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Sexual violence against women and care in the health sector in Santa Catarina – Brazil

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Abstract *This is a study on sexual violence against women in the Brazilian State of Santa Catarina notified to the Notifiable Diseases Information System (SINAN) in the period 2008-2013. It aimed to estimate pregnancy and sexually transmitted infections (STIs) resulting from sexual violence and to test the association between pregnancy, STIs and care provided in health services. In total, 1,230 pregnancy notifications and 1.316 STI notifications were analyzed. Variables were age, schooling, time to receive care, STI prophylaxis, emergency contraception, number of perpetrators and recurrent violence, which were analyzed using proportions and 95% confidence intervals. Associations were tested by adjusted and non-adjusted logistic regression with values expressed in odds ratio. The occurrence of pregnancy was 7.6%. Receiving care within 72 hours and emergency contraception were protective factors. The occurrence of STIs was 3.5%. Care within 72 hours and prophylaxis did not result in lower proportions of STIs. Further studies are required regarding this issue.*

Key words *Sexual violence, Women, Pregnancy, Sexually transmitted diseases, Health services*

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Introduction

Sexual violence against women is a cruel and persistent assault and is a gender-related violence, an extreme demonstration of men's power over women, in the subjugation of their bodies turned into object[1]. Power asymmetry is a constitutive mark of gender relationships that, in the context of violence, assumes different acts of domination, among which is sexual violence[2].

Understood as an action or attempt to obtain a sexual act, advances or unwanted commentary against a person's sexuality using coercion[3], this type of violence is mainly perpetrated by men and affects a large proportion of women around the world[4]. The World Health Organization Report on violence points out that 35% of women in the world report having suffered physical and (or) sexual violence in their lifetime[3]. In Brazil, one in ten women has suffered sexual violence in her life, according to a study of women in the 15-65 years age group by Schraiber et al.[5].

Sexual violence causes injuries that can last a lifetime and are related to physical well-being, sexual, reproductive, emotional, mental and social issues of battered women. The consequences of this assault include pregnancy and sexually transmitted infections (STIs), including HIV/AIDS[4]. The risk of a pregnancy due to sexual violence ranges from 0.5% to 5.0%, and of acquiring an STI, 16.0 to 58.0%[6]. Thus, the health sector plays a fundamental role in the care to sexually battered women, minimizing damages resulting from these situations[7]. Emergency contraception within 72 hours of sexual violence averts three out of four possible pregnancies[6]. Likewise, STI prophylaxis in the first 72 hours is indicated in situations of exposure with risk of transmission[8], reducing HIV serum conversion by up to 81.0%[9].

Identifying violence, performing prophylaxis, treating resulting injuries, following-up for at least six months of the occurrence, referring to the intersectoral network as needed and reporting the violence[6] is part of the care provided by health professionals. The information on violence and care provided in the health sector is forwarded to epidemiological surveillance through the notification to the Notifiable Diseases Information System (SINAN), whose purpose is to subsidize the elaboration and implementation of public policies to fight against violence. Law Nº 10.778 of November 24, 2003 established violence against women as a notifiable issue in all public and private health services in the country.

This system is relatively new and studies based on SINAN information on statewide cases of violence are still limited[10,11], and publications on sexual violence against women using this database are restricted.

The use of this system as a research source is very important, since it facilitates highlighting the need for improvements in completing the notification form, as well as knowing the violence reported by women who access health services and care provided. The information on the violence suffered provides important subsidies for the prevention and protection actions, and may increase the articulation, structuring and integration of services in the care network.

In this context, this study aims to estimate the occurrence of pregnancy and STIs due to sexual violence and to test the association between pregnancy, STI and health care services, based on SINAN information from the state of Santa Catarina.

Methods

This is a cross-sectional study, based on secondary data on sexual violence against women entered in the Notifiable Diseases Information System (SINAN) in Santa Catarina. Located in the southern region of Brazil, the state has a population of 6,383,286 inhabitants. Women represent 50.4% of the population, those with 10 years and over correspond to 43.7% of the total female population[12]. The notification of violence in SINAN began in 2007 with the continuous surveillance of domestic, sexual and/or other violence by professionals of public and private health services through the notification/investigation form[13].

