

Health conditions of prisoners in the state of Rio de Janeiro, Brazil

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Abstract *We present the results of a quantitative and qualitative study on the living conditions and health of prisoners in the state of Rio de Janeiro. The goal was to produce strategic information to support the action of public officials who work in prisons. The results show that prisoners are young (average age: 30 years), poor, mostly black and brown (70.5%), have little education (only 1.5% of them have a higher education), and have been in prison for less than four years. Among the problems that indirectly affect their health, we emphasize: overcrowding (1.39 prisoners per one vacancy), idleness (only 4.4% of them work), lack of perspective, violence and relationships of conflict. The most common physical health problems include: musculoskeletal problems, such as pain in the neck, back, and spine (76.7%), joint dislocation (28.2%), bursitis (22.9%), sciatica (22, 1%), arthritis (15.9%), bone fracture (15.3%), problems with bone and cartilage (12.5%), and muscle and tendon injuries (15.7%); respiratory problems, such as sinusitis (55.6%), allergic rhinitis (47%), chronic bronchitis (15.6%), tuberculosis (4.7%) and others (11.9%); and skin diseases. Despite legal requirements that include prison health care among the Universal Health System's (SUS) obligations, services are scarce and inefficient and a major cause of inmate dissatisfaction.*

Key words *Health of prisoners, Prison system, Health conditions*

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Introduction

This article presents part of the findings of an exploratory study of prisoner self-evaluation of the health conditions in the state of Rio de Janeiro. It works as much with the broader concept of health established by the Constitution of 1988 – which considers health as resulting from the conditions of nutrition, housing, education, income, environment, work, transportation, leisure, employment, and freedom – as it does with its definition in the strict sense, which deals with the problems of illness and the care offered by the health sector.

The issue of health is dealt with in various government sector documents such as the National Health Plan of the Penitentiary System in 2004¹, and the National Policy of Holistic Health Care for Persons deprived of Freedom in the Prison System, in 2014². The Law of Penal Execution (No. 7.210/1984) also addresses the health situation of prisoners when it states that their care should be preventative and curative, and include medical, pharmaceutical, and dental services. In western countries in general³, laws and norms consider care for the prison population as part of the health system that serves the well-being of all of society.

Investigations about the life and health conditions of prisoners are relatively recent, and especially influenced by the “Health in Prisons Program” initiated by the World Health Organization in 1995, which includes the “Health Guide to Prisons”⁴, according to which prisoners should not leave incarceration in worse health than when they entered it.

This article is organized in three parts: (1) the context and everyday life in the prison; (2) the main health problems reported by the prisoners; and (3) the situation of health care, access to services, and organization of the sector.

Methodology

The exploratory study of self-evaluation on the health conditions of the incarcerated population of the State of Rio de Janeiro was based on a combination of a descriptive quantitative approach and a hermeneutic qualitative one⁵.

A survey was conducted about health conditions, as well as access and use of health services by the prisoners⁶. The universe of research was comprised of the incarcerated population of all of the penitentiaries, prisons, public jails,

and custody psychiatric hospitals in the State in 2013, totaling close to 25,570 prisoners distributed in 33 units. Hospitals, penal institutes, reform schools, sheltered houses, prison farms, and military units were excluded.

Because of population size and of logistics, a procedure of proportionate stratified sampling (PSS) was carried out. For the stratification of the population, location of the unit (the capital city, Baixada Fluminense area, or the interior of the state) and sex (male and female) were considered. This division hypothesizes the existence of differences in the configuration of the crimes as well as the incarcerated population in the three territories.

In the sample design for obtaining proportional estimates, a 7% absolute error, 95% confidence level, and 50% prevalence of each of the events of interest were employed. In each unit, prisoners were selected by simple random sampling. A loss of 10% was calculated. In order to minimize refusals, a list of substitutions guaranteeing anonymity was used. Only one jail did not achieve the desired N.

