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Poor self-rated health: prevalence and associated factors on women deprived of liberty[a]

Autoavaliação ruim do estado de saúde: prevalência e fatores associados em mulheres privadas de liberdade

Autoevaluación negativa de la salud: prevalencia y factores asociados en mujeres privadas de libertad

Lidiane Castro Duarte de Aquino[1]
Bruna Gomes de Souza[2]
Cosme Rezende Laurindo[3]
Isabel Cristina Gonçalves Leite[3]
Danielle Teles da Cruz[3]

1. Universidade Federal de Juiz de Fora. Juiz de Fora, MG, Brasil.

2. Universidade Federal de Juiz de Fora, Faculdade de Medicina. Juiz de Fora, MG, Brasil.

3. Universidade Federal de Juiz de Fora, Programa de Pós-Graduação em Saúde Coletiva. Juiz de Fora, MG, Brasil.

Abstract

Objective: To verify the prevalence of poor self-rated health status among incarcerated women and to analyze the associated factors. **Method**: This is a cross-sectional study, carried out between 2019 and 2020, by means of a census, with the participation 99 women incarcerated. The analysis of factors associated with the outcome was conducted based on a theoretical model of determination with three hierarchical blocks of variables. Variables were adjusted to each other within each block. Those with significance level ≤ 0.20 were included in the Poisson regression model and adjusted to a level higher than theirs, considering a 5% level of significance. **Results:** The prevalence of poor self-rated health was 31.3% ($IC_{95\%}$ = 22.8% - 40.9%). Reported morbidity, presence of anxiety symptoms and the worst perspective regarding post-incarceration health conditions were the variables associated with the outcome. **Conclusion and implications for practice**: The factors associated to the occurrence of the investigated event may direct measures aimed to reduce health impacts during the incarceration period.

Keywords: Cross-Sectional Studies; Health; Prisons; Self-Assessment; Woman.

Resumo

Objetivo: Verificar a prevalência da autoavaliação ruim do estado de saúde em mulheres encarceradas e analisar os fatores associados. **Método**: Trata-se de estudo transversal, realizado entre os anos de 2019 e 2020, por meio de censo, com participação de 99 mulheres. A análise dos fatores associados ao desfecho foi conduzida a partir de um modelo teórico de determinação com três blocos hierarquizados de variáveis. As variáveis foram ajustadas entre si dentro de cada bloco. Aquelas com nível de significância ≤ 0,20 foram incluídas no modelo de regressão de Poisson e ajustadas ao nível superior ao seu, considerando o nível de 5% de significância. **Resultados**: A prevalência da autoavaliação ruim da saúde foi de 31,3% (IC95% = 22,8%–40,9%). Morbidade referida, presença de sintomas de ansiedade e a pior perspectiva em relação às condições de saúde pós-encarceramento foram as variáveis associadas com o desfecho. **Considerações finais e implicações para a prática:** Os fatores associados à ocorrência do evento investigado poderão direcionar medidas que visem à redução dos impactos à saúde durante o período de encarceramento.

Palavras-chave: Autoavaliação; Estudos Transversais; Mulheres; Prisões; Saúde.

Resumen

Objetivo: Verificar la prevalencia de autoevaluación negativa de la salud en mujeres encarceladas y analizar los factores asociados. **Método**: Se trata de un estudio transversal, realizado entre los años 2019 y 2020, mediante censo, con la participación de 99 mujeres encarceladas. El análisis de factores asociados al resultado se realizó con base en un modelo teórico de determinación con tres bloques jerárquicos de variables. Las variables se ajustaron entre sí dentro de cada bloque. Aquellos con nivel de significancia ≤ 0,20 se incluyeron en el modelo de regresión de Poisson y se ajustaron a un nivel superior al de ellos, considerando un nivel de significancia del 5%. **Resultados**: La prevalencia de autoevaluación negativa de la salud fue 31,3% (IC 95% = 22,8% -40,9%). La morbilidad autoinformada, la presencia de síntomas de ansiedad y la peor perspectiva con respecto a las condiciones de salud después del encarcelamiento fueron las variables Autoevaluación; Estudios Transversales; Mujeres; Prisiones; Salud.

Palabras clave: Autoevaluación; Estudios Transversales; Mujeres; Prisiones; Salud.

Corresponding author:
Danielle Teles da Cruz.
Email: danitcruz@yahoo.com.br

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INTRODUCTION

Although women accounted for approximately 5% of the Brazilian prison population, the female incarceration rate has grown significantly over the years. According to data from the Brazilian National Penitentiary Department, between 2000 and 2016, the female prison population increased by 656%, while, in the same period, male incarceration grew by 293%[1].