The State Health Secretariat of Santa Catarina provided the database for this study. The study is based on information from reports of sexual violence, where women may be represented by more than one episode of reported violence. Notifications of sexual violence against women aged 10 years and over for the period 2008-2013 were included. Age was set based on the National Comprehensive Women Health Care Policy of the Ministry of Health[14]. Of the 15,508 reports of violence against women, 2,029 were sexual, of which 15 notifications of nonresidents in Santa Catarina and four duplicates were excluded, resulting in the inclusion of 2,010 sexual violence notifications. Data were collected on May 16, 2014, from the export of database using Tabwin. The statistical program used was the Stata (StataCorp College Station, United States) version 13.0.

For the analysis of the pregnancy outcome, we excluded the reports of sexual violence of

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women aged 50 years or older (66 cases), who had no penetration or oral penetration (274 cases), who did not report the type of penetration (244 cases) and who did not report on pregnancy (159 cases).

This left out 1,230 reports of sexual violence for review. Regarding pregnancy (yes or no), the main variable of exposure was the combination of care within 72 hours and emergency contraception, generating four categories: not receiving care within 72 hours and not receiving emergency contraception; not receiving care within 72 hours and receiving emergency contraception; receiving care within 72 hours and not receiving emergency contraception; receiving care within 72 hours and receiving emergency contraception. The reason for grouping the two variables (care within 72 hours and emergency contraception) is that early care is an effect modifier in the relationship between exposure (emergency contraception) and outcome (pregnancy), since late care provided to women reduces the effectiveness of emergency contraception.

The fit variables were age (10-14 years, 15-19 years, 20 years and over), schooling in years of study (0-4 years, 5-8 years, 9 years and over, unknown) and recurrent violence (yes or no). The adjusted analysis was performed at two levels, the first included age and schooling, and the second was the combination of time to provide care and emergency contraception and recurrent violence. This option was due to differing influence of these variables on pregnancy.

Reports of sexual violence that did not report oral, anal or vaginal penetration (210 cases), without information on penetration and negative STIs (177 cases), without information on penetration with positive STIs (2 cases), without information on both penetration and STIs (72 cases), with positive information on penetration and no information on STIs (198 cases), with negative information for penetration and without information on STIs (34 cases) and 1 case with no penetration and STIs were excluded. We were thus left with 1,316 reports of sexual violence for analysis. With respect to STIs (yes or no), exposure variables were care received within 72 hours, prophylaxis received for hepatitis B, HIV and bacterial STIs. The fit variables were age (10-14 years, 15-19 years, 20 years and over) schooling in years of study (0-4 years, 5-8 years, 9 years and over), number of perpetrators (one, two and over) and recurrent violence (yes or no). The adjusted analysis was performed in two levels. In the first, age and schooling, and in the second, the other variables.

The variables were analyzed by means of descriptive statistics in simple frequency and proportion (%) and 95% confidence intervals ($CI_{95\%}$). The association between variables was tested using non-adjusted logistic regression and logistic regression adjusted with Odds Ratio (OR) and their 95% confidence intervals. All variables entered the adjusted analysis model and p-values ≤0.05 were considered statistically significant. The Research Ethics Committee approved the study.

Results

In total, 1,230 reports of sexual violence against women between 2008 and 2013 in the state of Santa Catarina, Brazil were selected for the pregnancy analysis. Pregnancy due to sexual violence was 7.6%. In this sample, most were aged between 10 and 14 years (10.8%) and had low schooling (13.3%). Regarding health care, it is important to highlight that the pregnancy outcome was found in a large number in women who did not receive care within 72 hours and emergency contraception (14.2%). Among those who received care within 72 hours and did not receive emergency contraception, the pregnancy occurred in 8.4%, and when care was provided within 72 hours and there was emergency contraception, pregnancy occurred in 1.6%. It is also worth mentioning that in recurrent sexual violence, pregnancy occurs more frequently when compared to cases of single-episode violence (Table 1).