The self-filled questionnaire was organized in blocks of mostly multiple choice questions comprised of: socioeconomic and demographic data; health conditions and quality of life inside the institution; and uses of health service. The prisoners who had difficulties with reading and writing or suffered vision problems received help from the researchers in recording their answers. 1,573 prisoners responded to the instrument: 51.1% in the capital of the state of Rio de Janeiro, 32.1% in the Interior (Volta Redonda, Campos dos Goytacazes, and Itaperuna) and 16.8% in the Baixada Fluminense area (Magé, Japeri, Niterói).

The processing of information involved stages of data entry and critique with the goal of correcting errors and identifying inconsistencies in the data. Filters were elaborated in the program Epidata 3.1 for use in data entry, and transferred to SPSS 20.0 software for analysis. This stage initially consisted of the construction of variable *sample weight* and the expansion of data by way of the *weight* function. The analyses utilized the expanded information, allowing inferences for the population. Accordingly, the expanded sample integrated 22, 231 individuals, with 22, 851 male and 1,380 female.

The analyses encompassed: the distribution of absolute and relative frequencies for all of the variables; calculation of the summary measures for the quantitative variables; construction of contingency tables and the application of the

Qui-quadratic and Fisher Exact tests; the Kolmogorov-Smirnov test (for verification of normalcy of quantitative variables), the Kruskal-Wallis and Mann-Whitney tests (for the comparison of averages); and the McNemar test (to compare proportions of two related samples). In carrying out these tests, a p-value of ≤ 0.05 was employed to attribute statistical significance.

In the qualitative stage, 25 semi-structured interviews with prisoners of both sexes were conducted in the prison units of the capital, the interior, and the Baixada Fluminense area. The goal was to enrich a study of quantitative orientation, for which reason we sought to listen to the inmates in all of the studied units. The number of 15 men and 10 women was the quantity possible within the timeline of the research, with no pretension of exhausting the information. The scripts sought their perceptions about environmental and life conditions, and the influence of institutionalization on their physical and mental health. The qualitative analysis consisted of the following stages: a) transcription and data entry of the recorded interviews; b) attribution of codes to the interviewees; c) comprehensive reading of the texts; d) elaboration of analysis structures, grouping passages of the most illustrative testimonies into thematic axes; e) identification of the central ideas; f) identification of the meanings attributed to the ideas; and g) elaboration of comprehensive, interpretive, and contextualized syntheses.

The research was approved by the Research Ethics Committee of the National School of Public Health, of the Oswaldo Cruz Foundation/Fiocruz.

Findings

The context and everyday life in prison

In considering health as resultant of environmental and life conditions, we present the sociodemographic profile of the prisoners, and the relationships and everyday life in the prison, emphasizing issues of overcrowding, leisure, and problems in diet and transportation.

The study worked with a sample of 1,110 men and 463 women. Of the men, 64% were in the capital, 13.8% in the Baixada Fluminense area, and 22.2% in cities in the interior of the state. Of the women, 85.1% were prisoners in the capital and 14.9% in the interior. 67% of men and 70.5% of women are black or brown, with a pre-

dominance of brown in the female population ($p < 0.001$), mainly outside the capital.

As can be observed in Table 1, the incarcerated population is young: the majority is between 20 and 39 years old, with the average age of men being 30.7 years and 32.2 years for women ($p < 0.001$). The male prisoners in the capital are, on average, older than those in the Baixada area or in the interior, and the female prisoners in the capital older than those in the interior ($p < 0.001$). There are more married men than women, and a large part of both sexes lived alone before incarceration. Even while being in the majority single, separated, or widows, the male prisoners have on average two to three children. Among the women, this average is higher ($p < 0.01$).

Attention should be called to the percentage of illiterates and of prisoners that had not completed primary schooling (close to 50% in

Table 1. Percentage distribution of the prisoners in the state of Rio de Janeiro, according to age range, education, marital status, and time in prison.

