Evolution of knowledge and risk behaviours associated with the HIV/AIDS ifection in the provincial prision of Pereiro de Aguiar (Ourense). A comparative study 1996-2003

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ABSTRACT

Objective: Evaluate the evolution of knowledge and risk behaviours of the HIV infection among the prison population of Pereiro de Aguiar Provincial Prison (Ourense).

Material and methods: Two cross-sectional studies were carried out in 1996 and 2003, with two samples composed of 105 and 102 individuals respectively, extracted at random and stratified by modules and sex of the prisoners total population at the Provincial Prison of Ourense. All the individuals were given a serie of questionnaires designed ad hoc in order to evaluate knowledge and risk practices associated with the HIV infection. The evaluation sessions were carried out in small groups and by means of individualized interviews.

Results: The HIV seroprevalence has descended in a very important way, going from 30,0% in 1996 to 15,4% in 2003. Regarding knowledge, no significant differences were detected, with the exception of the transmission routes scale ($t=4,01$, $p<0,001$) which has even decreased with respect to 1996. The HIV positive individuals ($X^2=8,37$, $p<0,05$) with a drugs consumption record ($X^2=14,3$, $p<0,001$) presented the best level of knowledge. Only 38,5% of the sexually active individuals reported to use condoms, and among them only 52,0% said they used them systematically. More than 79,7% of the individuals reported to have exchanged implements to consume injecting drug.

Discussion: The decrease in seroprevalence does not seem to be due to better knowledge nor to the elimination of risk behaviours, but more to the implementation of harm reduction programmes (methadone and syringes exchange), to the release of the individuals infected with HIV and to the decrease in the number of people who enter prison with positive serology to the HIV. Due to this, it is necessary to reorientate the policies and preventive practices on HIV/AIDS designed for the penitentiary centre's inmates in a more active way.

Key words: HIV/AIDS, Prevention, Prison, Condom.

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INTRODUCTION

Nowadays, the HIV/AIDS infection represents an important challenge worldwide. In the last years, Spain has been at the head of the incidence and prevalence rates in Europe. But without a doubt, the most important problem has been in penitentiary centres where the mean incidence[1] and prevalence rates go clearly beyond those of the community populations, more precisely the limited studies available estimate that the prevalence rates within prisons are 75 times higher[2]. In the last years, this situation seems to have improved, in fact, in 1990, and according to the Spanish Penitentiary Institutions General Direction, HIV seroprevalence among prisoners was reaching 30%, whereas in 2000 it stood between 15% and 18%[3]. This reality in prisons, however, has not been sufficient to arouse scientific curiosity regarding this topic[4]. This is why it is difficult to know the knowledge and risk practices, as well as the use and access to preventive measures that the Spanish penitentiary centres population are provided with.

Three factors could account for these high HIV prevalence rates within the penitentiary environment: 1) The high incidence of infected injecting drug users (IDU) taken to prison; 2) The poor health hygiene conditions; and 3) The absence of programmes and measures to solve this problem.

However, in the last five years, we have been witness to a change in policies of harm reduction associated with drug consumption. Programmes for drug dependence treatment and even programmes aimed at diminishing harm related to drug consumption, such as methadone programmes or syringes exchange programmes are becoming more frequent within the penitentiary centres. Nevertheless, there is still a long way to go since only few prisons offer these programmes, and when they do, they are not provided with sufficient budgets and resources, or the policies are not appropriately directed at harm reduction. The aim of this study is to evaluate the evolution of knowledge as well as addictive and sexual risks practices associated with the HIV infection, by means of a comparison of the results of two cross-sectional studies, identically designed, carried out in 1996 and 2003, with two representative samples of the prisoners population in the provincial prison of Pereiro de Aguiar in Ourense.

MATERIAL AND METHODS

In order to carry out this research, we have selected a sample of 102 individuals (72 men and 30 women) by means of a random process stratified by module and sex, among a total population of 449 prisoners (376 men and 31 women) at the provincial prison of Pereiro de Aguiar in Ourense in 2003. Prisoners were given a questionnaire which evaluated knowledge and risk practices associated with the HIV/AIDS infection, and were interviewed about socio-demographic, clinical and toxicological aspects. The data were collected in small groups and through individualized interviews. The results of this study were compared to those of another research carried out in 1996 in the same penitentiary centre 6 with identical design and evaluation instruments (table 1).