In Table 2, in the non-adjusted analysis, there was an association between women's age and pregnancy. Women aged 10-14 years were three times more likely of becoming pregnant ($p < 0.001$) when compared to women aged 20-49 years. Low schooling (> 4 years of schooling) was also significantly associated with pregnancy ($p = 0.001$), representing a three times greater probability of becoming pregnant when compared to women with higher schooling (9 or more years of schooling). Receiving care within 72 hours and emergency contraception was a significant protective factor for pregnancy.

In the adjusted analysis (Table 2), age between 15 and 19 years and low schooling (0 to 4 years of schooling) were significantly associated with a higher probability of pregnancy. Receiving care within 72 hours and receiving emergency contraception translated into 84% lower probability of pregnancy. Not receiving care within 72 hours, but receiving emergency contraception decreased the probability of pregnancy by 74.0%

Table 1. Pregnancy due to sexual violence in women aged 10-49 years according to covariates in Santa Catarina, Brazil, 2008 to 2013.

Variable	Sample distribution		Pregnancy			p*
	N	%	n	%	CI95%	
Age (n = 1,230)						< 0.001
10-14 years	546	44.3	60	10.8	(8.4-13.7)	
15-19 years	297	24.1	20	6.7	(4.3-10.2)	
20-49 years	387	31.4	14	3.8	(2.3-6.3)	
Schooling (n = 1,230)						
0-4 years	165	13.4	22	13.3	(8.9-19.4)	
5-8 years	549	44.6	50	9.1	(6.9-11.8)	
9 years and over	338	27.4	15	4.4	(2.6-7.2)	
Unknown	178	14.4	7	3.9	(1.8-8.0)	
Recurrent Violence (n = 1,174)						< 0.001
Yes	421	35.8	52	12.3	(9.5-15.8)	
No	753	64.1	32	4.3	(3.1-6.1)	
Time to provide care and use of emergency contraception (n = 1,230)						< 0.001
Did not receive treatment within 72 hours and did not receive contraception	387	31.4	55	14.2	(11.0-18.0)	
Did not receive treatment within 72 hours and received contraception	71	5.7	3	4.2	(1.3-12.3)	
Received treatment within 72 hours and did not receive contraception	343	27.8	29	8.4	(5.9-11.9)	
Received treatment within 72 hours and received contraception	429	34.8	7	1.6	(0.7-3.3)	

Source: SINAN/SC.
*P-value ≤0.05 statistically significant.

Table 2. Non-adjusted and adjusted odds ratio of factors associated with pregnancy in women aged 10-49 years who suffered sexual violence in Santa Catarina, Brazil, from 2008 to 2013.

Variable	OR (CI95%) Non-Adjusted	p†	OR (CI95%) Adjusted*	p†
Age				
20-49 years	1.00		1.00	
10-14 years	3.00(1.67-5.38)	< 0.001	2.00(0.98-4.67)	0.052
15-19 years	1.79(0.90-3.56)	0.097	2.70(1.17-4.67)	0.002
Schooling				
9 years and over	1.00		1.00	
5-8 years	2.15(1.19-3.90)	0.011	1.47(0.76-2.86)	0.245
0-4 years	3.31(1.66-6.57)	0.001	2.74(1.32-5.71)	0.007
Recurrent Violence				
No	1.00		1.00	
Yes	3.07	< 0.001	1.69(1.03-2.76)	0.035
Time to provide care and use of emergency contraception				
Did not receive treatment within 72 hours and did not receive contraception	1.00		1.00	
Did not receive treatment within 72 hours and received contraception	0.26(0.08- 0.87)	0.029	0.26(0.62-1.15)	0.077
Received treatment within 72 hours and did not receive contraception	0.55(0.34-0.89)	0.016	0.63(0.37-1.07)	0.090
Received treatment within 72 hours and received contraception	0.10(0.04-0.22)	< 0.001	0.16(0.72-0.39)	< 0.001

Source: SINAN/SC.
* Adjusted analysis with entry into the two-level model. At the first level, age and schooling. In the second, time to provide care, recurrent violence and use of emergency contraception. † P-value ≤ 0.05 statistically significant.

when compared to the reference of receiving care within 72 hours and not receiving emergency contraception. Women who experienced recurrent violence were 1.69 times more likely of becoming pregnant in the adjusted model.

