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Knowledge and risk perception on HIV/AIDS by Brazilian population: 1998 and 2005

ABSTRACT

OBJECTIVE: To describe the level of knowledge and risk perception on HIV/AIDS of the Brazilian Population.

METHODS: Data base from a national survey on sexual behavior and HIV/AIDS risk perception in the Brazilian population, in 1998 and 2005, were used. A synthetic indicator was used, composed by nine questions on the level of knowledge and risk perception on the forms of transmission of the virus and risk situations, according to population subgroups.

RESULTS: Men increased their level of knowledge in the period, reaching the same information level of women. Among youngsters, there was no significant increase in knowledge, and the difference between sexes was absent in this dimension. Regarding risk perception, there was an increase in the proportion of those that declared they were not under risk of HIV/AIDS contamination.

CONCLUSIONS: Despite the increase in the level of general knowledge, the study's results indicate the need for actions and programs of HIV/AIDS prevention in the general population and, especially, with youngsters.

DESCRIPTORS: Acquired Immunodeficiency Syndrome, prevention & control. Sexual Behavior. Risk Factors. Health Knowledge, Attitudes, Practice. Brazil. Cross-sectional studies.

INTRODUCTION

The level of information on AIDS is not enough for people to adopt a protective behavior, however, lack of basic information contributed sizably to increase their HIV/AIDS vulnerability. According to Ayres¹ (1999:57) "conditions affecting individual vulnerability can be cognitive (information, awareness of the problem and ways to face it), behavioral (interest, and ability to change actions and attitudes from those cognitive elements), and social (access to resources and power to adopt protective behaviors)".

Building knowledge on AIDS is not restricted to informative issues, but it also involves individual perceptions on the problem, which is to understand this information. Turning knowledge into practical protective actions is mediated by gender issues, social class, race and other social components. The power of knowledge in the change of behavior depends on alternatives and perspectives that are presented to individuals.

In an unequal society such as the Brazilian one, knowledge on HIV/AIDS is also unequally distributed, as groups in a better economic situation are closer to the center that produces knowledge, and they can use the information received to review their practices and make changes faster.^a

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^a André LM. Representações e práticas preventivas da Aids em coletores de lixo no município de São Paulo [Doctorate thesis]. São Paulo: Faculdade de Saúde Pública da USP; 1999.

To make public policies to control HIV it is essential to have constantly updated knowledge on the level of information, and risk perception of the population. In addition to follow-up the level of information of the population, we can assess the part of the population that is not well informed regarding basic issues concerning HIV/AIDS and make a socioeconomic and demographic profile.

In this sense, the objective of the present article was to describe the level of knowledge and risk perception of the Brazilian population on HIV/AIDS.

METHODS

The analyses refer to findings of the survey “*Comportamento Sexual e Percepções da População Brasileira sobre HIV/Aids*”^a (Sexual behavior and perceptions of the Brazilian population regarding HIV/AIDS), carried out in 2005, compared with a similar survey carried out in 1998.^b

The population studied was formed by a sample of people living in urban areas of selected micro regions, with ages ranging from 16 to 65 years old. According to the Demographic Census of the Brazilian Institute of Geography and Statistics, people living in urban areas in the country were approximately 89% of the urban population (around 80 million people).

Probabilistic sampling stratified in multiple stages was used: in 1998 the sample was formed by 3,600 households, and, in 2005, by 5,040 households. Primary stage unit was the micro region; the urban census tract was the second stage unit, the third stage unit was the household, and the fourth stage was individuals from 16 to 65 years old. The first two stages were selected with probability proportional to size, and the remaining with equal probability. For micro regions, size measure adopted was the number of inhabitants of the target population, and for census tract, the number of occupied private households in the 2000 Demographic Census. Further details on the methodology applied in the survey can be seen in Bussab,² in this supplement.