Most incarcerated women have a previous situation of social vulnerability, such as young, black, single, with children, low education level and precarious family income[1]. Also, several studies have highlighted the negative influence of incarceration on the health of women deprived of liberty, whether in terms of physical, mental or social well-being[2-4]. From the perspective of understanding health as a complex social production, it is admitted that these conditions can contribute to a web of bonds and associations that predispose to poor self-rated health.

Self-rated health has been widely used in cross-sectional studies[5-14], both for its ease of identification and for its validity and relevance as a measure of health. The indicator is associated with an individual and subjective conception of health, under the influence of biological, psychological and social aspects[15], thus approaching a broader conception of health. It has been used as a marker of inequalities between population subgroups to describe the health status of populations, establish differences in morbidity in population subgroups, compare the need for health services and resources, in addition to being a good predictor of morbidity and mortality[7,8,15].

The indicator has been used on an international and national scale, and internationally there is evidence that points to the association between a worse perceived health status and age, education level and income[5,16-19]. At the national level, studies confirm a strong association between unfavorable socioeconomic conditions and a worse perceived health status[7,9,10]. In addition, differences between genders, age groups, lifestyle and environmental conditions are also variables that influence self-rated health[11-14]. This evidence demonstrates the importance and potency of using the indicator in the most varied contexts.

Although self-rated health has already been explored in several groups, its use in the population deprived of liberty is still in its infancy. However, there is evidence that points to the vital role that deprivation of liberty institutions can play in the way the individuals present there assess their own health[20,21]. Therefore, taking into account the robustness of the indicator as well as the specificities that imprisonment imposes, we believe that this is an important element of analysis for understanding the health-illness process of women deprived of liberty.

Thus, this study aimed to estimate the prevalence and factors associated with poor self-rated health in women incarcerated in a penal establishment in Juiz de Fora, Minas Gerais.

METHOD

This is a cross-sectional epidemiological study, of the census type, between September 2019 and February 2020, with women inmates in the *Anexo Feminino Eliane Betti* in Juiz de Fora, Minas Gerais. Currently, the place is the only reference for female care among the more than 80 municipalities that make up the 4th Integrated Public Security Region (RISP - *Região Integrada de Segurança Pública*) of Minas Gerais.

All women deprived of liberty, aged at least 18 years old, regardless of the penal regime they were in, and with at least 30 days of imprisonment or who would complete 30 days during the research were included in the study. The established exclusion criteria were: cautioned that they did not communicate through the standard Portuguese language; impossibility of understanding and/or answering the questionnaire; presence of severe disturbances that affect communication; and those that, according to the unit's direction, could pose a risk to the researcher's safety.

On the first day of interviews, the prison unit provided a list with 134 women enrolled in the unit. New listings were issued monthly in order to monitor the dynamism of admissions and dismissals, and consequently the possibility of including new participants in the study and monitoring of possible losses. At the end of the collection period, the accessible population was counted as 150 women.

The data collection routine was planned to ensure that all these women participated in the study. When it was not possible to approach the first appointment, three new attempts were made on different days and times. The losses amounted to a total of 51: 21 of them due to a release permit, 4 due to transfers to other prisons and 26 were unable to participate due to the interruption of collection due to the COVID-19 pandemic. There were no refusals. Therefore, the final sample consisted of 99 women.

Data collection was carried out once a week, through face-to-face interviews, in the prison unit's service rooms, at the Health Care Center (HCC) and in the premises of a work factory. Criminal police officers ensured the transit procedure for detainees and supervision of the outside of the rooms.

The questionnaire used consisted of semi-structured questions, elaborated from the instrument used in a research called *Estudo das condições de saúde e qualidade de vida dos presos e das condições ambientais das unidades prisionais do Estado do Rio de Janeiro*[22] and by standardized scales that are widely used in scientific research, such as the Patient Health Questionnaire-4 (PHQ-4), to screen for symptoms of anxiety and depression, and the MacArthur Subjective Social Status Scale, to assess subjective social status. The collection instrument was standardized and pre-tested in a pilot study carried out at the *Presidio de Eugenópolis* with about 10% of the expected sample.