The reported occurrence of STIs due to sexual violence was 3.5%. Table 3 shows the descriptive analysis of the reports, showing that the highest proportion of STIs (5.8%) occurred in women aged 15-19 years and with 5-8 years of schooling (4.1%). Those who received care within 72 hours and prophylaxis for hepatitis B, HIV and bacterial STIs had a higher proportion of STIs when compared to those that had not received care within 72 hours and had not received these prophylaxes.

The proportion of STIs was 6.3% when sexual violence occurred by two or more perpetrators, significantly higher when compared to a single perpetrator (3.0%).

In Table 4, in the unadjusted analysis, to be aged 15-19 years was significantly associated with STIs, and this age group was 2.46 times more likely of contracting STIs when compared to those aged 20 years or older. Women with intermediate schooling (5-8 years) were 2.22 times more likely of being at risk of STIs when compared to women with 9 or more years of schooling, while sexual violence by two or more perpetrators increased STIs risk by 2.17 times when compared to a single perpetrator. In the adjusted analysis, the 15-19 years age group, 5-8 years schooling and more than one perpetrator involved remained significantly associated with a higher probability of STIs.

Table 3. STI due to sexual violence according to covariates in women aged 10 years and over, Santa Catarina, Brazil, 2008 to 2013.

Variable	Sample distribution		STI		IC95%	p*
	N	%	n	%		
Age (n = 1,316)						0.033
10 a 14 years	561	42.6	17	3.0	1.8-4.8	
15 a 19 years	308	23.4	18	5.8	3.7-9.0	
20 years and over	447	33.9	11	2.4	1.3-4.3	
Schooling (n = 1,129)						0.119
0-4 years	194	14.7	5	2.5	1.0-6.0	
5-8 years	572	43.4	23	4.1	2.8-6.1	
9 years and over	363	27.5	7	1.9	0.9-3.9	
Number of perpetrators (n = 1,296)						0.019
One	1,091	84.1	33	3.0	2.1-4.2	
Two or more	205	15.8	13	6.3	3.7-10.6	
Recurrent Violence (n = 1,261)						0.512
Yes	457	36.2	18	3.9	2.4-6.1	
No	804	63.7	26	3.2	2.2-4.7	
Received care within 72 hours (n = 1,316)						0.971
Yes	833	63.3	28	3.4	2.4-4.9	
No	483	36.7	17	3.5	2.1-5.5	
Hepatitis B prophylaxis (n = 1,279)						0.094
Yes	442	34.5	20	4.5	2.9-6.9	
No	837	65.4	23	2.7	1.8-4.1	
HIV prophylaxis (n = 1,288)						0.207
Yes	670	52.0	27	4.0	2.7-5.8	
No	618	47.9	17	2.7	1.7-4.3	
Bacterial STI prophylaxis (n = 1,286)						0.045
Yes	686	53.3	29	4.3	3.0-6.1	
No	600	46.6	14	2.3	1.3-3.9	

Source: SINAN/SC.

* P-value ≤ 0.05 statistically significant.

Discussion

The results of this study show that pregnancies occurred in 7.6% of the women, in a greater proportion for those who did not access health services and did not receive emergency contraception, those who experienced recurrent violence and adolescents aged 10-14 years. The occurrence of STIs was 3.5% more likely in women aged 15-19 years or who had more than one perpetrator. The results of this investigation did not show a significant association for access to prophylaxis and STIs outcome.