To measure levels of information on HIV/AIDS, nine questions regarding forms of virus transmission and risk situation that were part of the survey carried out in 1998 were considered.³ For each question, participants were classified as “well informed” or “poorly informed” on: use of male condoms; use of female condoms; social contact with HIV infected people or people with AIDS; sharing needles and syringes; *coitus interruptus*, and oral sex; and three questions referring to risk situations involving monogamous and non monogamous couples and people with multiple partners.

In the case of risk situations, we have considered as “well informed” respondents that declared that monogamous couples (heterosexuals or homosexuals) are not free from the risk of being infected with AIDS virus. For non-monogamous couples and people with multiple partners we have classified as “well informed” those that declared these situations as high risk. In this situation of multiple partners, we made no distinction between the use and no use of condoms.

For questions regarding forms of virus transmission, questionnaires from 1998 and 2005 were adjusted since questions regarding knowledge on AIDS had their answer categories changed in this last year. Table 1 presents the procedure performed to allow comparison of the questions from the two questionnaires.

From the combination of nine items referring to the mechanisms of virus transmission, forms of protection and risk situation, the category “has minimal information” defined by Ferreira (2003) was reproduced.³ To that end, patterns from the indicator of knowledge on HIV/AIDS were used, obtained from a model of theory of the answer to the item created with data from 1998. This indicator is a scale from 0 to 100; in which 0 is no knowledge and 100 is maximum knowledge. Point 74 corresponds to the category “has minimal information” defined as: “almost all people that reach this punctuation are well informed on the use of condoms as a protection, that transmission do not occur through social contact with people with HIV or AIDS, and that people can get infected by the virus by sharing needles and syringes”.³ Thus, the level of information on HIV/AIDS is treated in the present study as a dichotomous variable: “is not informed” and “has minimal information”.

Risk perception was assessed using the question in which respondents classify their risk of getting AIDS in a scale with the categories: no risk, low risk, medium risk, high risk, and does not know. Analogously to the level of information, two categories were created: no risk perception, which encompasses no risk and does not know; – and with some risk perception that encompasses low, medium, and high risk.

Four groups were created, crossing the level of information on HIV/AIDS and risk perception, both in the dichotomous version: group 1 – no information and no risk perception; group 2 – no information and some risk perception; group 3 – with information and no risk perception; and group 4 – with information and some risk perception.³

Results obtained for the years 1998 and 2005 were compared through hypotheses tests with the use of chi-square statistics corrected by the sample design.

^a Survey conducted by Centro Brasileiro de Análise e Planejamento (Cebap) and the Brazilian Ministry of Health.

^b Berquó E, coordenador. In: *Comportamento sexual da população brasileira e percepções do HIV/AIDS*. Brasília (DF): Ministério da Saúde, Secretaria de Políticas de Saúde, Coordenação Nacional DST e Aids; 2000. (Série avaliação, 4).

Statistical significance level used was 5%, and sample errors were calculated from the complex survey command of SPSS version 13.0.

The project of the survey “*Comportamento Sexual e Percepções da População Brasileira Sobre HIV/Aids*” was approved by the Ethics Committee of Faculdade de Saúde Pública of Universidade de São Paulo.

RESULTS

In the two moments studied the level of information of the population regarding the use of condom increased – the percentage of people that were well informed went from 69.2% to 90.2%. The proportion of individuals informed on the use of previously used syringe and needles as a high risk situation for HIV infection also increased, as well as of those that declared that *coitus interruptus* presents risk. There was also increase regarding the proportion of individuals with knowledge on oral sex and HIV transmission (Table 2).

On the other hand, the proportion of well informed people in the population on the risk of HIV transmission due to social contact with HIV infected people or people with AIDS decreased – from 51.7% in 1998, to 39.8% in 2005. Regarding the use of female condom,

there was a decrease in the level of information in this period. For the remaining items investigated, the level of information remained unchanged (Table 2).

Regarding risk situations, there was a decrease in the proportion of those that were well informed regarding risk in relations with multiple partners, and the level of information of the monogamous situations investigated remained stable (Table 2).