The PHQ-4 consists of an instrument for the assessment of psychological distress, containing four items scored on a Likert-type scale from zero (never) to three (almost every day). Higher total score reflects greater symptomatology. The first two items make up the anxiety subscale and the other the

depression subscale. The sum of items in each subscale ranges from zero to six, score ≥ three is considered positive[23,24]. As for the MacArthur Scale, it is visually presented by a ladder with 10 steps and was developed aiming at identifying the common sense perceived social status, using socioeconomic indicators as a reference. In it, the respondent indicates the step that they consider to represent their place in society. The lower the referred position, the lower the subjective social status. For analysis, the categories were grouped in pairs: very poor (steps 1 and 2), poor (3 and 4), fair (5 and 6), good (7 and 8) and very good (9 and 10) and later categorized into worse subjective social status (considering the categories very poor, poor and fair) and better subjective social status - grouping the categories very good and good[25].

The dependent variable was self-rated health, obtained through the question: in general, would you say your health is? The response options presented were very good, good, fair, poor, and very poor. For analysis of the poor self-rated health outcome, the variable was dichotomized into poor (fair, poor and very poor) and good (good and very good).

Data were organized and processed in a database created in the Statistical Package for Social Sciences (SPSS), version 15.0, and submitted to descriptive analysis to obtain absolute and relative frequencies as well as the prevalence of the investigated outcome. The association between independent variables and dependent variable in the bivariate analysis was analyzed using the chi-square test. In multivariate analysis, the association between variables was analyzed using Poisson regression, controlling the independent variables for possible confounding factors (adjusted PR). The significance level of the study was 5% ($p \leq 0.05$).

For analysis of factors associated with poor self-rated health, a theoretical model of determination[26] was built with three hierarchical blocks of variables (Figure 1), which were adjusted to each other within each block, at first. Those variables that reached a significance level ≤ 0.20 were included in the Poisson regression model and adjusted to the level higher than theirs.

Independent variables were grouped into three blocks: Block 1, with demographic and socioeconomic characteristics; Block 2, composed of questions related to incarceration (divided into four sub-levels: 2.1 penal characteristics; 2.2 assistance and receiving visits; 2.3 discrimination and violence; 2.4 post-incarceration expectations); and Block 3, with variables related to women's health, divided into 3 sublevels: 3.1 self-reported health variables; 3.2 self-perceived health variables; and 3.3 health services in prison.

This study is part of a broader project called *Condições de Vida e de Saúde de Mulheres Privadas de Liberdade em Juiz de Fora, Minas Gerais*. The recommendations in the Guidelines and Regulatory Norms for Research Involving Human Beings, contained in Resolution 466 of the Brazilian National Health Council (*Conselho Nacional de Saúde*), were respected. The Institutional Review Board of the *Universidade Federal de Juiz de Fora* approved the study (Opinion 3.294,253). The Informed Consent Form was read and signed by all participants.

RESULTS

A total of 99 women participated in the study. Approximately 76% were aged between 20 and 39 years, with a mean age of 33.21 years (SD ± 9.26). Those who reported being married or having a partner totaled 53.5%. The majority declared black or brown skin color (74.7%), monthly income less than or equal to one minimum wage in the period prior to incarceration (66.7%) and had 5 to 8 years of schooling (57.6%). As for subjective social status, 81.9% considered being in the lowest positions of the scale used (between the 1st and 5th step).

Drug trafficking was responsible for 52.5% of arrests. Approximately 30% of respondents were provisionally detained. Among those sentenced, the majority reported a sentence of less than or equal to seven years (51.4%). Receiving visits was reported by 60.6% and none of the participants reported receiving an intimate visit. Only 12.1% studied and 40.4% were involved in some work activity. All participants reported having suffered some type of discrimination in the prison unit. Regarding the risks to which they are exposed, 63.6% reported the risk of suffering psychological violence and 49.5% of suffering physical aggression. As for the actions in which they were victims, 46.5% declared they had already suffered verbal aggression (Table 1).

The prevalence of poor self-rated health was 31.3% (95%CI = 22.8%–40.9%). Among the categories used, 10.1% self-rated health as very good, 58.6% as good, 23.2% as fair, 5.1% poor and 3.0% as very poor. The presence of morbidities was reported by 52.5% of women; 70.7% reported continuous use of medications; 28% reported the occurrence of at least one abortion in their lifetime; and 72.7% are smokers. Anxiety and depression symptoms were observed in, respectively, 75.8% and 65.7% of the participants (Table 2).