The occurrence of 7.6% (n = 94) of pregnancy due to sexual violence, among the 1,230 reports of sexual violence of women aged 10-49 years found in this study was higher than that found in São Paulo[15] and Campinas[16], who identified 5% and 2.3% of pregnancy due to rape. The study in São Paulo involved mostly adult women and the second one in Campinas, 42.2% of the women were aged 15-19 years. It is important to consider the age of women, because adolescents are more likely to become pregnant when compared to older women[15], as confirmed by a fertility survey of 782 couples who analyzed 5,860 menstrual cycles, which indicated that the probability of pregnancy decreases with age, with a substantial loss for women, from 19 years of age (50.0%) to above 35 years of age (70.0%)[17].

Table 4. Non-adjusted and adjusted odds ratio of the factors associated with STI in women aged 10 years and over who suffered sexual violence in Santa Catarina, Brazil, from 2008 to 2013.

Variável	OR (CI95%) Non-adjusted	p†	OR (CI95%) Adjusted*	p†
Age				
20 years and over	1.00		1.00	
15-19 years	2.46(1.14-5.28)	0.021	2.47(1.12-5.41)	0.024
10-14 years	1.23(0.57-2.67)	0.585	0.91(0.40-2.06)	0.836
Schooling				
9 years and over	1.00		1.00	
5-8 years	2.22(0.94-5.22)	0.066	2.90(1.17-7.14)	0.021
0-4 years	1.34(0.42-4.29)	0.616	1.94(0.58-6.42)	0.276
Unknown	2.87(1.07-7.67)	0.035	3.57(1.31-9.71)	0.013
Number of perpetrators				
One	1.00		1.00	
Two and over	2.17(1.12-4.19)	0.021	2.39(1.16-4.89)	0.017
It happened before				
No	1.00		1.00	
Yes	1.22(0.66-2.26)	0.513	1.39(0.67-2.89)	0.374
Received care within 72hs				
No	1.00		1.00	
Yes	0.98 (0.53-1.81)	0.971	0.85(0.39-1.84)	0.689
Hepatitis B prophylaxis				
No	1.00		1.00	
Yes	1.67(0.91-3.08)	0.097	1.39(0.62-3.13)	0.415
HIV prophylaxis				
No	1.00		1.00	
Yes	1.48(0.80-2.75)	0.209	0.60(0.20-1.83)	0.378
Bacterial STI prophylaxis				
No	1.00		1.00	
Yes	1.91(1.00-3.64)	0.048	2.51(0.84-7.48)	0.096

Source: SINAN/SC.
* Adjusted analysis with entry into the two-level model. At the first level, age and schooling. In the second, the remaining variables.
† P-value ≤ 0.05 statistically significant.

When observing care in health services related to the number of pregnancies due to sexual violence, in this study, the occurrence of 14.2% (55 cases) of women not receiving care within 72 hours and emergency contraception causes a stir, as does the fact that 8.4% (29 cases) women received care at health services and did not receive contraception.

Timely access to prevent pregnancy is a woman's action that recognizes the situation of violence experienced and understands that health services are able to receive and intervene in coping with the consequences of assault. According to Vertamatti et al.[7], one of the factors pointed to the delay in seeking health care is that victims know perpetrators, which often happens in sexual violence against adolescents.

In this study, adolescents had more reports of violence and evidenced a higher percentage of pregnancy. The situation is aggravated for those under 14 years of age, in the initial stage of physical and sexual development, often not even through menarche, they become pregnant due to sexual violence, a condition that has serious psychological, health and sexuality repercussions[18].

International studies[19,20] point out that, regarding adolescents, perpetrators are often people in their relationship circle, friends or relatives. Similarly, in Brazil[21], a survey carried out based on reports of violence to the guardianship councils, between 2007 and 2008, for young people aged 10-18 years, identified the perpetrator as stepfathers (32.0%), followed by fathers (17.0%), and the highest incidence of sexual violence was in the age group of 10-14 years (66.0%), with the highest incidence of sexual violence in females (91.0%) and in the household. This condition increases the possibility of recurrent violence, which in this study increased by 1.69 times the probability of pregnancy.

