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## BEHAVIOR, KNOWLEDGE AND PERCEPTION OF RISKS ABOUT SEXUALLY TRANSMITTED DISEASES IN A GROUP OF PEOPLE OVER 50 YEARS OLD<sup>1</sup>

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*The goal was to analyze the behavior, knowledge and risk perception about sexually transmitted diseases / AIDS (STD/AIDS) in people over 50 years old. 165 public servants at a State Secretary in Mato Grosso, Brazil were interviewed. The chi-square test and logistic regression tests were used for the analysis of risk perception and the behavior and knowledge variables about STD/AIDS. Most of the respondents were female (60.6%), 63.2 had a fixed partner, 72.4% had sexual relations in the past six months, and only 13.3% always wore condoms, with 21.5% being male and 8% female. Perception of risk was associated with non-use of condoms in their last sexual relation ( $p < 0.001$ ) and answering that anyone may acquire a STD/AIDS ( $p = 0.039$ ). The challenge of public policies is to increase actions, directing them to promote the health of the adult and elderly populations, especially regarding sexuality and vulnerability to STD/AIDS.*

**DESCRIPTORS:** condoms; knowledge; sexual behavior; aging; sexuality; sexually transmitted diseases/prevention & control; nursing, team; population at risk

## COMPORTAMIENTO, CONOCIMIENTO Y PERCEPCIÓN DE RIESGO SOBRE ENFERMEDADES SEXUALMENTE TRANSMISIBLES EN UN GRUPO DE PERSONAS CON 50 O MÁS AÑOS DE EDAD

*El objetivo fue analizar aspectos de comportamiento, conocimiento y percepción de riesgo de las ETS/SIDA, en personas con 50 o más años de edad. Se entrevistaron 165 servidores de una Secretaría del estado de Mato Grosso, Brasil. Se utilizó una prueba de Chi cuadrado y de regresión logística para analizar la percepción de riesgo y las variables de comportamiento y conocimiento sobre las ETS/SIDA. La mayoría de los entrevistados era del sexo femenino (60,6%); para el comportamiento un 63,2 % tenía pareja fija y un 72,4 % tuvo relación sexual en los últimos 6 meses; apenas el 13,3 % utiliza siempre preservativo, el 21,5 % de los hombres y el 8 % de las mujeres. Se demostró que existe una asociación entre la percepción de riesgo y el uso de preservativo en la última relación sexual ( $p < 0,001$ ); y, que cualquier persona puede contraer una ETS/SIDA ( $p = 0,039$ ). El actual desafío de las políticas públicas es incrementar las acciones que tienen como objetivo la promoción de la salud de la población adulta y de los adultos mayores, principalmente en lo que se refiere a la sexualidad y a la vulnerabilidad delante de las ETS/SIDA.*

**DESCRIPTORES:** condones; conocimiento; conducta sexual; envejecimiento; sexualidad; enfermedades sexualmente transmisibles/prevenición & control; equipo de enfermería; población en riesgo

## COMPORTAMENTO, CONHECIMENTO E PERCEPÇÃO DE RISCO SOBRE DOENÇAS SEXUALMENTE TRANSMISSÍVEIS EM UM GRUPO DE PESSOAS COM 50 ANOS E MAIS DE IDADE

*Objetivou-se analisar o comportamento, conhecimento e percepção de risco às doenças sexualmente transmissíveis/AIDS (DST/AIDS) em pessoas com 50 anos e mais de idade. Foram entrevistados 165 servidores de uma secretaria estadual de Mato Grosso, Brasil. Utilizou-se o teste de qui-quadrado e regressão logística para análise da percepção do risco e variáveis do comportamento e conhecimento sobre DST/AIDS. A maioria dos entrevistados é do sexo feminino (60,6%), 63,2% tem parceiro fixo e 72,4% tiveram relação sexual nos últimos 6 meses e apenas 13,3% utilizam sempre o preservativo, dos quais 21,5% homens e 8% mulheres. Houve associação entre percepção de risco e não uso de preservativo na última relação sexual ( $p < 0,001$ ) e responder que qualquer pessoa pode contrair uma DST/AIDS ( $p = 0,039$ ). O desafio das políticas públicas hoje é incrementar ações direcionando-as à promoção à saúde da população adulta e idosa, principalmente quanto à sexualidade e vulnerabilidade às DSTs/AIDS.*