All the individuals were informed about the purpose of this research and their consent was requested. We have also asked for their authorization, in writing, to consult their medical record in order to complement and ratify their clinical and toxicological record.

We have compared both samples according to their distribution for the variables age, sex and educational level. The variables concerning education included knowledge, attitudes as well as addictive and sexual risk practices associated with the HIV/AIDS infection. The knowledge and attitudes were evaluated by means of the same questionnaire used in 1996. For the evaluation of the risk practices, the individuals were interviewed individually, using the same instrument as in the study aforementioned.

As independent variables, we have used their knowledge concerning serological status, sex and drug consumption records. We have determined their sexological status through a self-informed process, ratified by the participants'clinical record. With respect to the variable drug consumption, we have taken into account the fact whether or not there was a prior record of drug consumption via any routes in the last twelve months. Regarding the data analysis, we have used descriptive statistics, comparison of means and ratios, as well as a logistic regression model, using the 11.0 edition of the Social Science Statistics Pack, version for Windows (2002, SPSS Inc.).

	Study in 1996	Study in 2003
Sample size (n)	105	102
Prison population (n)	510	449
Mean age	31,2	32,0
Men (%)	68,6	70,6
Women (%)	31,4	29,4
HIV prevalence (%)	30,0	15,4

Table 1. Characteristics of the samples studied in 1996 and 2003

RESULTS

Knowledge about the HIV/AIDS infection

In both studies, the individuals have similar socio-demographic characteristics, no significative differences were found for the variables age and sex (table1).

The evaluation of the level of knowledge was carried out by means of a questionnaire which measured: general knowledge about AIDS, knowledge about transmission routes and about the protective methods (see table 2). It showed that the level of knowledge has not varied significantly, with the exception of knowledge about preventive measures (table 3), which has even diminished with respect to 1996 ($t=4,72$; $p<0,001$). If we take into consideration the situation with regard to the HIV infection,

we can observe that HIV positive individuals have a better level of knowledge than those HIV negative, and that among them, men have the highest level of knowledge. We can observe that within the HIV negative group of women, there has been an increase in the level of knowledge with respect to 1996.

Regarding the variable sex, we have not found significative differences in the level of knowledge (table 4). However, differences were found within the individuals with and without a drug consumption record (X^2=14,03, p<0,001), those with a drug consumption record presented better levels of knowledge about the HIV infection. As we have said before, we have also found differences statistically significant in the level of knowledge according to the serological situation of the individuals (X^2=8,37, p<0,05).

Risk behaviours associated with the HIV/AIDS infection

With respect to sexual behaviour, 57,2% of the individuals reported to be sexually active, this datum is very similar to that of the study in 2006 (60,2%). However, the percentage of individuals who said they used condoms systematically has increased significantly, going from 20,8% to 52,0%. This is particularly important in the case of HIV positive individuals and, among them, the women's group (X^2=11,09 p<0,001). On the contrary, HIV negative individuals tend to use them to a lesser extent, and within this group, those who least use one systematically are women (X^2=14,67, p<0,001).

Regarding addictive behaviour, there has been a decrease in the number of individuals, and more particularly among those HIV positive, reporting to have consumed drugs in the last 12 months, going from 59,7% in 1996 to 50,6% in 2003. On the contrary, there has been a slight increase in the percentage of individuals, and more particularly among those HIV positive, reporting to have consumed injecting drugs (especially heroine and cocaine) in the last 12 months, going from 33,8% in 1996 to 54,8% in 2003.

On the other hand, the number of prisoners, both men and women, who have never shared injecting material has increased, although it does not go, at the very best, beyond 35,0% of the individuals reporting to consume injecting drugs (see table 5). In order to consume drugs, women usually and to a greater extent have recourse to the sterilization of materials compared to the men who even show a slight decrease with respect to 1996 (35,4% compared to 29,4% in 2003). Women also and to a greater extent use new syringes every time they inject themselves, showing a moderate increase in this practice (going from 73,3% in 1996 to 85,0% in 2003). On the contrary, the frequency of this practice has diminished among men (going from 58,3% in 1996 to 55,9% in 2003).

