

*OCCURRENCE OF SEXUALLY TRANSMITTED INFECTIONS AND THE USE OF MALE
CONDOMS BY INMATES*

**OCORRÊNCIA DE INFECÇÕES SEXUALMENTE TRANSMISSÍVEIS E O USO DO
PRESERVATIVO MASCULINO POR DETENTOS**

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ABSTRACT

Objective: To verify the association between previous history of sexually transmitted infection (STI) and knowledge, attitude, and practice of detainees regarding the use of male condoms. **Methods:** A descriptive, exploratory, cross-sectional, and quantitative study was carried out with 169 detainees from prison in Piauí. Data collection took place from December 2018 to December 2019, and two instruments were used. Data were tabulated and analyzed using the Statistical Package for the Social Sciences version 20.0. The research was approved by a Research Ethics Committee (opinion no. 2,948,435). **Results:** A total of 138 (81.7%) inmates stated that they never had STIs, and their knowledge and practice regarding male condom usage were considered inadequate in 158 (93.5%) and 130 (76.9%) cases, respectively. The attitude was adequate in 87 (51.5%) cases. There was no significant statistical association between STIs and knowledge, attitude, and practice ($p > 0.005$). However, among those who had a history of STIs, the majority had simultaneously inadequate knowledge, attitude, and practice in 35 (20.7%), 19 (11.2%), and 31 (18.3%) cases. **Conclusion:** It is necessary to develop health education actions to promote sexual health and decrease STIs in this public.

Keywords: Sexually Transmitted Diseases; Health Knowledge, Attitudes, and Practice; Condoms; Prisoners; Sexual Health.

RESUMO

Objetivo: Verificar a associação entre a história pregressa de ocorrência de infecção sexualmente transmissível com o conhecimento, a atitude e a prática dos detentos acerca do uso de preservativo masculino. **Métodos:** Trata-se de um estudo descritivo-exploratório, transversal, quantitativo, realizado com 169 detentos de uma penitenciária piauiense. A coleta dos dados se deu entre dezembro de 2018 a dezembro de 2019 por meio da aplicação de dois instrumentos. Os dados foram tabulados e analisados no software *Statistical Package for the Social Sciences*, versão 20.0. A pesquisa foi aprovada por Comitê de Ética em Pesquisa, parecer nº 2.948.435. **Resultados:** 138 (81,7%) detentos afirmaram que nunca tiveram infecções sexualmente transmissíveis (IST) e o conhecimento e a prática deles quanto ao uso do preservativo masculino foram considerados inadequados, respectivamente, 158 (93,5%) e 130 (76,9%), somente a atitude foi adequada, 87 (51,5%). Não houve associação estatística significativa entre a ocorrência de IST e o conhecimento, atitude e prática ($p > 0,005$), mas, entre os que tiveram IST, a maioria teve conhecimento, atitude e prática inadequados, simultaneamente, 35 (20,7%), 19 (11,2%) e 31 (18,3%). **Conclusão:** É necessário o desenvolvimento de ações de educação em saúde para promoção da saúde sexual e a diminuição de IST nesse público.

Palavras-chave: Doenças Sexualmente Transmissíveis; Conhecimentos, Atitudes e Prática em Saúde; Preservativos; Prisioneiros; Saúde Sexual.

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INTRODUCTION

Brazilian prisons' situation goes through several problems such as structural difficulties, prison overcrowding, and inhumane custody conditions, which have violated this population's fundamental rights, leaving them unaware of the lack of security and health⁽¹⁾. In this context, men who are deprived of their liberty constitute a vulnerable group to several infections, including sexually transmitted infections (STI)⁽²⁾.

Detainees are highly susceptible to STIs due to unprotected sexual practices and parenteral exposures, sharing syringes and other sharp materials, such as a razor blades⁽³⁻⁴⁾. Besides, conditions such as drug addiction and precarious socioeconomic levels favor STIs' susceptibility and prevalence⁽⁴⁾.

STIs and human immunodeficiency virus (HIV/AIDS) are among the most common public health problems in Brazil and worldwide⁽⁵⁾. However, there is a lack of data on the prevalence of these diseases among detainees. It is estimated that serum HIV prevalence ranges from 1.6% to 25.0% and syphilis from 7.4% to 18%, the latter being the STI that most affects detainees⁽³⁾.

The most effective measure to stop STIs transmission is the use of condoms during sexual intercourse⁽⁶⁾. Besides, the ability to use condoms correctly is essential for the adoption of safe and effective sexual preventive behaviors. Therefore, individuals need guidance to ensure proper use and to achieve favorable results and skills in handling condoms, as this is a behavioral attitude that is somewhat complex and involves values and opinions⁽⁷⁾.