**DESCRIPTORES:** preservativos; conhecimento; comportamento sexual; envelhecimento; sexualidade; doenças sexualmente transmissíveis/prevenção & controle; equipe de enfermagem; população em risco

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## INTRODUCTION

**S**exually transmitted diseases (STD) are considered one of the most common healthcare problems in the world and one of the five main factors that make people look for healthcare services<sup>(1)</sup>. In Brazil, there are 12 million cases of STD every year and, since notification is not compulsory and about 70% of people with some STD seek treatment in drugstores, the real number of cases is well below the estimates, nearly 200 thousand cases a year<sup>(2)</sup>. Contrary to common belief, STDs may have serious consequences. A person with a STD has a higher chance of being contaminated by the human immunodeficiency virus (HIV) and the consequent development of Acquired Immunodeficiency Syndrome (AIDS)<sup>(2)</sup>.

In Brazil, the behavior of the AIDS epidemic, since its onset in the 1980s, has presented important changes, allowing for the identification of distinct movements. The first, characterized by the predominant infection of male homosexuals and bisexuals; the second, by a significant increase of drug addicts in the young heterosexual population; and finally, the marked advance in the transmission among low-income groups and women, and also the current moment of the epidemic, which consists in increasing cases of the disease in people over 50 years old<sup>(3)</sup>.

The ageism of the population and the increasing number of elderly people, along with improvements in quality of life, has encouraged behavioral changes related to sexuality, providing more active affective relationships to people. A study about the behavior of the sexually active Brazilian population performed by the National DST/AIDS Program in 2003 showed that 67.1% of the people between 50 and 59 years old and 39.2% of those over 60 are more sexually active, and the proportion of sexually active men over 50 years old is twice as high as the amount of women of the same age<sup>(4)</sup>.

The Ministry of Health has notified increasing numbers of AIDS cases in the population over 40 years old. Of the total cases notified in 1992, 15.6% were for men between 40 and 49 years old, increasing to 24.4% in 2003. For the 50-59 age group, it increased from 4.5% to 8.7%, and for 60 years old and over, it increased from 1.8% to 2.7% in the same period<sup>(5)</sup>. In the United States, 10% of the AIDS cases in women occurred in the 50 and older age range, and 32% of these women were older than 60 years

old when diagnosed, suggesting that the infections occurred after their menopause<sup>(6)</sup>.

Despite an increasing amount of HIV-infection and AIDS cases in people over 50, it is not common for this population to consider itself at risk of contracting STD/AIDS. Even though they may become involved in risky behaviors, such as unprotected sex, they still do not see themselves as vulnerable to STDs<sup>(7)</sup>. Themes about sexuality, knowledge and behavior regarding STD/AIDS and the perception of risk are usually treated with a few selected groups of the population, such as adolescents and adults of reproductive age. Topics about sexuality for the elderly population, which is not concerned with contraception anymore, are treated by literature with emphasis on aspects like sexual performance or dysfunctions and their relations with quality of life, putting less emphasis on sexual health promotion and STD/AIDS prevention.

Actions for health promotion related to STD should take into account individuals' sexual behavior and information about their sexual practices, and also consider which information or what they know about STDs. The understanding about sexual practices and the knowledge people have about STDs may add evidence on risk factors and protection regarding the disease<sup>(8)</sup>. As such, considering the increased number of elderly people and cases of AIDS registered for this share of the population, the present study aimed to describe characteristics of sexual behavior, knowledge about STD/AIDS and risk perception in people over 50 years old, and verify an association between the perception of risk and aspects of knowledge and behavior.