Risk perception to the problem of HIV/AIDS

Among the group of individuals who reported to have consumed injecting drugs in the last 12 months, the differences proved to be statistically significative between both studies, within the percentages of women who reported not to share material (X^2=4,31; p<0,05) or to sterilize it (X^2=4,51; p<0,05); and within the group of HIV positive men who reported not to share material (X^2=7,72; p<0,001) as well. For the remaining variables, no differences statistically significative were found between 1996 and 2003.

It is important though to point out that behavioural changes have not only taken place in the desirable direction. Thus, within the group of women, and men as well, the number of individuals who reported to avoid injecting themselves due to their fear of HIV/AIDS has decreased. The percentage of women who reported not to share material due to their fear of HIV / AIDS has slighly decreased as well (table 5).

Protective behaviours to the problem of HIV/AIDS

The parenteral and sexual transmission represent the main causes of HIV infection, and more particularly behaviours associated with drugs consumption and unprotected sexual practices. Regarding this subject, we have carried out an analysis using a logistic regression model in order to determinate the predictive variables of three important preventive practices associated with the HIV infection: the use of condoms, the fact that syringes are not shared and the use of new syringes for injecting consumption.

The results of this analysis (table 6) show that the variable which best predicts condom use among this population is knowing you are infected with HIV. Regarding the predictive variables concerning the fact that no syringes are shared, the only significative variable has also been knowing you are infected with HIV. Nevertheless, no predictive variables were found with respect to the use of new syringes.

ITEMS	WOMEN				MEN			
	HIV+		HIV-		HIV+		HIV-	
	1996	2003	1996	2003	1996	2003	1996	2003
CONOCIMIENTOS GENERALES								
AIDS is a disease in which the organism is unable to confront infections.	90,0	67,0	62,5	63,0	85,0	92,0	70,7	89,0
AIDS is a deadly disease.	90,0	67,0	68,8	88,0	80,0	54,0	80,5	75,0
AIDS can be cured if diagnosed in time.	60,0	67,0	43,8	88,0	75,0	62,0	68,8	47,0
To be infected with AIDS is equivalent to suffer from the disease.	70,0	50,0	31,3	63,0	65,0	69,0	43,9	55,0
Anyone infected with the HIV virus knows it.	70,0	83,0	56,3	88,0	75,0	77,0	68,3	72,0
Anyone can be infected with HIV since it depends on his/her behaviour.	60,0	67,0	43,8	75,0	85,0	85,0	70,7	77,0
You can identify a person who carries the HIV virus just by looking at him/her.	90,0	100,0	81,3	100,0	80,0	92,0	78,0	70,0
TRANSMISSION ROUTES (HIV is transmissible):								
A mother infected with HIV can transmit the infection to her child.	46,6	55,6	41,0	42,0	50,0	54,0	39,8	45,6
Sharing nail clippers.	30,0	50,0	50,0	13,0	60,0	69,0	46,3	42,0
Sharing toothbrushes.	60,0	67,0	81,3	38,0	70,0	77,0	68,3	58,0
Sharing razors.	80,0	100,0	81,3	63,0	90,0	100,0	82,9	75,0
Breathing near.	70,0	83,0	37,5	75,0	90,0	92,0	80,5	68,0
Having anal sex.	90,0	83,0	62,5	88,0	95,0	77,0	87,8	85,0
Having oral sex.	70,0	50,0	43,8	50,0	85,0	77,0	56,1	60,0
Having vaginal sex.	90,0	100,0	93,8	75,0	95,0	77,0	85,4	87,0
Infected needles and syringes.	100,0	100,0	100,0	100,0	100,0	100,0	90,2	91,0
Contaminated blood and blood products.	9,0	83,0	81,3	100,0	100,0	100,0	85,4	87,0
Insects.	30,0	67,0	50,0	88,0	70,0	69,0	56,1	45,0
Food and drinks.	80,0	83,0	87,5	88,0	90,0	92,0	70,7	68,0
Swimming pools use, towels and cutlery.	60,0	83,0	75,0	88,0	75,0	100,0	68,3	64,0
Caughing and sneezing.	70,0	83,0	43,8	88,0	75,0	100,0	100,0	66,0
A healthy carrier (asymptomatic) can never transmit the infection.	70,0	83,0	37,5	75,0	65,0	77,0	73,2	74,0
The presence of an infected inmate in a cell can represent a risk of infection for the rest of mates.	90,0	100,0	68,8	75,0	80,0	85,0	70,7	58,0
The liquid expulsed by the penis before ejaculation can be a cause of pregnancy and/or infection.	40,0	67,0	43,8	75,0	55,0	62,0	73,2	62,0
PROTECTIVE MECHANISM								
Contraceptive pills protect against AIDS.	80,0	100,0	50,0	100,0	75,0	69,0	80,5	75,0
The best way to prevent the HIV infection through intercourses with penetration is by using condoms.	80,0	100,0	87,5	100,0	100,0	100,0	87,8	96,0
One single condom can be used in several intercourses.	90,0	100,0	75,0	75,0	85,0	100,0	90,2	85,0
DTwo HIV carriers must use condoms during intercourse.	80,0	83,0	50,0	63,0	80,0	85,0	56,1	68,0