Given the above, it is seen that knowledge and attitude are not enough for efficient condom use in sexual intercourse. Condoms must be used in all sexual intercourses (oral, anal, or vaginal) and adequately for better results. However, it is known that choosing the correct use favors the adoption of a healthy practice⁽⁷⁾.

In the scientific literature, there are no studies on male inmates' knowledge, attitude, and practice about condom use associated with STIs. Thus, the present research is of paramount importance, as it sought to identify these data to contribute to the scientific environment and subsidize more reliable proposals and interventions for the prevention and control of STIs in the investigated population.

OBJECTIVE

This study aims to verify the association between previous history of sexually transmitted infection and the knowledge, attitude, and practice of detainees regarding the use of male condoms.

METHODS

This is a descriptive-exploratory and cross-sectional study, with a quantitative approach, carried out with 169 inmates in a male prison unit in Piauí. The following inclusion criterion was adopted: being an inmate at the correctional facility chosen for the study for at least 30 days. Inmates who were absent at the time of the data collection for health treatment outside the prison or in an external audience, those who never had sexual intercourse, inmates with any cognitive limitations diagnosed by the prison health team compromising the ability to answer questions, and those identified by the prison service as "highly dangerous" inmates were excluded.

Data collection was carried out from December 2018 to December 2019 and took place by face-to-face interviews, with an estimated duration of 30 to 40 minutes. Initially, the study's objectives, risks, and benefits were clarified to prisoners by reading the Informed Consent Form, using simple and colloquial language. After that, the participants' signatures were requested, and fingerprints were collected from those who did not know

how to sign their name. During the data collection at the correctional facility, the main researcher only carried the data collection instruments, two copies of the informed consent form, a pen for recording information, and a fingerprint collection pad.

The first instrument used in the study was developed and adapted by Rocha and Samudio⁽⁸⁾ comprising socioeconomic data including the following variables: age (in years), place of birth, education, color or race (self-reported), occupation, marital state (married, separated, in a stable relationship, divorced, widowed, single), family income (in minimum wages); in addition to investigating the occurrence of STIs. Moreover, the second instrument was the Knowledge, Attitude and Practice survey on condom use (KAP survey), created by Nicolau⁽⁹⁾, who consented with the use of the instrument in the current research by email.

The data were tabulated and analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0. The results are presented in illustrative tables, containing absolute and relative frequencies, central tendency measures (mean - \bar{X} and median - Md), and dispersion (standard deviation) values. The inferential analysis included the statistical association of nominal variables

using the Chi-square test. For this, a significance level of 5% and a confidence interval of 95.0% were considered, with a p-value <0.05 being statistically significant. All results were discussed based on the relevant literature.

This research was approved by a Research Ethics Committee, with opinion no. 2.948.435 and, therefore, respected all guidelines and research principles that involve human beings.

RESULTS

Regarding the socioeconomic characterization of the interviewed detainees, table 1 is shown below.

It was found, according to table 1, that the age group of most inmates was 18 to 29 years old (52.7%), with an average age of 32.89 years; a large part was from the state of Piauí, and from the city of Floriano with 38 (22.5%) of the inmates; 100 (59.2%) of them had incomplete primary education; 110 (65.1%) declared themselves brown; regarding occupation before imprisonment, masons/mason assistants stood out with 24 (14.2%) inmates; 82 (41.8%); and 63 (20.7%) had a family income of up to R\$ 998.00, with an average value of R\$ 1,708.89.

Table 1 - Socioeconomic profile of the of the detainees interviewed with absolute and relative frequencies. Floriano, Piauí, Brazil, 2018-2019. (n = 169).

VARIABLES	N	%	CENTRAL TENDENCY MEASURES		STANDARD DEVIATION
			\bar{X}	Md	
Age group (in years)			30.89	29.00	9.44
18 to 29	89	52.7			
30 to 39	54	32.0			
40 to 49	18	10.7			
≥ 50 years	8	4.7			
City of origin			-	-	-
Floriano	38	22.5			
Teresina	17	10.1			
Uruçuí	8	4.7			