Variable	Men	Women
Age range		
Up to 19 years	7.1	4.3
Up to 20-29 years	47.9	42.6
30-39 years	27.3	31.6
40-49 years	11.7	15.0
50-59 years	4.4	5.6
60 + years	1.7	0.8
Average (SD)	30.7 (10.4)	32.2 (9.8)
Education		
Illiterate	7.5	8.2
Incomplete primary schooling	50.8	50.5
Complete primary schooling	14.5	11.8
Incomplete high school	12.2	15.4
Complete high school	10.1	11.0
Incomplete college	3.4	1.6
Complete college	1.4	1.5
Marital status		
Single	46.5	58.8
Married/partnered	44.5	30.7
Widowed	0.7	4.8
Separated	7.9	5.7
Time in prison		
Less than one year	42.6	47.0
1-4 years	46.6	45.1
5-9 years	7.5	5.5
10-19 years	3.0	1.8
20 and more years	0.3	0.6
Average and SD	2.2 (2.9)	1.8 (2.6)

both sexes). The little investment in formal education is reflected in the exercise of unstable and unprotected professions and careers. Many men reported they have never had a formal job with labor rights (*carteira assinada*), while others mentioned intense turnover in formal and informal activities.

Men have on average been in prison longer than women: 89.2% of men and 92.1% of women have been in prison for up to four years. The average period of detention of men is 2.2 years, and 1.8 years for women. There is a small percentage of persons serving a sentence of more than ten years, and an even smaller percentage of prisoners serving 20 years or more. The prisoners with the least period of privation of freedom (up to four years) are in the Baixada area and in the interior ($p < 0.01$). In the case of women, those in the capital have been detained for less time than those in the interior ($p < 0.01$). It is important to note that the prison time is also dependent on the sentence and, consequently, on the criminal offense committed.

One point that has evident repercussions on the health of the prisoners are the relationships maintained before and during the incarceration. As a group, 77.9% of men and 68.7% of women said that they maintained a strong link with their families, either via correspondence or through visits. However, 11.7% of men and 16.1% of women did not interact with or have any relatives ($p < 0.01$). A considerable percentage (26.1% of men and 41.4% of women) do not receive visitors.

In cases of abandonment by family members, we observe a clear distinction by gender. In general, the women (41.4%) justify the absence of relatives, either because they had to assume care of their children, live very far from the Prison Units, or even because they feel fear and shame from the humiliating situations they must go through in the invasive body searches to enter the prison. Many prisoners feel forgotten by partners who now have new relationships. The study from Simões⁷ in a female penitentiary in Cascavel, Paraná state, confirms what was found in Rio de Janeiro, and adds other explanations: they have a partner who is also incarcerated; the relatives can no longer count on the help of an illicit practice with which the prisoner provided for them; and, last but not least, the social stigma of the woman who commits a crime.

In contrast, spouses and partners of male prisoners ordinarily accompany them assiduously, take precautions that they have some comfort in prison, and even risk entering the jails with

prohibited objects asked for or demanded by the men. Torres⁸ adds that the partners or mothers of male prisoners have even been known to prostitute themselves with other prisoners, in the event that this brings some advantage to their relative.

Among colleagues in prison, there exist relations of solidarity, while at the same time there is mutual distrust. On one hand are found gestures of help and sharing of scarce material goods. Many interviewees define their cellmates as “friends,” “a cool community,” or “as if we were family.” But other prisoners expressed indignation with other colleagues that “want to impose their will on others.” Thus, in frequent cases, the apparent harmony is maintained by a respect imposed by some inmates. This power is linked to the function of the prisoner, as in the case of the “cleaning men” or *faxinas* – a term that refers to those who through their good behavior, as well as the nature of their crime, are permitted to exercise administrative activities in the units, tasks that would be the assignment of prison guards. The ambiguity in the relations between prisoners was also encountered by Lemgruber⁹, according to whom camaraderie is a condition of survival in an existence practically without individuality and with the permanent proximity of bodies. Almeida¹⁰ argues, however, that there is positivity in the network of links that reorganizes itself with the restriction and even the severing of some relations, but also in the broadening of others.