Regarding global level of information on HIV/AIDS, the percentage of people that reached the minimum level of information increased from 51.7% in 1998 to 57.2% in 2005. In this year there was no statistically significant difference between the proportion of men and women that reached this category. This is the result of the increase in the level of knowledge among male individuals, in the period from 49.5% (1998) to 56.2% (2005).

For youngsters aged 16 to 24, there was no significant increase in the amount of people with minimum information on HIV/AIDS. However, the difference between females and males regarding information on the forms of virus transmission and risk situations virtually disappeared in 2005, as in this year, 57.7% of the young females had minimal information and 56.4% of the males in this age group (Table 3).

Table 1. Comparison of questions regarding level of information on HIV/AIDS, 1998 and 2005.

	1998		2005
Question: You can get AIDS by:	Answer scale	Question: Type of risk to get infected by AIDS virus	Scale of response
Using condoms during sexual intercourse	Well informed: strongly disagrees Poorly informed: totally agrees, partially agrees, partially disagrees, does not know	People who use condoms occasionally/ sometimes when they have sex	Well informed: medium and high risk Poorly informed: no risk, low risk, does not know
Using female condom	Well informed: strongly disagrees Poorly informed: totally agrees, partially agrees, partially disagrees, does not know	Using female condom	Well informed: no risk Poorly informed: no risk, low risk, does not know
Social contact with people living with HIV/AIDS: using public restrooms, eating in the same plate and touching people living with AIDS	Well informed: strongly disagrees Poorly informed: totally agrees, partially agrees, partially disagrees, does not know	Social contact with people living with HIV/AIDS: using public restrooms, eating in the same plate or drinking in the same glass of people living with HIV/AIDS and by hugging them	Well informed: no risk Poorly informed: no risk, low risk, medium risk does not know
Avoiding sharing or using previously used syringes and needles	Well informed strongly disagrees Poorly informed: totally agrees, partially agrees, partially disagrees, does not know	Use previously used syringes and needles	Well informed: high risk Poorly informed: no risk, low risk, does not know
Withdrawing the penis before ending sexual intercourse	Well informed: strongly disagrees Poorly informed: : totally agrees, partially agrees, partially disagrees, does not know	Couples that withdrawals penis before the end of sexual intercourse	Well informed: medium and high risk Poorly informed: no risk, low risk, does not know
Performing oral sex	Well informed: totally agrees, partially agrees, partially disagree Poorly informed: strongly disagrees, does not know	Performing oral sex	Well informed: low, medium and high risk Poorly informed: no risk, does not know

Table 2. Indicator of knowledge on HIV/AIDS. Brazil, 1998 and 2005.

Indicator of knowledge on HIV/AIDS	% of well informed		
	1998	2005	p
Use of male condom as a form of protection	69.2	90.2	0.000
Use of female condom as a form of protection	54.5	46.3	0.004
HIV virus transmission by social contact with people living with HIV/Aids	51.7	39.8	0.000
HIV virus transmission by sharing needles and syringes	59.9	96.3	0.001
HIV virus transmission by <i>coitus interruptus</i>	59.4	67.0	0.000
HIV virus transmission by oral sex	78.8	82.5	0.037
Risk situation: monogamous couples	50.0	51.0	0.710
Risk situation: non monogamous couples	80.8	79.1	0.332
Risk situation: people with several partners	94.5	91.7	0.005

There was an increase in the level of knowledge on HIV/AIDS among White people, among Black people, the level was stable. As a result, there is a distance between Black and White regarding information on AIDS, with White people better informed (Table 3).

Regarding socioeconomic classification, 65.1% of the people from upper social groups (A and B) were minimally informed in 2005, against 52.4% in 1998. Among lower classes (C, D and E) the part of the population with this level of information remained virtually constant. Among men and women, only women from upper classes presented improvement regarding HIV/AIDS information, going from 47.8% in 1998 to 64.4% in 2005. For the remaining segments of the population the difference in the period was not statistically significant (Table 3).