Other cities in Piauí*	65	38.5			
Other States**	40	23.7			
Not informed	1	0.6			
Education			-	-	-
Illiterate	9	5.3			
Incomplete elementary school	100	59.2			
Complete primary education	13	7.7			
Incomplete high school	32	18.9			
Complete high school	11	6.5			
Incomplete higher education	2	1.2			
Complete higher education or above	2	1.2			
Self-declared color / race			-	-	-
Brown	110	65.1			
Black	42	24.9			
White	17	10.1			
Occupation			-	-	-
Mason / mason assistant	24	14.2			
Farmer	13	7.7			
Ploughman	10	5.9			
Janitor	10	5.9			
Other occupations***	95	56.2			
Unemployed	12	7.1			
Not informed / had never worked	5	3.0			
Marital status			-	-	-
Single	82	41.8			
Married / in a stable relationship	61	31.1			
Separated	22	11.2			
Widowed	2	1.0			
Divorced	1	0.5			
Not informed	1	0.5			
Family income (in reais*****)			R\$ 1,708.89	R\$ 998.00	R\$ 4,087.76
No income	35	20.7			
Up to R\$ 998.00	63	37.3			
R\$ 999.00 to R\$ 1,996.00	39	23.1			
> R\$ 1,996.00	32	18.9			

Source: the authors.

*Other cities: Água Branca, Altos, Amarante, Angical, Arraial, Barro Duro, Bertolândia, Campo Maior, Canto do Buriti, Flores, Guadalupe, São Francisco do Piauí, Hugo Napolião, Itaueira, Jerumenha, Landres Sales, Manoel Emídio, Marcos Relative, Oeiras, Pavussu, Peaks, Regeneration, Regeneration, São João do Piauí, São Jose dos Peixe, São Pedro, São Raimundo Nonato, Simões, Socorro do Piauí, Valença.

**Other States: Bahia, Ceara, Federal District, Goias, Maranhão, Mato Grosso, Minas Gerais, Pará, Paraíba, Pernambuco, Rio de Janeiro, São Paulo, Tocantins.

***Other occupations: Farmer, mason assistant, gardener, street vendor, beekeeper, artisan, mechanic, freelance, tire repairman, hairdresser, truck driver, bonnet repairman, farm owner, collector, trader, construction manager, daily cleaner, electrician, businessman, student, store inspector, lining repairman, gas station attendant, waiter, car washer, makeup artist, joiner, furniture maker, driver, motorcycle taxi driver, musician, machine operator, fisherman, painter, car painter/polisher,



sound designer, receptionist, sales representative, servant, handyman, welder, automotive sound technician.

***** The current minimum wage corresponding to the last year of data collection was 998.00 Brazilian reais.

Regarding previous history of STI among detainees before entering the penitentiary, 138 (81.7%) respondents answered that they did not have it. Through the application of the KAP survey on male condom use, it was observed that knowledge and

practice were inadequate, respectively, in 158 (93.5%) and 130 (76.9%) cases, and only the attitude was adequate in 87 (51.5%) of the inmates. After that, the association between the variables was tested, as shown in Table 2.

Table 2 - Association between previous history of sexually transmitted infection and adequate or inappropriate knowledge, attitude, and practice regarding the use of the male condom. Florianópolis, Piauí, Brazil, 2018-2019. (n = 169)

VARIABLES	PREVIOUS HISTORY OF SEXUALLY TRANSMITTED INFECTION				p
	Yes		No		
	N	%	N	%	
Knowledge					
Adequate	1	0.6	10	5.9	0.306
Inadequate	35	20.7	123	72.8	
Attitude					
Adequate	17	10.1	70	41.4	0.565
Inadequate	19	11.2	63	37.3	
Practice					
Adequate	5	3.0	34	20.1	0.140
Inadequate	31	18.3	99	58.6	

Source: the authors.

As shown in Table 2, there was no statistically significant association between occurrence of STIs and adequate or inadequate knowledge, attitude, and practice. It is essential

to highlight that among those who had STIs before, the majority had inadequate knowledge, attitude, and practice, respectively, 35 (20.7%), 19 (11.2%), and 31 (18.3%).

DISCUSSION

From the results presented, it is noted that the detainees interviewed were individuals with socioeconomic conditions that could favor the occurrence of different diseases, such as, for example, low education, a situation that can hinder access to health services and possibly the adherence to safe and healthy behaviors (such as condom use in all sexual relations)

and/or treatment.

Even so, many interviewees reported that they had never had STIs before. Similarly, an investigation with 284 inmates in Jequié, Bahia, which aimed to describe the epidemiological profile of people deprived of their liberty, revealed that 188 of these (66.2%) never had STI before⁽¹⁰⁾.