The relationships with the workers of the prison units were considered a constant cause of dissatisfaction. For example, those who guard them (prison guards), are considered insensitive, crude, inaccessible, and indifferent to their demands. The agents who bring them outside the prison to courts and health units do so in an authoritarian, inhumane, and cruel regime. The medical professionals, dentists and nurses, and some social workers and psychologists care for them poorly or are negligent. Some few exceptions were cited in the testimonies. The women (in the capital and in the interior) and the male prisoners in the Baixada Fluminense region were the most critical: in all aspects, they argued that they receive very little attention from the workers.

The case of transportation is one of the biggest points of complaint from the prisoners. They feel humiliated and mistreated when they need to leave the prison for medical treatment or for legal demands. It is worth highlighting that this study included prisons, public jails, and custody psychiatric hospitals that do not possess their own in-house health services, except for an UPA

(Intensive Care Unit) that functions in the Bangu penitentiary. The transportation to more sophisticated units is made by the Escort Service Group (GSE), comprised of agents infamous for truculence and intolerance, who are accustomed to act violently towards the prisoners. The problems are many: mistreatment, excess of persons to be transported (close to 400 per day), operational difficulties to pick up and deliver the prisoners to different, distant places, and a precarious structure to carry out the transfer. The prisoners complain that they are used to spending the entire day, and sometimes until the middle of the night, inside of vehicles “that are a true hell,” suffering hunger, thirst, heat, and degrading conditions.

Although it does not have the worst situation in the country, Rio de Janeiro suffers from prison overcrowding: there is a ratio of 1.39 prisoners for each vacancy (less than the index for Brazil in general, 1.61:1.00), and a rate of imprisonment of 238.9/100,000 inhabitants. This rate is also below that calculated for the country (299.7/100,000), but it is very high and has a particular aggravating factor: 46% are provisional prisoners or are in pre-trial detention¹¹. This demonstrates an indisputable shortcoming of the justice system.

The situation of overcrowding is aggravated by lack of activity and perspective. The prisoners of the three areas highlight the outrage they feel by the idleness in which they live. They pass the time conversing, sleeping, watching television, and, for some, reading. Only 21.3% of them were enrolled in some kind of course at the time of the research. The majority, however, complained of the frequent discontinuity of the educational programs. Only 4.5% carried out what is denominated as “qualified activity,” or rather, that which counts towards the reduction of the sentence. Even these “qualified activities” are normally exercised by those called “cleaning men” (prisoners that have some privilege) and not by prisoners in the exercise of some profession.

The issue of food marks a point between the adverse context of the prison and health problems in the strict sense. Much as PNAISP¹ refers to an adequate diet as a condition of health, as in Resolution No.14 of ANVISA, since 2004 it has been established that: “food should be prepared according to the norms of hygiene and diet, monitored by a nutritionist, and must present sufficient nutritional value for the maintenance of health and physical vigor in the prison.” In practice, however, prisoners think that “The food is dangerous enough to kill” (as expressed by one inmate in the capital). The female prisoners in-

dicating that they detest the tasteless food, and that it frequently arrives spoiled. The men emphasize that: “the food is terrible,” “there is no variety and sometimes the food is sour and mixed with dead animals, flies, cockroaches, and hair.” They also complain that “the last meal is served at three in the afternoon, leaving everyone really hungry for the rest of the time.” It is important to highlight that the meals, served to the prisoners in their own cells, are developed by specialized companies and delivered already prepared in disposable aluminum containers. Various persons with health problems said that their dietary needs were not met.