Table II. Knowledge about the HIV/AIDS infection according to sex, serological status and year of study (mean percentage of correct answers).

Scales	Men Mean proportions HIV+		Men Mean proportions HIV-		Women Mean proportions HIV +		Women Mean proportions HIV-		Total Mean and sandard desviations			
	1996	2003	1996	2003	1996	2003	1996	2003	1996	2003	Valor T	P
General knowledge about AIDS	8,15	7,92	7,39	7,35	8,30	8,17	6,56	8,38	7,91 (3,01)	7,25 (2,37)	-1,75	0,081
Knowledge about transmission routes	29,05	30,38	25,54	24,92	25,70	28,05	23,69	26,25	25,14 (7,71)	25,53 (7,78)	0,36	0,720
Knowledge about preventive measures	5,75	6,00	5,46	5,62	5,40	6,33	4,40	5,63	6,72 (1,95)	5,59 (1,47)	-4,72	<0,001
Total knowledge	42,95	44,31	38,90	38,09	39,40	43,00	34,69	40,25	39,78 (11,44)	38,37 (10,39)	-0,93	0,356

Table III. Level of knowledge about the HIV/AIDS infection according to sex, serological status and year of study. (Mean proportions, standard deviations and percentages of significance).

	MEANS	STANDARD DEVIATION'S	VALUE X^2	p
SEX				
Men	38,5	11,8	1,16	0,281
Women	35,6	9,5		
DRUGS CONSUMPTION				
Users	43,8	6,2	14,30	<0,001
Non-users	33,8	13,0		
HIV CONDITION				
HIV+	43,7	6,7	8,37	0,004
HIV-	38,9	11,6		

Tabla IV. Level of total knowledge about the HIV/AIDS infection, according to sex, the fact that drugs have been consumed and serological status (mean proportions, standard deviations and percentages of significance).

HIV prevalence

Although it was not the main objective of this study, we have asked the individuals for their serological situation and 15,4% reported to be infected with HIV. This clearly shows that there has been an important decrease compared to the previous study, in which it stood at 30%. As we have said before, we have asked them to self-inform us regarding their serological status to the problem of HIV, though the data were ratified afterwards with their medical record.

DISCUSSION

Knowledge about the HIV/AIDS infection

The data analysis shows two fundamental aspects: first, the existence of an important lack of information, and more particularly worrying is that of transmission routes and protective methods. Second, and despite the time passed between both studies, the level of knowledge has not significantly varied. Regarding the variable sex, we haven't found significative differences with respect to the level of knowledge, this fact comes to contradict what had been found in 1996. Nevertheless, we did find statistically significative differences within individuals with or without a drugs consumption record. The individuals with a drugs consumption record presented higher levels of knowledge about the HIV infection, thus the variable risk perception seems to be the base of this explanation. Therefore, the individuals with a higher level of vulnerability, show, as a group, the highest levels of knowledge. These results are in line with those of previous studies6,7 and come to contradict what Delorme, Rotily Escaffre et al. had found in a study carried out in Marseilles penitentiary centre (France). Regarding serological

situation, we can observe that HIV positive individuals have more knowledge than those HIV negative. Our results are in line with those found by other authors [9]. These results, somehow predictable, show the need to focus preventive interventions on cohorts with low risk perception, that is to say on HIV negative individuals and among them, on the group of men and on individuals without a substances consumption record, since their low level of knowledge make them more vulnerable. We musn't forget though that information, even if it is not a sufficient condition, is yet necessary for the preventive behaviour to take place [10,11].