In bivariate analysis, poor self-rated health was associated with receiving prejudiced treatment by other inmates, reporting the risk of prison unit explosion and occurrence of fall. It was also frequent among those who have a worse perspective regarding health conditions after incarceration ($p < 0.001$), among those who reported morbidities ($p < 0.002$), and among those with symptoms of anxiety ($p < 0.002$) and depression ($p < 0.005$) (Table 3). No variable in Block 1 - referring to sociodemographic characteristics - presented statistical significance in this analysis.

In the multiple regression model, three variables remained associated with poor self-rated health (Table 4). Of the variables related to incarceration (Block 2), the worst perspective on health conditions after the sentence was configured as a risk factor (adjusted PR = 4.82; IC95% 1.50–15.47). Among the variables of the most proximal level (Block 3), the presence of anxiety symptoms (adjusted PR = 15.20) were configured as risk factors; CI95% 1.79-128.92) and reported morbidity (adjusted PR = 4.11; 95%CI 1.33–12.65).

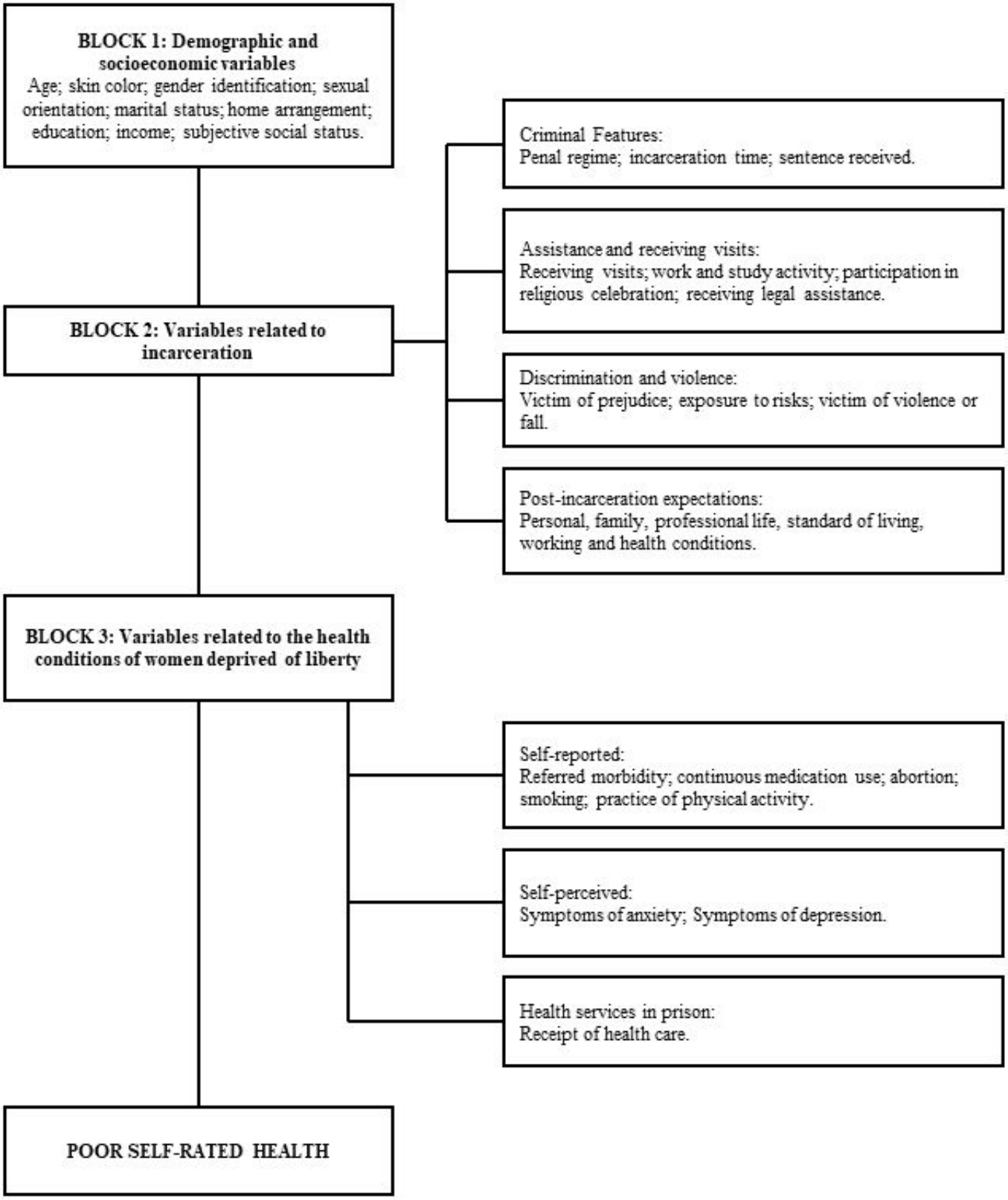

Figure 1. Theoretical model for investigating the effects of independent variables on poor self-rated health status by hierarchical blocks.
Source: The authors.

