouterino em mulheres privadas de liberdade. *Reme Rev Min Enferm* 2015; 19(3):733-740.
31. Lôbo MP, Penna LHG, Carinhanha JI, Vilela ABA, Yarid SD, Santos CS. Ações de prevenção e enfrentamento das IST/AIDS vivenciadas por mulheres encarceradas. *Rev Enferm UERJ* 2019; 27:e40203.
32. Van Hout MC, Mhlanga-Gunda R. Contemporary women prisoners health experiences, unique prison health care needs and health care outcomes in sub Saharan Africa: a scoping review of extant literature. *BMC Int Health Hum Rights* 2018; 18(1):31.
33. Organização Pan-Americana da Saúde (OPAS). Guia sobre gênero, HIV/AIDS, coinfecções no sistema prisional [Internet]. 2012. [acessado 2020 nov 5]. Disponível em: https://www.unodc.org/documents/lpobrazil/Topics_aids/Publicacoes/GUIA_SOBRE_GENERO_2012_1.pdf
34. Audi CAF, Santiago SM, Andrade MGG, Francisco PMSB. Inquérito sobre condições de saúde de mulheres encarceradas. *Saude Debate* 2016; 40(109):112-124.
35. Cloud D, Dougherty M, May RL, Parsons J, Wormeli P, Rudman WJ. At the Intersection of Health and Justice. *Perspect Health Inf Manag* 2014; 11(Winter):1c.
36. Santos MV, Alves VH, Pereira AV, Rodrigues DP, Marchiori GRS, Guerra JVV. A saúde física de mulheres privadas de liberdade em uma penitenciária do estado do Rio de Janeiro. *Esc Anna Nery* 2017; 21(2):e20170033.
37. Machado MMT, Rocha HAL, Castro MC, Sampaio EGM, More FAOS, Silva JPF, Aquino CM, Sousa LAR, Carvalho FHC, Altafim ERP, Correia LL. COVID-19 e saúde mental de gestantes no Ceará, Brasil. *Rev Saude Publica* 2021; 55:37.
38. Canazaro D, Argimon IIL. Características, sintomas depressivos e fatores associados em mulheres encarceradas no Estado do Rio Grande do Sul, Brasil. *Cad Saude Publica* 2010; 26(7):1323-1333.



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