In summary, in all of the units the food was poorly evaluated because of its repetition, its low quality, for containing many industrialized products, and for being unhealthy. In addition, the precarious supply or even lack of water and the routine of serving meals inside the cells – which attracts insects – were highlighted to exemplify the unhealthiness of the environment. All of this leads the prisoners to feel painfully impoverished and humiliated.

Health conditions

One of the most relevant grievances in relation to prison health is that of violence. This already was part of the life context of the majority before becoming prisoners, and accompanies them into incarceration: 46.4% of men and 55.4% of women responded that they are threatened, and afraid of being injured, attacked, or killed ($p < 0.01$). The women, more than the men, report that they have suffered verbal and sexual aggression, falls, suicide and homicide attempts, and stabbings. The prisoners of the Baixada area are the ones that feel most vulnerable and mainly complain of physical, verbal, and emotional aggressions. It is interesting to observe that the aforementioned homicide attempts on 5.2% of the female prisoners in the interior seem to be much less frequent than suicide attempts, reported by 13.9% of them.

In Table 2 are presented the distribution of illnesses reported by the prisoners in the last 12 months. Musculoskeletal and respiratory problems are emphasized. The principal symptoms of the former are pains in the neck, back, and spine (76.7%), twisting or dislocation of joints (28.2%), bursitis (22.9%), sciatic pain (22.1%), arthritis or rheumatism (15.9%), bone fractures (15.3%), problems with bones or cartilage (12.5%), and muscle or tendon problems (15.7%). Pain of the

Table 2. Percentage distribution of self-reported illnesses by male and female prisoners in the state of Rio de Janeiro, according to body system.

Illness/system	Men	Women	Total
Musculo-skeletal	57.3	70.3	58.1
Respiratory	47.7	54.5	48.1
Vision, hearing, and speech	37.3	47.3	37.9
Digestive	35.6	57.6	36.9
Hearth/circulatory	23.2	36.5	23.9
Urinary	17.2	50.2	19.1
Infectious diseases	17.0	19.2	17.1
Glandular e blood	15.9	39.6	17.2
Reproductive	6.5	20.5	7.4

neck, back, or spine was the most cited, principally by women (43.1% of men and 58.3% of women) and may in part be associated with the lack of quality of mattresses, or even the absence of them in cases of overcrowding.

Various problems of the digestive system such as constipation (48.8%), digestive difficulties (37.1%), and gastritis (15.9%) were mentioned. Such grievances are associated with the poor diet on which the prisoners are fed, and are found at a much higher prevalence than that found by the IBGE in the Census of 2010 (15%), as well as that calculated by the Brazilian Federation of Gastroenterologists¹² that calculates the prevalence of digestive tract problems in Brazilians to be close to 20%.

Among the biggest health complaints of the prisoners are problems with hearing impairments (23.7%), most common among men. Blindness in one eye (17.6%), myopia, astigmatism, and eyefatigue (58.4%) are mentioned more by women. In the Brazilian population, the prevalence of myopia varies between 11% and 36%, hypermetropia reaches 34%, and blindness is at 3%¹³. Regarding hearing, 3.4% of Brazilians declared in the IBGE Demographic Census that they had some incapacity or great difficulty hearing¹⁴. Therefore, vision and auditory problems in Rio de Janeiro's prisoners are much higher than that estimated for the Brazilian population in general, which is very serious considering that the prisoners are mostly young people.

Among respiratory diseases, the most mentioned are sinusitis (55.6%), allergic rhinitis (47%), chronic bronchitis (15.6%), pulmonary tuberculosis (4.7%), and others (11.9%). The percentage of complaints is very elevated, as it

is estimated that the prevalence of respiratory problems in the Brazilian population is at 18%¹⁵. Women are the most vocal complainants (above 50% of them), and the percentage of men with these types of grievances increase the longer they are in prison. The increase of pulmonary and respiratory diseases in persons who are incarcerated for more than three years is indicative of unhealthiness, lack of fresh air, and of prolonged contacts caused by overcrowding in the cells, the central environmental issue in the prisons¹⁶.