Table 1. Characteristics related to incarceration. Juiz de Fora, Minas Gerais, 2020 (n=99).

Variable	Poor self-rated health		Good self-rated health	
	N	%	n	%
Assistance and receiving visits				
Social visit				
Yes	16	51.6	44	64.7
No	15	48.4	24	35.3
Scheduled visit				
Yes	7	22.6	18	26.5
No	24	77.4	50	73.5
Work activity				
Yes	10	32.3	30	44.1
No	21	67.7	38	55.9
Study				
Yes	3	9.7	9	13.2
No	28	90.3	59	86.8
Religious assistance				
Yes	22	71.0	53	77.9
No	9	29.0	15	22.1
Legal assistance				
Yes	23	74.2	55	80.9
No	8	25.8	13	19.1
Discriminatory treatment by other inmates				
Due to inmate status				
Yes	12	38.7	19	27.9
No	19	61.3	49	72.1
Due to skin color				
Yes	2	6.5	3	4.4
No	29	93.5	65	95.6
Due to social status				
Yes	12	38.7	14	20.6
No	19	61.3	54	79.4
Due to sexual orientation				
Yes	7	22.6	9	13.2
No	24	77.4	59	86.8
Due to type of crime committed				
Yes	7	22.6	11	16.2
No	24	77.4	57	83.8
Due to physical appearance				
Yes	12	38.7	12	17.6
No	19	61.3	56	82.4

Source: The authors.

Table 1. Continued...

Variable	Poor self-rated health		Good self-rated health	
	N	%	n	%
Exposure to risks and victim of violence				
Risk of physical aggression				
Yes	18	58.1	31	45.6
No	13	41.9	37	54.4
Risk of sexual violence				
Yes	0	0.0	1	1.5
No	31	100.0	67	98.5
Risk of psychological violence				
Yes	20	64.5	43	63.2
No	11	35.5	25	36.8
Risk of wound for cutting weapon				
Yes	8	25.8	17	25.0
No	23	74.2	51	75.0
Risk of wound due to firearm				
Yes	7	22.6	13	19.1
No	24	77.4	55	80.9
Risk of burns				
Yes	9	29.0	13	19.1
No	22	71.0	55	80.9
Risk of explosion				
Yes	16	51.6	17	25.0
No	15	48.4	51	75.0
Victim of physical aggression				
Yes	8	25.8	8	11.8
No	23	74.2	60	88.2
Victim of verbal aggression				
Yes	17	54.8	29	42.6
No	14	45.2	39	57.4
Victim of sexual harassment or assault				
Yes	0	0.0	1	1.5
No	31	100.0	67	98.5
Victim of falls				
Yes	10	32.3	5	7.4
No	21	67.7	63	92.6
Attempt of suicide				
Yes	2	6.5	5	7.4
No	29	93.5	63	92.6
Attempt of homicide				

Source: The authors.

Table 1. Continued...

Variable	Poor self-rated health		Good self-rated health	
	N	%	n	%
Yes	1	3.2	0	0.0
No	30	96.8	68	100.0
Expectations after imprisonment				
Personal life				
Good	22	71.0	49	72.1
Fair/poor	9	29.0	19	27.9
Family life				
Good	25	80.6	58	85.3
Fair/poor	6	19.4	10	14.7
Professional life				
Good	17	54.8	44	64.7
Fair/poor	14	45.2	24	35.3
Standard of living				
Good	11	35.5	37	54.4
Fair/poor	20	64.5	31	45.6
Working conditions				
Good	17	54.8	41	60.3
Fair/poor	14	45.2	27	39.7
Condition of health				
Good	16	51.6	59	86.8
Fair/poor	15	48.4	9	13.2

Source: The authors.

Table 2. Characteristics of the study population according to variables related to health conditions. Juiz de Fora, Minas Gerais, 2020 (n=99).

Variable	Poor self-rated health		Good self-rated health	
	n	%	n	%
Referred morbidity				
Yes	24	77.4	28	41.2
No	7	22.6	40	58.8
Continuous medication use				
1 to 3 medications	12	38.7	28	41.2
4 or more medications	12	38.7	18	26.5
None	7	22.6	22	32.4
Abortion				
Spontaneous	3	9.7	13	19.1
Triggered	6	19.4	6	8.8
None	22	71.0	49	72.1
Smoking				

Source: The authors.