## METHOD

The study population was composed of all public servants of a Secretary in the state of Mato Grosso, aged 50 or older, working in the city of Cuiabá, Brazil, in 2005. From a total of 425, 165 public servants were randomly selected, excluding those who were on any kind of leave, vacation or retirement. The instrument used for data collection was elaborated by the researchers from questionnaires used in national studies<sup>(9-10)</sup>, being previously submitted to nurses and psychologists and pre-tested. The questions were about sexual activity in the past six months, type of sexual partner, HIV testing, use of

condoms and drugs, knowledge about different types of STDs, vulnerability to disease, prevention of STDs by using condoms and the most common sources of this kind of information. None of the 165 public servants refused to participate. Univariate and multivariate descriptive analysis of the perception of risk were considered a dependent variable, and behavior and knowledge about STD/AIDS were considered independent variables. The frequency of the perception of STD/AIDS risk, trust intervals and levels of significance were calculated with the chi-square test. All variables shown to be associated with the perception of risk, with a  $p < 0.05$  level of significance, were included in the multiple logistic regression model, by using the software *Statística 6.0*<sup>(11)</sup>. The participants signed a term of consent, guaranteeing their anonymity according to ethical procedures. The research project was analyzed and approved by the Ethics Committee for Research Involving Human Beings of the State University of Maringá (protocol 230/2005).

## RESULTS

Age varied from 50 to 66 years old, with 87.4% in the 50-59 range and predominantly women (60.6%). Regarding education, 45% had a university degree, 35.7% had high-school education and 66.7% mentioned having private health insurance plans. Family income was six times or more the minimum wage for 55.5% of the respondents.

Regarding sexual behavior, 63.2% stated having a fixed partner and 72.4% had sexual relations in the past six months. Men have 1.7 times as many sexual relations as women (97% against 56.1%;  $p < 0.001$ ) (Table 1). Only 13.3% mentioned using condoms all the time (Table 1). As for using condoms in their last sexual relation, 83.1% answered negatively (Table 1), 60% of whom were women. Of the respondents who had a HIV test, 70.3% were women and 29.7% men.

The STDs most often cited were: AIDS, syphilis, gonorrhea, herpes, HPV and hepatitis, and 92% agreed that condoms prevent STD/AIDS. When asked about STD/AIDS infection, 83.6% said that anyone could be infected, and 16.4% mentioned that it could only happen to some specific groups ( $P < 0.001$ ), such as: man, woman, adolescent, drug user, prostitute and male/female homosexual.

Regarding risk perception, 53.1% considered the possibility of contracting an STD; 50.8% of the men and 54.6% of the women (Table 1).

Table 1 – Sexual behavior and knowledge about STD/AIDS in people over 50 years old, according to gender, Cuiabá, MT, 2005

Behavioral variables	Gender						p
	Male		Female		Total*		
	no.	%	no.	%	no.	%	
Type of sexual partner (n=163)							<0.001
Fixed	47	74.6	56	56.0	103	63.2	
Occasional	5	7.9	3	3.0	8	4.9	
Occasional and fixed	11	17.5	5	5.0	16	9.8	
No partner	-	-	36	36.0	36	22.1	
Sexual relation in the past six months (n=163)							<0.001
Yes	63	96.9	55	56.1	118	72.4	
No	2	3.1	43	43.9	45	27.6	
Do you use condoms? (n=165)							<0.001
Always uses	14	21.5	8	8.0	22	13.3	
Sometimes uses	10	15.4	6	6.0	16	9.7	
Does not use	41	63.1	50	50.0	91	55.1	
I do not have sexual relations	-	-	36	36.0	36	21.8	
Have you ever been tested for HIV? (n=165)							0.021
Yes	22	33.8	52	52.0	74	44.8	
No	43	66.2	48	48.0	91	55.2	
Used condoms in the last sexual relation? (n=154)							0.187
Yes	14	21.5	12	13.5	26	16.9	
No	51	78.5	77	86.5	128	83.1	
Knowledge variables							
Does a condom prevent STD? (n=162)							0.155
Yes	61	93.8	88	90.7	149	92.0	
No	-	-	5	5.2	5	3.1	
Does not know	4	6.2	4	4.1	8	4.9	
STDs that you know (n=165)							0.059
One or more than one	51	78.5	93	93.0	144	87.3	
None	14	21.5	7	7.0	21	12.7	
Access to means of communication (n=165)							0.012
One	28	43.1	32	32.0	60	36.4	
More than one	27	41.5	66	66.0	93	56.4	
None	10	15.4	2	2.0	12	7.2	
Who may catch an STD? (n=165)							<0.001
Anyone	44	67.7	94	94.0	138	83.6	
A few specific groups of people	21	32.3	6	6.0	27	16.4	
Do you think it is possible for you to get a STD? (n=162)							0.628
Yes	33	50.8	53	54.6	86	53.1	
No	32	49.2	44	45.4	76	46.9	