The most frequent type of heart disease is arterial hypertension. The percentages of 35.8% among men and 30% among women are compatible or even below the national average, if we do not consider the fact that the prisoners are mostly young persons. Cystitis and urethritis were the urinary tract problems indicated by 45.9% of those interviewed, followed by kidney infections (14.3%) and other (15.9%). The most reported symptom is urinary infection, which occurs in more than half the women.

The most cited infectious diseases are dengue (16.7%) and tuberculosis (4.9%). The frequency of dengue is worrying because of the ease of dissemination. Tuberculosis was reported by 8.7% of men and 2.5% of women. The study of Sanchez et al.¹⁷ cites the overcrowding, poorly-ventilated cells without sunlight, and the prevalence of HIV in Rio de Janeiro's prisons as some of the reasons why this disease persists and is disseminated at rates of incidence and prevalence much higher than in the general population.

Among glandular and blood diseases, anemia occupies first place, being less frequent in the male population (9.1%) and having a much more elevated percentage among women (31.7%). Men (3.8%) report prostrate problems (4% of prisoners in the capital, 3.9% in the Baixada area, and 3.2% in the interior), and 4.5% cite other illnesses. In the female population, tumors and cysts of the uterus or the ovaries were the most frequently cited (13.3%).

Skin diseases – feared by the majority of prisoners, particularly women – have a higher prevalence than in the Brazilian population. In the studied group, ulcers, eczema, and psoriasis were cited by 15.9% of participants. Allergies, allergic or contact dermatitis, and hives were reported by 43.4%. According to the 2006 Census of the Brazilian Society of Dermatology¹⁸, the most common skin diseases in Brazil are sexually transmitted diseases (25.12%), allergic dermatitis (14.03%), non-specified dermatitis (13.01%), leprosy (6.34%), and acne, seborrhea, and other

diseases (5.05%). The highest rate of symptoms is observed in the age range of 20-29 years.

Various men and women reported in the research that they came to prison already with the health problems that they described. Nevertheless, the complaint is that in incarceration they are not cared for, have few opportunities to prevent illnesses, and that prison agents are hardly concerned with their situation.

On the opposite side of these complaints, a small portion of the prisoners consider their health situation to have improved in prison, as they have more time for themselves and seek to protect themselves from risks. These inmates affirm that they were much more exposed to the abusive use of psychoactive substances “on the street,” and the prison served as a “brake” and a restraint. It was principally men who voiced this discourse. One of them commented that he was diagnosed with hypertension and diabetes at the Prison Unit, and began to take care of himself. Another assessed that his eating and sleeping habits are more regimented now, greatly contributing to the improvement of his health. Such testimonies, however, represent a minority.

The statements of the prisoners, in the majority, establish a direct relationship between the structural conditions of the Unit and their physical and mental health problems. While issues of mental health are not the subject of this article, it is important to point out that they are interlaced with physical grievances: 52.2% of men and 73.1% of women ($p < 0.01$) reported having suffered at last one problem of the nervous system in the last 12 months. Signs of depression were identified in 71.2% of men and 82.4% of women ($p < 0.001$), measured using the Depression Inventory of Beck et al.¹⁹.

Access and health care

The lack of necessary attention to one's health, whether because of lack of professionals or other reasons, represents the most forceful complaint of the prisoners. When referring to medical, psychiatric, or dental treatment, men and women use expressions like: “it's horrible”; “we're forgotten about”; “it's a joke, it's crap”; “the UPA and the HC at Bangu are like a slaughterhouse”; “they treat prisoners like animals”; “we can only go to the doctor if we are dying.” Aside from complaints about the lack of quantity and quality in health services, the prisoners add that there are no doctors after 4 p.m. or on weekends, nor is there “24-hour medical attention as

stipulated by law.” In their research, Sanchez et al.¹⁷ also call attention to the precarious care that sick prisoners receive in Rio de Janeiro, adding that, for their part, the professionals are poorly remunerated or have insecure work contracts, which contributes to their turnover and lack of continuity of the treatment.