Table 2. Continued...

Variable	Poor self-rated health		Good self-rated health	
	n	%	n	%
Yes	25	80.6	47	69.1
No	6	19.4	21	30.9
Physical activity				
Yes	7	22.6	13	19.1
No	24	77.4	55	80.8
Symptoms of anxiety				
Present	30	96.8	45	66.2
Absent	1	3.2	23	33.8
Symptoms of depression				
Present	27	87.1	38	55.9
Absent	4	12.9	30	44.1
Health care				
Yes	29	93.5	61	89.7
No	2	6.5	7	10.3

Source: The authors.

Table 3. Unadjusted and adjusted prevalence ratios among hierarchical blocks for the occurrence of poor self-rated health in incarcerated women. Juiz de Fora, Minas Gerais, 2020 (n=99).

Variable	%	Unadjusted PR (95%CI)	p	Adjusted PR (95%CI)	P
2.3 - Variables related to incarceration: discrimination, violence or fall					
Inferior treatment by other inmates due to physical appearance					
No	25.3	1	0.044	1	0.324
Yes	50.0	2.95 (1.14 – 7.66)		1.75 (0.58 – 5.34)	
Risk of explosion					
No	22.7	1	0.018	1	0.282
Yes	48.5	3.20 (1.31 – 7.82)		1.79 (0.62 – 5.09)	
Fall victim					
No	25.0	1	0.004	1	0.021
Yes	66.7	6.00 (1.84 – 19.56)		4.78 (1.27 – 18.03)	
2.4 - Variables related to incarceration: post-incarceration expectation					
Health condition					
Good	21.3	1	< 0.001	1	0.003
Fair/Poor	62.5	6.15 (2.27 – 16.61)		5.29 (1.78 – 15.66)	
3.1 - Variables related to the health of women deprived of liberty: referred to					
Reported morbidity					
No	14.9	1	0.002	1	0.001
Yes	46.2	4.90 (1.86 – 12.93)		6.22 (2.18 – 17.75)	

Source: The authors.

Table 3. Continued...

Variable	%	Unadjusted PR (95%CI)	p	Adjusted PR (95%CI)	P
3.2 - Variables related to the health of women deprived of liberty: self-perceived					
Symptoms of anxiety					
Absent	4.2	1	0.002	1	0.032
Present	40.0	15.33 (1.97 – 119.67)		11.05 (1.23 – 99.26)	
Symptoms of depression					
Absent	11.8	1	0.005	1	0.101
Present	41.5	5.33 (1.68 – 16.90)		3.04 (0.80 – 11.51)	

Source: The authors.

Table 4. Multiple regression analysis in hierarchical blocks for the occurrence of poor self-rated health in incarcerated women. Juiz de Fora, Minas Gerais, 2020 (n=99).

Variable	%	Unadjusted PR (95%CI)	P	Adjusted PR (95%CI)	P
2.3 - Variables related to incarceration: discrimination and violence					
Fall victim					
No	25.0	1	0.004	1	0.051
Yes	66.7	6.00 (1.84 – 19.56)		4.22 (1.00 – 17.92)	
2.4 - Variables related to incarceration: post-incarceration expectation					
Health condition					
Good	21.3	1	< 0.001	1	0.008
Fair/Poor	62.5	6.15 (2.27 – 16.61)		4.82 (1.50 – 15.47)	
3.1 - Variables related to the health of women deprived of liberty: referred to					
Reported morbidity					
No	14.9	1	0.002	1	0.014
Yes	46.2	4.90 (1.86 – 12.93)		4.11 (1.33 – 12.65)	
3.2 - Variables related to the health of women deprived of liberty: self-perceived					
Symptoms of anxiety					
Absent	4.2	1	0.002	1	0.013
Present	40.0	15.33 (1.97 – 119.67)		15.20 (1.79 – 128.92)	

Source: The authors.

DISCUSSION

The prevalence of poor self-rated health in the studied population (31.3%) was significantly lower than the 61.5% found among women treated in a prison unit in the state of São Paulo[27] and higher than that observed among incarcerated men in Norway, where 23% reported poor or reasonable health status[22]. When comparing by sex, studies indicate that the worst self-perceived health is more frequent among women than among men[5,10,12,28]. However, in the context of prisons, there are few studies that aimed to investigate self-perceived health and associated factors among those deprived of liberty, which limits the comparison in this group. It is possible that intrinsic characteristics of the organization of penal institutions, which are different between the study locations, the size of cities and the differences in criminal enforcement laws – when we analyze the difference with other countries – also influence self-perceived health of individuals in custody[20,21].