Conversely, a research aimed at describing the epidemiological data of communicable diseases in the population deprived of liberty in the central-west region of Brazil in the period from 2014 to 2019, revealed that HIV and syphilis were among the diseases that stood out the most with 190 and 902 cases, respectively, with a concomitant relative risk of 62.46 and 23.32 for the occurrence of these diseases⁽¹¹⁾. This shows that the detainees, in general, make up a vulnerable group to STI/HIV/AIDS. Therefore, they deserve special attention from the Unified Health System (SUS in Portuguese) in the development of actions that promote their sexual health and, consequently, prevent the occurrence of these infections.

The prison population has the right to health guaranteed by the state, according to Ordinance No. 1.777 of September 9th, 2003, which institutes the National Health Plan for the Penitentiary System (PNSSP in Portuguese). This plan includes the population deprived of liberty in the SUS, guaranteeing equal access in which the minimum team consists of a doctor, nurse, social worker, psychologist, dental surgeon, dental technician and/or assistant, and a nursing technician, who provide quality care, aiming at the prevention, diagnosis, and treatment of health problems⁽¹²⁾. Therefore, the prison health team should guide detainees about the importance of using condoms in all sexual relations and teach them how to practice STI prevention correctly.

Concerning the detainees' knowledge, attitude, and practice regarding the use of the male condom, it was revealed that only the attitude was considered adequate. This finding corroborates a study developed in Aquiraz, Ceará, with 155 women, on knowledge, attitude and practice about the use of male condoms in a female correctional facility in which it was observed that only 35 (22.6%) and 29 (18.7%) had, respectively, adequate knowledge and

practice and that more than half had adequate attitude (95; 61.3%)⁽⁷⁾.

Besides, among the interviewed detainees with an STI, it is emphasized that the majority had inadequate knowledge, attitude, and practice. In a survey conducted with women deprived of their liberty, among those who claimed to have had an STI, the percentages of adequate knowledge and practice regarding the use of male condoms were very low, respectively, 18.6% and 11.2%, and the attitude was adequate (66.7%). However, there was no statistically significant association between these variables⁽¹³⁾, as in the present study.

Given the above, it can be inferred that the experience of having any of these infections did not favor the adoption of healthy behaviors or even knowledge about safe sexual practice as a means to prevent future occurrence or reinfection by an STI.

Thus, it is confirmed that, even if the individual has the knowledge and a positive attitude that facilitates the adoption of preventive/healthy behaviors, this practice will only be ensured if there is adequate support that favors the change of conduct and the maintenance of condom use⁽¹⁴⁾. Furthermore, knowledge alone is not the guarantee for the adoption of preventive measures. Thus, it is essential to develop programmatic health education actions within the prison units to favor and encourage the adoption of healthy and safe behaviors, such as the regular use of condoms⁽¹⁵⁾.

However, studies that investigated only the practice of condom use were able to identify this relationship, as research conducted in Piauí, which revealed a statistically significant association between HIV infection and non-use of condoms during sexual intercourse ($p < 0.005$)⁽²⁾; an investigation carried out in the municipality of São Paulo, with 4,057 men and women, observed that the lack of condom use

in the first sexual intercourse was positively associated with STI (OR = 1; CI = 1.9-4.6)⁽¹⁶⁾; and a research carried out with 845 students at the University of Gondar in Gondar, Ethiopia found that those who did not use condoms were twice as likely to acquire STIs than those who use it⁽¹⁷⁾.

From the above, there is a need for health education actions with the public investigated in order to go beyond the distribution of condoms and lubricating gels within the penitentiaries, thus providing counseling, guidance on the correct use, training, and empowerment of individuals in the face of prevention technologies⁽¹⁸⁾.

Finally, study limitations include the non-probabilistic convenience sampling method adopted, and the data collection planning that was made according to the availability of the penitentiary on the days when the number of penitentiary agents would guarantee the safety of the research team. In those days, there was no visit by family members to the detainees, nor the application of the National High School Examination, nor the activity of any other institution. The sampling method adopted also makes it difficult to make general statements with statistical rigor. Another limitation was the fact that only the history of STIs before imprisonment was investigated, which is why it is essential to investigate these injuries within the correctional facility.

CONCLUSION

It is concluded that although the detainees present a socioeconomic profile of vulnerability to STIs (low education level, for example), most of them entered the prison system with no previous history of STIs. However, among those who had a history of STIs, there were higher percentages of inadequate knowledge, attitude, and practice. Thus, it is necessary to develop and implement

actions that aim to distribute condoms within prison units and health education actions that favor their empowerment regarding adequate knowledge, attitudes, and practice about condom usage, thus guaranteeing a reduction in the occurrence of STIs.

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