Risk behaviours associated with the HIV/AIDS infection

Regarding sexual behaviour, 57,2% of the individuals interviewed defined themselves as sexually active, this datum is very similar to that of 1996 [6], which reported 60,2%. The percentage of individuals who reported to use condoms also remains at very similar rates, at about 38,0% between 1996 and 2003, which coincides with other studies [12]. On the contrary, HIV negative individuals tend to use them to a lesser extend, these results are in the line of previous studies [13]. It is necessary to point out that even if the percentage

SEXUAL AND ADDICTIVE BEHAVIOURS	WOMEN		MEN	
	1996 (n=33)	2003 (n=30)	1996 (n=72)	2003 (n=72)
Had sexual relations in the last year	39,8	68,1	68,6	53,1
Sexually active individuals who have used a condom	20,0	39,6	44,8	40,8
Frequency of condom use				
Never or hardly ever	60,1	54,8	48,1	0,0
Sometimes	23,0	7,7	18,8	29,7
Often	3,0	12,5	8,3	10,3
Always or usually	13,9	25,0	24,8	60,0
Have you had drugs in the last 12 months?				
YES	45,9	66,6	66,1	44,0
NO	54,1	33,4	38,9	56,0
Main route of consumption:				
Injected	45,1	48,2	35,4	39,4
Smoked	41,6	37,3	58,3	48,7
Sniffed	13,3	11,5	6,3	7,0
Inhaled	0,0	3,1	0,0	4,9
Have you shared injecting material?				
Usually	53,3	15,0	35,5	13,5
Sometimes	26,6	20,0	47,9	35,7
Few times	20,1	30,0	16,6	15,9
Hardly ever	0,0	35,0	0,0	34,9
If you share material, do you sterilize it?				
YES	50,1	85,6	64,6	70,6
NO	49,9	14,4	35,4	29,4
Do you use new needles and syringes each time?				
Usually	73,3	85,0	58,3	55,9
Sometimes	13,3	10,0	20,8	20,2
Fewtimes	13,4	5,0	14,6	5,9
Hardly ever	0,0	0,0	6,3	18,0
AIDS has modified consumption mainly:				
Decreasing it	13,3	21,0	33,3	40,8
Avoiding its injection	20,0	11,5	39,6	21,6
Material isn't shared	53,3	50,0	11,4	15,8
Sterilizing material to inject oneself	13,4	17,5	15,7	21,8

Tabla V. Sexual and addictive behaviours with respect to the HIV/AIDS infection according to sex and year of study (mean proportions).

CRITERION AND PREDICTIVE VARIABLES	OR	I.C. 95%
CONDOM USE:		
HIV+		1,56 – 1,97
SYRINGES NOT SHARED:		
Habit of sterilizing material.	1,84	0,74 – 3,16
Higher level of information.		0,45 – 1,60
HIV+		0,47 – 0,95
USE OF NEW SYRINGES:		
Habit of sterilizing material.	2,17	0,25 – 4,12
Knowledge about transmission routes.	1,27	0,66 – 2,46

Tabla VI. Predictive variables of condom use, syringes not shared and use of new syringes (analysis using a logistic regression model).

of individuals who reported to use one has increased, yet few of them use it systematically (only 20,4% of the total sexually active individuals), as proved in other studies [14], consequently the effectiveness of preventive behaviour is clearly reduced. Moreover, the need to reinforce this behaviour is very important in order to prevent it from disappearing in a medium-long term [15].

Regarding addictive behaviour, though a slight decrease in the number of individuals who reported to have consumed drugs in the last twelve months can be observed, yet we can see an important increase in the number of individuals who reported to have consumed injecting drugs in the last twelve months, and more particularly in the group of women. This seems to be due to the important increase in consumption among HIV positive individuals. These data emphasize the need to implement programmes designed to prevent the HIV infection and other communicable diseases through drug injection, using gender approaches [16,17].