Similarly to what was observed for the set of population, in 2005, when the level of information according to gender in the socioeconomic classes grouped were assessed – A/B and C/D/E – there was no statistically significant difference between men and women. There was difference only between socioeconomic classes regardless of gender. However, in 1998, upper class women were less informed than men from the same social level, contrary to what was observed in lower classes.

The proportion of people who considered they had some kind of risk regarding AIDS also decreased, going from 51.1% in the previous survey to 33.8% in 2005. Because of these results, the proportion of people with information and some risk perception (Group 4), that is, the best positioned group regarding cognitive aspects of vulnerability of HIV/AIDS, decreased from 26.6% in 1998 to 18.8% in 2005. On the other hand, the amount of people without information and perception (Group 1) increased, it went from 23.3% to 27.8% (Figure).

This same behavior was observed in the following segments: women, men and youngsters aged 16 to 24 and population according to education level – cannot read or write, primary school, and university.

In 2005, men and women did not present significant differences regarding knowledge and risk perception on HIV/AIDS. However, people with greater education levels were better informed and had more risk perception– 24.5% of the individuals classified in Group 4 (with information and some risk perception) had finished university– whereas in Group 1 (without information and no perception) only 8.3%. Additionally, 29% of the people who had a university degree were classified as Group 4 (Table 3).

People with steady and casual relationships presented greater prevalence of knowledge and risk perception compared to the others; 34% of the people who declared having stable and casual relationships were in Group 4. On the other hand, people in stable relationships and those not sexually active, even when they had knowledge

Table 3. Distribution of people from 16 to 65, according to groups of knowledge on HIV/AIDS and risk perception, level of education and sex (%). Brazil, 2005.

Variable	Knowledge on HIV/AIDS and risk perception			
	No information and no risk perception	No information and some risk perception	Informed but no risk perception	Informed and with some risk perception
Sex	100.0	100.0	100.0	100.0
Male	50.0	47.0	46.0	49.0
Female	50.0	53.0	54.0	51.0
Level of education	100.0	100.0	99.0	100.0
Elementary school	63.0	49.0	49.0	29.0
High school	29.0	35.0	35.0	46.0
University	8.0	16.0	15.0	25.0

Table 4. Distribution of people from 16 to 65, according to knowledge groups on HIV/AIDS, risk perception and type of relationship (%). Brazil, 2005.

Variable	Total	Knowledge on HIV/AIDS and risk perception			
		No information and no risk perception	No information and some risk perception	Informed and no risk perception	Informed and some risk perception
Type of relationship					
Not sexually active*	100.0	34.0	15.0	40.0	11.0
Stable or permanent relationship	100.0	27.0	14.0	40.0	19.0
Casual and sporadic relationships	100.0	21.0	24.0	28.0	27.0
Stable and casual relationships	100.0	22.0	17.0	26.0	35.0
Knows people living with HIV/AIDS					
Yes	100.0	24.0	16.0	37.0	23.0
No	100.0	31.0	14.0	39.0	16.0

* This includes individuals who had never had sex or have not had sex for at least 12 months.

on HIV/AIDS, did not associate it with perception on their own risk. Of individuals with stable relationships, 40% were in Group 3 (with information and no perception). Among individuals classified as only having casual relationships, there were four types of situation involving knowledge and risk perception (Table 4).

People who declared they knew people living with HIV, presented greater perception of their own risk - 38.6% against 30% among those who did not know any person living with HIV. When this dimension is associated with knowledge, the proportion of people with knowledge and some perception on their own risk in the first case is 22.7%, and for those with no contact with people living with HIV, this percentage is 15.7% (Table 4).