\* Ignored answers were excluded from the analysis.

In the univariate analysis, there was a statistically significant association between risk

perception and frequency of condom use ( $p=0.028$ ), condom use in the last sexual relation ( $p<0.001$ ) and access to communication means ( $p<0.002$ ) (Table 2).

Table 2 – Sexual behavior and knowledge about STD/AIDS in people over 50 years old, according to the perception of risk, Cuiabá, MT, 2005

Behavioral variables	No.	Risk perception	Prevalence ratio	TI 95%	p
Type of sexual partner (n=163)					0,248
Fixed	103	55(53.4)	1.0		
Occasional	8	2(25.0)	0.47	0.14-1.58	
Occasional and fixed	16	11(68.8)	1.29	0.88-1.88	
No partner	33	18(54.5)	1.02	0.71-1.46	
Sexual relation in the past six months (n=163)					0,201
Yes	42	18(42.9)	1.0		
No	118	66(55.9)	1.31	0.89-1.92	
Do you use condoms? (n=165)					0,028
Always uses	22	6(27.3)	1.0		
Sometimes uses	16	12(75.0)	2.75	1.31-5.76	
Does not use	91	50(54.9)	2.01	0.99-4.09	
I do not have sexual relations	33	18(54.5)	2.00	0.94-4.23	
Have you ever been tested for HIV? (n=165)					0.952
Yes	71	38(53.5)	1.0		
No	91	48(52.7)	0.99	0.74-1.32	
Used condoms in the last sexual relation? (n=154)					<0.001
Yes	26	4(15.4)	1.0		
No	128	76(59.4)	3.86	1.55-9.61	
<b>Knowledge variables</b>					
Does a condom prevent STD? (n=159)					0.111
Yes	146	73(50.0)	1.0		
No	5	3(60.0)	1.20	0.58-2.50	
Does not know	8	7(87.5)	1.75	1.29-2.38	
STDs that you know (n=162)					0.270
One or more than one	141	72(51.1)	1.0		
None	21	14(66.7)	1.31	0.93-1.84	
Access to means of communication (n=162)					<0.002
More than one	90	37(41.1)	1.0		
One	60	39(65.0)	1.58	1.16-2.15	
None	12	10(83.3)	2.03	1.42-2.89	
Who may catch an STD? (n=162)					0.105
Anyone	135	76(56.3)	1.0		
A few specific groups of people	27	10(37.0)	0.66	0.39-1.10	

\* The analysis was performed excluding the ignored answers

with a chance ratio of 23.43 times as high perception of risk for those who did not wear condoms (Table 3).