Risk perception to the problem of HIV/AIDS

Despite the fact that we haven't found important changes regarding drugs consumption between both studies, we can observe that the behavioural change derived from the fear of HIV/AIDS is influenced by the variables sex and serological situation. Thus, within the women's group, the most important behavioural changes refer to the fact that injecting material is not shared, whether among men it consists in reducing consumption. In general, and in response to the HIV/AIDS infection, we can observe a certain improvement in preventive behaviours, except for that of avoiding drug injection, since the study from 2003 seems to show important difficulties with respect to that behaviour, which could be explained by the fact that individuals have more possibilities not to share injecting materials or to sterilize it. Taking into account the individuals'serological state, we can observe that the protective criteria regarding the fear of AIDS has also varied, thus and to a lesser extend HIV positive individuals avoid intravenous consumption in comparison with those HIV negative. However, they are more willing to avoid exchanging syringes with HIV negative individuals.

In view of these data, no important and solid changes associated with the fear of HIV/AID regarding drugs consumption routes have been observed in the time passed between the first and the second study. Moreover, certain difficulties in preventive behaviours seem to arise, especially in the cohorts of HIV positive individuals. This aspect is particularly relevant in order to design preventive actions aimed at reinforcing healthy and protective behaviours to the problem of HIV/AIDS.

Protective behaviours to the problem of HIV/AIDS

The results of this study intensify the idea that appropriate information is a necessary condition to change risk behaviours in favour of healthier ones. The reinforcement of established preventive behaviours and risk perception also proves to be a very relevant factor in order to prevent the HIV infection.

HIV prevalence

There has been an important decrease in HIV prevalence in the time passed between both studies, going from 30,0% in 1996 6 to 15,4% in 2003. This

decrease isn't consistent with better knowledge nor with data showing a significative decrease in risk practices associated with the use of injecting drugs or sexual behaviour. Other factors may account for the decrease in HIV seroprevalence: the positive effect of harm reduction programmes outside prison, release from prison due to incurable chronic disease, to the death of HIV individuals, and to the introduction of harm reduction programmes in the last years.

By way of conclusion, in view of the data presented here, it is demonstrated that HIV negative individuals, not only have the lowest levels of knowledge but also present sexual and addictive risk practices. HIV negative individuals without an injection consumption record also present a low risk perception which makes them a very vulnerable group to the problem of HIV. On the other hand, even if we can see a slight increase in healthy behaviours with respect to sexual and addictive practices, these changes take place within better informed groups and with a higher level of risk perception. Nevertheless, sexual and addictive risk practices, as well as an important lack of information remain. In the light of the results of this study, we consider that informative and educational actions designed to prevent the HIV infection within the penitentiary environment, but more particularly to HIV negative individuals must be taken. We ought to take into account the fact that these interventions will have to take the characteristics of each group and their preventive needs into consideration.

On the other hand, we do not want to conclude without mentioning the potential limiting factors of this study, although difficult to avoid. Namely, although it is a comparative study of two different periods, we have not used the same sample. This is justified by the need to prevent high rates of losses which could be produced as the consequence of different factors such as release from prison, moves, death of individuals, etc... Thus, and with the possibility to carry out a longitudinal study, for the reason aforementioned, we have chosen a cross-sectional design, comparing two representative samples of prisoners total population, always obtained through a random selection process stratified by module and sex.