Recurrent violence presupposes close contact with the perpetrator, often family and at home, which may contribute to the delay in seeking health services, increasing the probability of pregnancy due to battery. Viodres Inoues and Ristum[22] believe that families tend to silence the violence that occurs in their environment; sometimes, because of economic and emotional implications, they fear for the distancing of the perpetrator, if identified. It is also necessary to emphasize that the embarrassment, the fear of humiliation and the incomprehension that causes the guilt to fall on the victim often contributes to non-denunciation, increasing the probability of recurrent violence[23].

Regarding pregnancy and lower schooling, the higher prevalence of pregnancy in this group may be linked to less information and less access to health services in search of prophylaxis measures. Lower schooling may be a consequence of sexual violence since there is a severe impact of victimization by sexual violence on the performance and academic life of the victim[22].

This study shows the relevance of emergency contraception in preventing pregnancy when it indicates a lower proportion (1.6%) of pregnancy for women who received emergency contraception within 72 hours, period of greater efficacy of the drug, followed by those who sought services after that period and still received contraception, with a 4.2% pregnancy rate. These findings corroborate with the efficacy of emergency contraception, indicating its use within five days after the assault, with a reduced protection proportional to the time elapsed[24]. It is important to consider that emergency contraception within 72 hours proved to be the greatest protective factor (84.0%) for pregnancy.

Thus, a matter of concern of results found in the current research is that only 50.0% of women who suffered sexual violence received emergency contraception, 34.8% within 72 hours and 5.7% after this period. We emphasize that this contraception is indicated in the outright or doubtful contact with semen, regardless of women's menstrual cycle, except for those using a high efficacy contraceptive method[6]. Failure to indicate this procedure violates the victims' right to access a drug that is highly effective in preventing pregnancy, from 92.9% to 94.7%, as demonstrated by Shohel et al.[25] in a systematic review. In addition, it is important to consider that while the interruption of pregnancy resulting from sexual violence is a right, access to this procedure is not yet a reality for many women, making emergency contraception one of the most important care actions immediately after sexual violence[23].

As with pregnancy, STIs due to sexual violence are shaped by the overlap of suffering imposed on women, destroying life projects and leaving marks forever interfering in personal and family life. When women who are victims of sexual violence seek health services, they expect to find protective measures[23] that can among other things prevent STIs, given that one of the major concerns is HIV infection[26].

In this study, the occurrence of STIs reported because of sexual violence was 3.5%, and the pathology was not specified, with a higher proportion for those aged 15-19 years who suffered

recurrent violence from more than one perpetrator. Among the variables analyzed in the study, STIs were significantly associated with the 15-19 years age group, where STIs were 2.47 times more likely, and the number of those involved in the assault were more likely of acquiring STIs. Two or more offenders increased by 2.17 times the probability for STIs, which is explained by the greater exposure in these cases. This situation is corroborated by the literature, which points out a greater probability of STIs related to more than one perpetrator involved in sexual violence[27]. With regard to age, STI-associated factors for adolescents aged 15-19 years are the infrequent use of condoms and the use of licit and illicit drugs[28]. These factors increase in a context of sexual violence, which may justify a larger number of cases in this context for this age group. Regarding STIs, it is important to consider that the notification form does not specify which pathology occurred because of sexual violence.

Regarding administration of STI prophylaxis, this depends on the evaluation of the risk for disease due to assault[25]. However, the recommendation for health services is to indicate prophylaxis in all cases with a potential risk[25] to women for which there are drugs of recognized efficacy, such as hepatitis B, HIV, gonorrhea, syphilis, chlamydia infection and trichomoniasis[29]. Among the factors that expose to greater or lesser risk are the type of sexual exposure (penetration), exposure to blood and/or secretion of the perpetrator, the presence of previous STIs, infectivity of microorganisms, the victim's susceptibility, number of perpetrators and recurrent violence[8].