In the general female population, there are studies that identify the prevalence of poor self-rated health around 40%[9,17]. However, they used categories for the outcome different from the one used in this work. Among those that used similar categories,

important population-based studies stand out. A study based on data from the 2013 Brazilian National Health Survey (PNS - *Pesquisa Nacional de Saúde*) - a population-based household survey carried out by the Brazilian Institute of Geography and Statistics (IBGE - *Instituto Brasileiro de Geografia e Estatística*) in partnership with the Ministry of Health - found that 37.4% of women self-rated health as fair, poor or very poor[10]. In the World Health Survey, this percentage was 52.5% 7, and in the PNS, 37.6%[12]. Considering the sum of the aforementioned categories for the outcome poor self-rated health, the prevalence found in this study was, in general, lower than that identified in the general population. However, the percentage of cautious women who reported poor or very poor health was higher than that found in some studies[10,12,29], evidencing that the way the outcome is categorized influences its final interpretation, and women in prison may have worse self-rated health than when compared to women in the general population.

The lack of standardization in indicator use and analysis hinders the comparison between studies. The differences between the findings are partly related to the different denominations of the categories of answers to the self-rated health question, the different groupings of the answer categories, the characteristics of the studied population and the location of the question in the instruments used[13,29].

Regarding sociodemographic variables – age, subjective social status, education level and income – unlike the results of national[12] and international studies[5,16-19], this study did not find associations with poor self-rated health. It is possible that this occurred due to the homogeneity of the sample for this group of variables as well as its small size.

Among the variables related to incarceration, the worst perceived health status was more frequent among those who reported having suffered inferior treatment by other inmates, due to their physical appearance, among those who believe in the prison unit's risk of explosion, those who were victims of falls while serving their sentence and among those who reported a worse perspective regarding their health condition after the incarceration period. These findings attest that self-perceived health is, among other aspects, under the influence of the physical and social environment, supporting other studies[5,11,15,30], and show the influence of incarceration on perceived health of the guarded.

A survey carried out in prisons in the state of Rio de Janeiro showed that women reported experiencing more discrimination from other inmates than men from other inmates[22]. A higher proportion of falls was also observed among female prisoners, this percentage being 21.7% while among men it was 12.9%[22]. There are no studies in the literature that analyze the association between the aforementioned variables and self-perceived health in prisons. However, the highest occurrence of falls among women and its association with worse perceived health has already been described in the elderly population[31].

Some particularities found in the place where the study was conducted may have contributed to the higher occurrence of some observations. The occurrences of falls may be related to the fact that the accommodations have "triple bunks", as well as due to problems with living with other inmates, since they are allocated in accommodation with capacity for up to 30 protected. Concern about the risk of explosion in the prison unit, on the other hand, may be associated with recurrent power outages, as reported by some participants. The fact is that the association of these events with self-rated health status emphasizes the need to understand the health of this population from the perspective of different determinants.

In this sense, several studies indicate that incarceration has a direct and indirect influence on the physical and mental health problems of individuals deprived of liberty[2,3,22,32]. Therefore, it is acceptable that the deleterious effects of prison influence the perspective of life after the period of caution, especially with regard to future health conditions. The results of this study revealed an association between a worse perspective regarding future health conditions and poor self-rated health, however such relationship has not yet been described in the literature.

The report of morbidities was associated with a worse perceived health, confirming notes in the literature[5,9,12,18,29]. Shooshtari et al.[18] confirm that self-rated health is dynamic and multidimensional; however, it reinforces the importance of the physical dimension, which includes the issues of psychological well-being and mental health, in the self-assessment process of health status.

A high percentage of women reported symptoms of anxiety and depression, corresponding to, respectively, 75.8% and 65.7% of the population studied. High prevalence of mental disorders in the prison population, and especially among women, have already been found by other authors[3,33,34]. Previous research found associations between mental health and psychological well-being and self-rated health[5,35,36] and our results confirm the importance of psychological distress in relation to this outcome.

The results found indicate that, in addition to the biological dimension of the disease, the context in which individuals are inserted is a major factor in the disease process. Moreover, it must be considered that the health inequities observed in this population, especially from a gender perspective, are not only a result of the conditions imposed by incarceration, but also due to the previous vulnerability that the group presents, which tends to be exacerbated with incarceration. Thus, there is a cascade of events that culminate not only in the intensification of social inequalities, but also in worse health conditions. This context invites us to reflect on the importance of the debate around the model of social determination of the health-illness process and the understanding that the levels of organization of society express the levels of health of the population.

