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ANALYSIS OF RISK FACTORS ASSOCIATED WITH HEPATITIS B INFECTION IN PARANÁ CORRECTIONAL INSTITUTIONS, BRAZIL

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Background: The incarcerated population in Brazil is 726,712 prisoners[1]. Hepatitis B virus (HBV) in prisoners reaches one of the highest prevalence among specific population subgroups, with rates of up to 54.5%, already described in Brazil[2]. People deprived of their freedom are considered to be in high risk for sexually transmitted diseases due to favorable conditions in prison for the spread of diseases. The State of Paraná has the third largest population of inmates in Brazil, representing 7.12% of this population and has sought to implement health care policies for those convicted under the National Health Plan in the Penitentiary System (PNSSP)[3]. The aim of this study was to estimate the prevalence of HBV markers and their risk factors in the male prison population of correctional institutions in Paraná, Brazil.

Materials and methods: Cross-sectional epidemiologic survey for hepatitis B virus (HBV) infection held in 11 male prisoner in Paraná in the period of May 2015 to December 2016. The State of Paraná presents 23 closed system male correctional facilities, with a jail population of 16.657 men incarcerated in closed system. The stages of the investigation included counseling, information about intervention, orientation about sexually transmitted infections, informed consent for the data gathering and blood sampling for the HBV test performed in a certified laboratory. Enzymelinked immunosorbent assay (ELISA) was used to diagnose HBV infection (HBsAg, anti-HBs, and total anti-HBc). Data were analyzed using univariate and multivariate techniques.

Results: The overall prevalence for HBV markers in inmates was 11.9% (IC95%: 10.9 – 12.8), 135 men infected. In univariate analysis, HBV infection was associated with age >30 years, tattooing, history of tattooing in prision, only one passage through in the prison system, body piercing, sex with drug users and previous illicit drug use, being p-value 30 years (OR = 5.03; IC 95%: 3.07 – 8.25), previous injecting drug use (OR = 1.76; IC 95%: 1.14 – 2.73) and tattoo (OR = 1.58 IC 95%: 1.02 – 2.46).

Table 1. Factors associated with hepatitis B in prisoners of Paraná, Brazil.

Variables	OR_{BR} (IC 95%)	p	OR_{AJ} (IC 95%)	p
Location				
Francisco Beltrão	4,43 (2,80 – 7,04)	<0,001	5,51 (3,29 – 7,04)	<0,001
Londrina	1,20 (0,76 – 1,89)	0,431	---	---
Curitiba	1		1	
Age				
18 and 30 years	1			
> 30 years	5,88 (3,72 – 9,30)	<0,001	5,03 (3,07 – 8,25)	<0,001
Number of times in the prison system				
1	1			
2	0,68 (0,47 – 0,68)	0,034	---	---
Tatoos				
Yes	2,84 (1,97 – 4,09)	<0,001	1,58 (1,02 – 2,46)	0,041
No	1			
Tattoos in prision				
Yes	2,01 (1,32 – 3,06)	0,001	---	---
No	1			
Piercings				
Yes	4,39 (2,63 – 7,33)	<0,001	---	---
No	1			
Ever had sex with drug user				
Yes	2,04 (1,42 – 2,93)	<0,001	---	---
No	1			
Used illegal drugs				
Yes	3,00 (2,07– 4,34)	<0,001	1,76 (1,14– 2,73)	0,011
No	1			

Note. Values de OR_{AJ} (IC 95%) (95% CI) are presented only for the variables that composed the final model.

Conclusions: The reduction of these indices depends on public policies that include vaccination, early diagnosis, harm reduction in the use of drugs and the adequate treatment of individuals with sexually transmitted infections, being offered in the same way for the incarcerated population and for the population in general.

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