REFERENCES

1. Marco C, Gallego A, Caylà JA, Guerrero RA, Puértolas A, Da Silva A. Estudio de la seroincidencia del VIH en la población recluida en una prisión española a partir de determinaciones analíticas repetidas. Rev Esp Sanid Penit 2001; 3: 60-14.
2. Rozman M, Massad EM, Silveira ASB, Azevedo-Neto RS, **T**akey K, Yamamoto YI, Strazza L, Carvalho HB, Buchalla CM, Schestman M, Burattini MN. HIV/AIDS in a brazilian prision. International Journal of STD & AIDS 1998; 9: 183-184.
3. Organización Mundial de la Salud & Comité Internacional de la Cruz Roja. El control de la tuberculosis en prisiones. Manual para directores de programas. Barcelona: Publicaciones Permanyer, 2002.
4. Dixon P, Flanigan TP, Debuono BA, Laurie JJ, De Ciantis ML, Hoy J, Stein J, Scott, HD, Carpenter CC. Infection with de human inmunodeficiency virus in prisioners: meeting the health care challenge. Am J Med 1993; 95: 629-35.
5. Secretaría del Plan Nacional sobre el SIDA. Programas de intercambio de jeringuillas (PIJ): Elementos clave para su implantación en prisiones. Madrid: Ministerio de Sanidad y Consumo, 2000.
6. Lameiras M, Faílde JM. Conocimientos sobre el sida y prácticas sexuales y adictivas de una muestra de internos/as de la Prisión Provincial de Pereiro de Aguiar (Ourense). Medicina Psicosomática y Psiquiatría de Enlace 1996; 38: 12-23.
7. Corby NH, Wolitski RJ. Condom use with main and other sex partners among high-risk women: intervention outcomes and correlates of reduced risk. Drugs Soc 1996; 9: 75-96.
8. Delorme C, Rotily M, Escaffre N, Galinier-Pujol A, Loundou A, Moatti JP. Knowledge, beliefs and attitudes of inmates towards aids and HIV infection: a survey in a Marseille Penitentiary Center. Rev Epidemiol Sante Publique 1999; 47: 229-38.
9. Carrasco Rodríguez P, Sánchez-Cruz JJ. Comparison of knowledge and risk behavior regarding AIDS among HIV+ and HIV- inmates at the provincial prison of Granada. Gac. Sanit. 1996; 10: 104-9.
10. Bayes R. Contributions of the functional analysis of behavior to the problem of aids. Rev Latinoam Psicol. 1992; 24: 35-56.
11. Campbell T. How can psychological theory help to promote condom use in Sub-Saharan African developing countries? J R Soc Health 1997; 117:186-91.

12. O'Mahony P, Barry M. HIV risk of transmission behaviour amongst HIV-infected prisoners and its correlates. Br J Addict 1992; 87: 1555-60.
13. Kall, K. The risk of HIV infection for noninjecting sex partners of injecting drug users in Stockholm. Aids Educ Prev 1994; 6: 351-64.
14. Miranda AE, Vargas PM, ST Louis ME, Viana MC. Sexually transmitted diseases among female prisoners in Brazil: prevalence and risk factors. Sex Transm Dis 2000; 27: 491-5.
15. Fogarty LA, Heilig CM, Armstrong K, Cabral R, Galavotti C, Gielen AC, Green BM. Long-term effectiveness of a peer-based intervention to promote condom and contraceptive use among HIV-positive and at-risk women. Public Health Rep 2001; 116 (suppl 1): 103-19.
16. Amaro H. Love, sex and power. Considering women's realities in HIV prevention. American Psychologist 1995; 50: 437-447.
17. Estebanez P, Zunzunegui MV, Aguilar MD, Russell N, Cifuentes I, Hankins C. The role of prisons in the HIV epidemic among female injecting drug users. AIDS Care 2002; 14: 95-104.
18. Silbersiepe KA, Hardy AM. AIDS knowledge and risk perception of cocaine and crack users in a national household survey. AIDS Educ Prev 1997; 5: 460-71.
19. Akwara PA, Madise NJ, Hinde A. Perception of risk of HIV/AIDS and sexual behaviour in Kenia. J Biosoc Sci 2003; 35: 385-411.
20. Bauserman RL, Richardson D, Ward, M, Shea M, Bowlin C, Tomoyasu N, Solomon L. HIV prevention with jail and prison inmates: Maryland's prevention case management program. AIDS Educ Prev 2003; 15: 465-80.
21. Dolan KA, Wodac A. HIV transmission in a prison system in an Australian State. Med J Aust 1999; 171: 14-17.
22. Rotily M, Delorme C, Galinier A, Escaffre N, Moatti JP. HIV risk behavior in prison and factors associated with reincarceration of injection drug users. Presse Med 2000; 29: 1549-56.

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