A significant portion of prisoners highlight the delay in emergency care. The lack of ambulances and prisoner transport is not related to healthcare coordination but to security. Because of the mistreatment they suffer during transports, prisoners delay any healthcare need that involves leaving the unit for as long as possible. Many angrily said that they have had colleagues die from lack of aid. This criticism is most present among the prisoners of the capital and the Baixada Fluminense area. Perhaps the lesser distances between the prisons and the health units of the interior alleviate the situation of waiting for care.

The prisoners also express that the distribution of medication is precarious or nearly non-existent. Many complain that they receive the same medication for all of their ailments, and that many times the prescribed medications are not available at the prison, and it falls to their families to buy them when they can. This occurs even in the case of continuous usage. The problem of lack of medications was also encountered in 60% of the 109 prison units studied by Fernandes et al.²⁰ in São Paulo.

Discussion

In the following discussion, only some themes will be addressed: the inefficiency of the prison organization, the direct and indirect effects of incarceration on health in the broad and strict sense; and the relationship between the “before,” “during,” and post-prison periods from the point of view of health.

Any study that deals with the prison system has re-socialization – the target objective of prison organization – as a central focus, including aspects related to health. As suggested by the Prison Health Guide⁴, inmates should not leave in worse condition than when they enter. However, as Foucault reminds us²¹, the idea of the transformation of the guilty by corrective techniques never had (and continues not to have) the goal of reconstructing the rights-bearing subject, but rather to forge an obedient and orderly subject. We should add that this idea is reinforced in Goff-

man's²² studies of the mortification of the "I" in a total institution like prison. The author describes how this sacrifice occurs. The condemned arrives to prison with a given concept of self, forged in primary social relations. Upon entering, they are immediately stripped of these provisions through a series of debasements, degradations, humiliations, and profanations of their subjectivity: they experience a barrier between the internal and external world, in the sequence of established schedules and obligatory daily routines different from their previous life; and, above all, in the stripping away of their social role.

Freudenberg²³, in a review of the literature on prisons in the United States, also declares that the American incarceration system has a direct and indirect influence on the physical and mental health problems of the prisoners, which is in agreement with the two references cited above. All of these authors note what is reiterated in this article: that, in unleashing feelings of outrage and humiliation, the prison system is unable to promote autonomous and free citizens capable of integrating socially.

Other studies reinforce the notion of the inefficiency of the system both in terms of the prisoners' social life as much as in their health. The epidemiological investigation of Zlodre and Fazel²⁴ about ex-convicts in the state of New York shows that 15.6% of them died in the first year after being released from prison, and that there is a reduction of two years in their life expectancy, caused by the experience of imprisonment. Hatzembuehler et al.²⁵ found what is known as "collateral effects of incarceration": greater incidence of psychiatric disturbances, such as depression and anxiety, in the communities where the relatives of prisoners live, suggesting that their situation of confinement radiates through their social environment, as much by the absence of these persons from their nuclear family as by the experience of discrimination and prejudice they suffer on the part of neighbors.

Freudenberg²³ also describes the negative effects of prison on three different levels. The first regards social life, such as its impact on the family structure; the loss of economic opportunities and political participation; as well as how incarceration diverts resources that could be better utilized to attend to social needs. Second, prison as it is experienced today has indirect negative effects on health – as this study also shows – highlighting the adverse conditions in serving the sentence, overcrowding of cells, lack of hygiene, precarious and degraded diet, idleness, violent relationships

with prison agents, few opportunities for study, and the absence of formal and creative work.