Table 3 – Logistic regression for the variables of sexual behavior and knowledge about STD/AIDS regarding the perception of risk, Cuiabá, MT, 2005

Behavioral variables	Risk perception		
	CR	SE	p
Fixed partner	2.52	2.79	0.366
Occasional partner	0.37	3.03	0.375
Does not wear condoms	0.36	2.72	0.192
HIV-Tested	0.60	1.52	0.268
Did not use a condom in the last sexual relation	24.43	2.67	0.001
Knowledge variables	CR	SE	p
Condoms for protection	2.75	3.12	0.374
Sources of information	1.23	1.12	0.054
Who may get a STD	2.58	1.58	0.039

CR= chance ratio

SE= standard error

## DISCUSSION

Important aspects of behavior and knowledge about STD/AIDS in the investigated population were made evident, and these results, added to information from other studies, lead to the conclusion of indicators that may contribute to the monitoring of measures and strategies to prevent sexually transmitted diseases.

The fact that 72.4% of the respondents had a sexual relation in the past six months, with higher frequencies for men, suggests similarity with studies by the Brazilian Institute of Geography and Statistics, that men can keep high nuptial rates throughout their lives, since those studies showed that 70.9% of men and 27.9% of women in the adult and mature population live with spouses<sup>(12)</sup>. On the other hand, the sexual activity of participants in this study was higher than in a research executed by the National DST/AIDS Program, which verified that 67.1% of people between 50 and 59 years old and 39.2% of people older than 60 were sexually active<sup>(4)</sup>.

Another important result from this study, related to behavior, was the practice of protected sex. The interviewees know the importance of using condoms to prevent STD/AIDS; however, it was observed that 78.5% of the men and 86.5% of the women did not use condoms in the last sexual relation. Studies reveal that, despite knowledge about the forms of STD/AIDS transmission, there are few elderly adults reporting condom use in all of their sexual relations<sup>(1,3,6,13)</sup>. Since AIDS is a recent disease,

In the logistic regression analysis, the association between the perception of risk and condom use in the last sexual relation ( $p<0.001$ ) remained,

discovered in the 1980s, older adults may face some difficulty to become aware of the use of condoms, because this practice is not part of their culture – hence, the importance of developing specific orientation for this part of the population.

The use of condoms by women as a method of prevention instead of contraception has not yet been internalized. Like younger women, the women over 50 years old in this study revealed a low perception of risk. Slightly over half the women (54.6%) considered the possibility of contracting STD/AIDS. It is interesting to notice that, even when a low percentage is considered, it was still higher than levels found in other studies for the same age range<sup>(6)</sup> and about the self-perception of STD in women<sup>(9)</sup>. The low risk perception seen for women may be related to the feeling of protection, especially when women have a fixed, stable partner and are not capable of becoming pregnant anymore, being in the climacterium or post-menopause age. This fact was signaled in phrases the respondents wrote in a space reserved for comments in the questionnaires. Several comments were read, justifying the non-usage of condoms because the respondents “had a fixed partner”, “trusted their partner”, and also out of “fear of hurting the partner’s feelings”.

The regression analysis showed a significant association between risk perception and non-usage of condoms in the last sexual relation. Interviewees who mentioned not having used condoms in the last sexual relation had a 24 times higher perception of the risk of acquiring a STD/AIDS. Of all the interviewees, 83.6% knew about it, answering that anyone is likely to be infected by a STD/AIDS. That is, they know what a STD/AIDS is, they know one or more STDs, they believe that condoms prevent people from acquiring a STD and that anyone can acquire a STD/AIDS. However, this knowledge seems to interfere only in part of the preventive behavior of the interviewed population, since 63.1% of the men and 50% of the women never wear condoms in their sexual relations. From the health perspective, vulnerability is a consequence of factors from the social group that negatively influence the individual’s capacity of controlling his/her own health, and is ruled by several personal factors related to quality and coverage of prevention, healthcare and social support programs<sup>(14)</sup>. Vulnerability still depends on a more active and autonomous attitude of the subjects, besides the role of public policies in contributing to the reduction of collective vulnerability<sup>(15)</sup>.

Women are known to use healthcare services more frequently. A higher percentage of women (62.3%) than men (46.7%) seeks healthcare services in Brazil<sup>(16)</sup>. Many times, this may be justified by the fact that women is responsible for the health of the family, and other times because they are the main caregivers of some dependent family member. Therefore, they demand a larger number of procedures, including laboratory exams. Aspects of women’s more frequent use of healthcare services can also be noticed in this research, since 52% of women and only 33.8% of men had been tested for HIV (Table 1).