One criterion for indication of prophylaxis, especially for HIV, is to receive care within 72 hours after the assault. In this study, 63.3% of the women sought health services during this period, but only 52.0% received antiretroviral prophylaxis. This information allows us to infer that health professionals may be selecting women according to a higher risk of infection. Likewise, prophylaxis for Hepatitis B was indicated for 34.5% of women and 53.3% for bacterial infections. In the case of Hepatitis B, battered women may have previously received full vaccination for this pathology, thus not requiring prophylaxis.

It is still necessary to consider that results found indicate a lower percentage of women who received STI prophylaxis when compared to other studies[16,27]. In a reference service in São Paulo, Facuri et al.[27] found 87.6% of treatments within 72 hours with the prescription of HIV prophylaxis for 84% of treatments, 82.5% for hepatitis B and 86.5% for bacterial STIs, while Andalaft et al.[30] pointed out that only half of the country's establishments provided Hepatitis B prophylaxis, 45% against HIV, and 8% of health services that provided care to victims of sexual violence used protocol based on the technical standard published by Ministry of Health in 2006. This evidences a serious situation where access to services does not ensure women access to prophylaxis.

Among the results obtained in this study, an unexpected one emerged, that is, women who received care within 72 hours and prophylaxis for Hepatitis B, HIV and bacterial STIs had a higher proportion of STIs when compared to those who did not receive care within 72 hours and did not receive these prophylaxes. We can consider that the indication of medicines does not ensure that women make use of it. A systematic review on the adherence post-HIV exposure prophylaxis for situations of sexual violence found an adherence of only 40.2%, and this is lower among adolescents, with 36.6%[28]. Medications used for prophylaxis, including for HIV cause adverse effects. More than 50% of people using antiretroviral prophylaxis have these effects, mainly in the gastrointestinal system[6].

Among health services, hospital emergencies are the places with greater availability of care for victims of sexual violence[30]. They perform emergency contraception and prophylaxis, and the sequence of care is broken[31] when there is no articulation in a network with outpatient clinics that enable the follow-up of women. Care cannot be limited to emergency, since sexual violence has long-term consequences that must be treated when they appear, and follow-up should not be less than six months[32]. Follow-up after emergency care is important to support post-exposure treatment continuity.

In this research, the lack of information about treatment abandonment by women and which were their STIs due to the violence are limitations that indicate a possible future complementary study based on the medical records of the health services. It is also important to consider the limitations related to underreporting of SINAN's database records[33] and to information not available due to partial completion of the notification forms, which does not invalidate the findings, but indicates caution in the interpretation of data.

On the other hand, this study allowed to identify pregnancy and STIs reported by health professionals due to sexual assault and to analyze

the actions reported by the health services for the prophylaxis of these diseases. Health services should ensure access to sexually abused women to emergency contraception and STI prophylaxis. This access begins with the structuring of the services to provide care with a protocol established according to the best scientific evidence and with the dissemination of the existence of this service to the population, which can have access to it when needed.

This study pointed to care provided by the health sector within 72 hours and receiving emergency contraception as significantly associated with pregnancy due to sexual assault. Receiving care within 72 hours and emergency contraception was shown to be a protective factor (84.0%) with a lower occurrence of pregnancy in these cases. Women who had access to prophylaxes for Hepatitis B, HIV and bacterial STIs were not protected from STIs. However, further studies are required.

SUS management bodies must assume responsibility for ensuring care to sexual violence victims and for recording information. Thus, regulations must be associated with ongoing education processes for health professionals and managers, so that the right to health becomes a reality. Finally, we expect that data shown will contribute to the reflection on the role of health services in the perspective of increasing resolution of prophylaxis actions, minimizing the suffering caused by this issue.

Collaborations

CR Delziovo and EBS Coelho were responsible for the design, description of the method, analysis, writing of the paper and approval of the final version to be published. E D'orsi participated in the design, description of the method, analysis and approval of the final version to be published. SR Lindner participated in the writing of the paper, analysis, critical review and approval of the final version to be published.

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