Finally, the direct effects on illness are magnified by the conditions of incarceration, such as those encountered in the Rio de Janeiro prison system: substance abuse, the presence of auto-immune deficiency virus (HIV) and other infectious diseases like tuberculosis and dengue, musculoskeletal disorders, perpetration of violence and victimization by aggression, mental disturbances, chronic illnesses, and reproductive problems. As noted in this study, this conglomeration of issues is responded to with a precarious and inadequate process of assistance, which was also confirmed by the research of Wilper et al²⁶.

Taking the case of the state of Rio de Janeiro as an example, we can thus conclude that the prison system as it is structured causes a disproportionate social and health impact on the life of prisoners and their families that mostly live in socially underprivileged urban areas, with concentrations of poor black youth, and where the crime rate is very elevated. This situation appears even worse when we consider that 46% of the prison population are detained in a provisional or preventative regime, or in other words without a conviction, which demonstrates the incapable inefficiency of the penal justice system.

From the point of view of the conditions, situations, and lifestyle of the prisoners, it is important to highlight that the problematic issues of the prisons in the state of Rio de Janeiro and rest of the country do not begin inside them, but begin outside and continue when the prisoners are freed. The "inside" and "outside" in this case are intrinsically interconnected and reflect the social contradictions, inequalities, and the forms of life that make one person alien to another, as if they did not partake of the same humanity²⁷. As we see in this study, the vast majority of prisoners have always felt excluded from citizenship, and jail has only come to deepen their sensation of not belonging²⁸.

Regarding division by territory, the qualitative and observational study showed that the prisoners in the Baixada Fluminense area are in a worse situation in all aspects, including access to health services. Based on the issue of gender, we observe that women have many more grievances of physical illnesses and depression than men, and also feel more abandoned by their families, which contributes to their psychological distress. One important point is the relevance of suicide attempts among female prisoners, with a significant statistical difference ($p < 0.01$) in relation to

male detainees. The World Health Organization²⁹ and other authors^{30,31} mention that the greater frequency of ideations, attempts, and self-inflicted deaths among women prisoners, compared to male prisoners and with the general population, occurs in various parts of the world. Therefore, the fact that the organization of prisons is generally conceived from a masculine perspective deserves special attention.

Practical considerations based on the study

Above all, the problems described here unfortunately demonstrate that the civil rights of the prisoners are not guaranteed, and that the context in which they serve their sentence does not prepare them for their re-socialization. This finding deserves special attention from the Secretary of Penitentiary Administration, the Public Defender, the Public Prosecutor, and the Criminal Justice system. Taking into account the organizational and functional problems of the system, it is imperative that we seek alternative forms of punishment, as well as the improvement of environmental, living, and health condition of those who are prisoners.

Considering that the incarcerated population is constituted predominantly by young black and brown persons, residents of the periphery, and that these young people will one day leave the prisons, it is fundamental to invest in policies

that are not only capable of re-socializing and reintegrating them socially, but which guarantee their fundamental rights.

From the point of view of health, it is worth reiterating that the prisoners of the State of Rio de Janeiro, in all aspects, are with rare exceptions in a much more disadvantaged and deteriorated condition than the general population. It should be highlighted that the prison situation in itself potentializes the physical and mental symptoms. But the very precarious way in which preventative and curative care, stipulated by law, are offered to the prisoners contributed to this situation of degradation. It can be stated that the rendering of health services to the incarcerated of the state is in flagrant noncompliance with that which is prescribed by the National Policy of Holistic Healthcare for Persons Deprived of Freedom in the Prison System. There is an enormous lack of medical professionals, psychologists, dentists, and nursing technicians. And if the statements of prisoners are any indication, the bad situation in the capital becomes even worse in the Baixada area and the interior.

We conclude, thus, that the context of institutional fragility, lack of respect for the dignity of prisoners, and the elevated number of persons with health problems living in proximity in overcrowded cells have very negative repercussions on the physical and mental conditions of all – prisoners, employees, family members, and the community.

Collaborations

MCS Minayo and AP Ribeiro worked together in designing, writing and final editing of the article.

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