Once more, the behavior-related results make it evident that the production of knowledge about STD/AIDS prevention practices should consider men and women singularly in the scope of relationships and their behavior. New studies, with designs elaborated with fundamentals from Psychology, Sociology and other areas, would be necessary to understand the relation between preventive behavior and knowledge about STD/AIDS. The assimilation of prevention measure practices for STD/AIDS is also part of the awareness of its importance by the healthcare teams themselves, working in Basic Healthcare units, Family Healthcare Teams and any other private health plans or insurance services. It is difficult for healthcare professionals to consider the sexual life of the elderly as a reality; they do not incorporate this reality in their work agenda and do not discuss STD/AIDS prevention measures for this share of the population. What can be observed is that healthcare for the population over 50 years old is often focused on free demand, with pre-established complaints. It is necessary for STD/AIDS prevention programs to produce audiovisual materials for the population over 50 years of age, reinforcing the urgency of health promotion and also focusing on their sexuality.

Verification of sexual behavior, knowledge about the importance of prevention methods and frequent usage of condoms are not routine procedures in healthcare services provided to the elderly. Healthcare teams may face difficulties or even resistance in dealing with the sexuality of the elderly. Somehow, there seems to be a consensus that the elderly person is an asexual being, which does not think about sex<sup>(17)</sup>, incapable of sexually arousing other people, which puts this population in a situation of higher vulnerability to STD/AIDS<sup>(18)</sup>. Updating these



professionals regarding changes in behavior, epidemiological profile and historical context of society is important to improve their potential of action to transform the conditions of life and healthcare of the population.

The prevention of STD/AIDS among people over 50 years old depends on their awareness about the existence of risk. Adequate awareness would contribute to the adoption of preventive measures. As for the concept of risk, particularly for AIDS, there have been changes during the history of the epidemic. The term "risk group" was gradually replaced by "risk behavior"<sup>(9)</sup>. However, the idea of "risk group" still persists in the comprehension and perception of people in relation to the transmission of and vulnerability to STD/AIDS. This perception was seen in this study when 32.3% of men answered that some specific groups of people would be more exposed to STD/AIDS. It is important to highlight that the interviewed population, in this study, is somehow differentiated, because it consists of people who, besides being active in the job market, hold a college degree or a high-school education in 80% of cases; 55.5% stated having a family income higher than six times the minimum wage, and 66.7% have private healthcare insurances. Another factor that should be observed is the variability of the magnitude of behavior, knowledge and perception of the risk of contracting a STD/AIDS among the results found in other studies<sup>(7)</sup>. The perception of risk differs significantly among the groups of people – young, young adults, young elderly and older elderly beyond their insertion in society, sociodemographic and cultural aspects.

Issues underlying the results of this study could be extracted, such as some behavioral characteristics of men, of finding it easier to have sexual partners and staying sexually active, besides a higher usage of condoms. In turn, women show greater knowledge about STDs, greater usage of communication means and healthcare services, which may have led them to answer that anyone might be infected by a STD more frequently than the men.

The advances and achievements in research and access to medication in the AIDS epidemic cannot be denied. However, regarding prevention, the programs must be improved, which is a challenge for the Single Health System to work effectively and efficiently, increasing actions to revert rising incidence levels of STD/AIDS in the population over 50 years old. Many more studies are necessary, not only to understand the phenomenon of ageism, but also to understand the sociocultural contextualization of this share of the population, so that it can be recognized within society as deserving effective resources to add quality to the later years of life. The elderly population is characteristically a great user of the healthcare services; they regularly seek medical offices, basic healthcare units and use a large share of hospital beds. Services and teams should take advantage of the presence of elderly people in basic health units and be prepared for an ever-increasing demand, adding to their integral healthcare agenda aspects related to sexuality, behaviors and knowledge of the elderly people about STD/AIDS.

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