Tuberculosis prevalence rates in this population, much higher than those found in the general population, portray the health inequities present in our society. The precarious conditions of Brazilian prisons, marked by overcrowding, poor ventilation, limited access to health services, malnutrition, use of alcohol and other drugs[37], favor the spread of pathogens and compromise the health of people deprived of liberty. The health inequities involving the prison population justify that the need for attention and care is not equal for all segments of the population, confirming the importance of guaranteeing more rights to those with greater needs[38].

For the author, the issue of equity in health is inseparable from issues of social justice, which also implies a different look

at the female prison population, given that: the group's previous vulnerability, supported by convergence of race, gender and class markers for the application of punishment; and by the fact that prisons for the female public are, for the most part, adaptations of originally male establishments, whose infrastructure is not appropriate to meet the specific needs of women[39]. However, incarcerated women are in fact more affected by health problems than women in the general population[40].

Meireles et al. (2015)[11] reinforce the need to include variables from the physical and social environment of individuals to analyze self-rated health, thus using the indicator in the prison context seems to be an important analysis component, but it requires, for comparison purposes, standardization. We suggest carrying out other epidemiological studies that include a representative sample of this population and that deepen the analyzes proposed here, given that they constitute an important element of investigation for health outcomes.

Given the exponential growth of the female prison population, the need to understand the health dynamics of this group emerges, whose profile confirms the process of vulnerability by which they have been exposed over the years and which tend to intensify with incarceration.

FINAL CONSIDERATIONS AND IMPLICATIONS FOR PRACTICE

Poor self-rated health was reported by approximately one third of women and is associated with health-related variables – reported morbidity and anxiety symptoms, and incarceration conditions – worse perspective in relation to post-incarceration health conditions. These results confirm that self-perceived health is under the influence of different aspects and reinforce that the health of incarcerated women must be understood from the perspective of the expanded concept of health.

The results of this study must be interpreted within the context of its limitations. Among them is the methodological design, which does not allow cause and effect inferences to be made on the associations found. The population studied has peculiarities, such as fear of retaliation by employees and/or other inmates, emotional insecurity and fear of negative interference in serving the sentence, which can interfere with more reliable results. Thus, it is necessary to consider the possibility of answers that do not correspond to reality even in view of the methodological rigor adopted. Moreover, data collection was interrupted due to the COVID-19 pandemic, reducing the sample size. It should also be noted that the place where the study was conducted was inaugurated less than two years ago and has a better infrastructure and care conditions when compared to the place where the victims served their sentence previously, which may have positively influenced the answers about some researched data.

Even so, the importance of this work is highlighted, whose results presented bring, from the perspective of the expanded concept of health, relevant information about the health of women in deprivation of liberty and also allowed the identification of factors associated with poor self-rated health in this neglected portion of the population. Health care for women deprived of liberty presents itself as a major challenge for public health today, making it necessary to understand the issues that permeate the group reality.

This study has the potential to contribute to minimizing the social and physical and mental health impacts that afflict the public in question, supporting strategies to tackle health inequities.

AUTHOR'S CONTRIBUTIONS

Study design. Lidiane Castro Duarte de Aquino. Isabel Cristina Gonçalves Leite. Danielle Teles da Cruz.

Data collection. Lidiane Castro Duarte de Aquino. Danielle Teles da Cruz.

Data analysis. Lidiane Castro Duarte de Aquino. Bruna Gomes de Souza. Cosme Rezende Laurindo. Isabel Cristina Gonçalves Leite. Danielle Teles da Cruz.

Interpretation of results. Lidiane Castro Duarte de Aquino. Bruna Gomes de Souza. Cosme Rezende Laurindo. Isabel Cristina Gonçalves Leite. Danielle Teles da Cruz.

Article review and writing. Lidiane Castro Duarte de Aquino. Bruna Gomes de Souza. Cosme Rezende Laurindo. Isabel Cristina Gonçalves Leite. Danielle Teles da Cruz.

Approval of the final version of the article. Lidiane Castro Duarte de Aquino. Bruna Gomes de Souza. Cosme Rezende Laurindo. Isabel Cristina Gonçalves Leite. Danielle Teles da Cruz.

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ASSOCIATED EDITOR

Cristina Rosa Baixinho

SCIENTIFIC EDITOR

Ivone Evangelista Cabral

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