DISCUSSION

Despite the changes performed in 2005 in the survey on Sexual Behavior and HIV/AIDS Risk Perception in the Brazilian Population, findings were consistent with those observed in previous studies.⁴⁻⁷

Regarding the level of knowledge of the population, lack of significant growth on AIDS knowledge among youngsters aged 16 to 24 strikes attention.⁶

Regarding risk perception on AIDS, checked through the question of self-attributed risk that was not changed in the questionnaire in the two years assessed, there was a decrease in the percentage of those considering themselves at risk of HIV infection. In 2005, 66.7% of

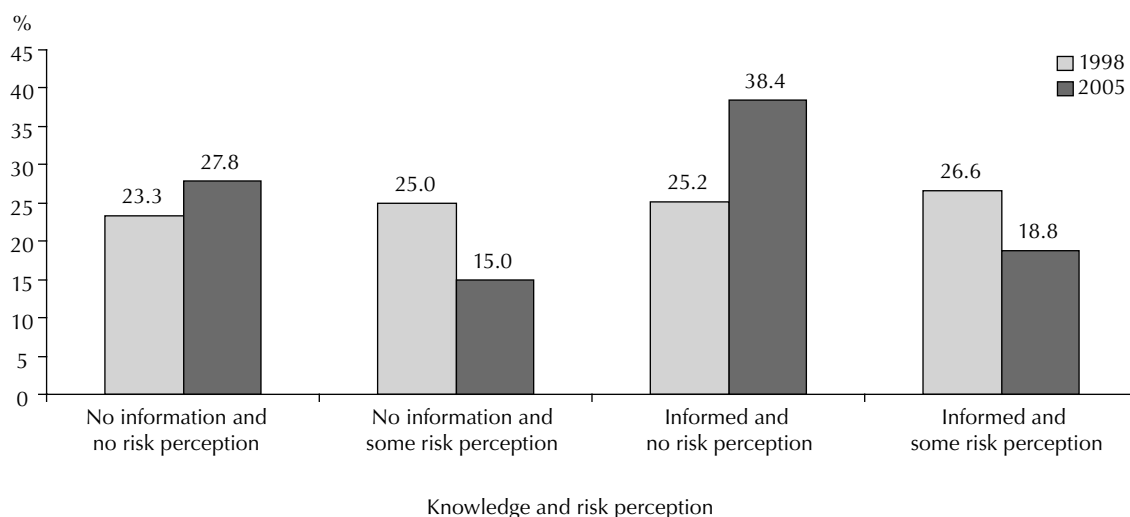


Figure. Distribution of people from 16 to 65, according to knowledge groups on HIV/AIDS and risk perception (%). Brazil, 1998 and 2005.

the people were classified as without risk perception, that is, they declared they were not at risk of AIDS infection or they could not quantify the risk. Silveira et al⁶ (2002) recorded similar results between women aged 15 to 49 years old in Pelotas (Rio Grande do Sul, Southern Brazil), in which more than 60% of them found it impossible or almost impossible to be infected by AIDS.

Thus, despite the changes in the questions of the 2005 survey, that may have influenced some of the results presented here, there is no direct association between information and HIV risk perception.⁴⁻⁶

This fact brought about the change in the distribution of the four population groups referring to knowledge and risk perception. Thus, the best positioned group in terms of cognitive aspects of AIDS/HIV vulnerability decreased when the years 1998 and 2005 were compared. On the other hand, Group 1 (without information or perception) increased in 2005.

This is reinforced when we see that although there was an approximately 6 percent increase in the minimally

informed population on HIV/AIDS, between 1998 and 2005, there was an increase in the proportion of people that were poorly informed regarding some questions, especially that of social contact with people living with HIV/AIDS. Among other factors, this could be associated with the change in the question on the survey regarding this item.

Concluding, in the population studied, men increased their level of information in the period reaching the same level as women. However, among youngsters there was no significant increase in knowledge, and there was almost no difference in genders in this dimension.

Regarding risk perception, the proportion of those that declared they were not in risk of AIDS increased.

Despite the increase in the level of general knowledge, this scenario shows the need for new actions and programs of HIV/AIDS prevention that target youngsters in addition to the general population.

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