

## HIV/AIDS knowledge evaluation and condom use in an elderly group in the City of São Paulo

### *Avaliação do conhecimento sobre HIV/AIDS e uso de preservativo em um grupo de idosos da Cidade de São Paulo*

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**ABSTRACT:** *Introduction:* The process of demographic transition in Brazil has been followed by an increase in the incidence of HIV in the elderly, which should be investigated in order to find out possible related conditions, allowing the creation of effective strategies to reduce such incidence. *Objectives:* This study has the objective of evaluating the knowledge about HIV/AIDS and condom use in a group of elderly people in the city of São Paulo, to verify if there is a relation between these factors and the increased incidence of HIV/AIDS in this age group. *Methods:* The analytical, cross-sectional and quantitative study was conducted by the application of the "Questionnaire about knowledge and personal prevention of HIV / AIDS" in 115 elderly men and women aged 60 years and over, oriented in time and space and who accepted the terms of WICF (Written Informed Consent Form). The data analysis was performed quantitatively, under the following aspects: knowledge about HIV / AIDS (concept, transmission and prevention) and personal prevention. The data were analyzed by descriptive and inferential statistics by the R 3.6.0 software. *Results:* There was a predominance of female respondents (68,7%). Most respondents do not use condoms (75%). Although 83% have sufficient knowledge of HIV/AIDS, 66% believe there is a cure for the disease and 54% said that the virus could be transmitted by mosquito bites. *Conclusions:* it was found that despite the good level of knowledge shown by participants about HIV/AIDS, questions still persist about the ways of transmission and the possibility of cure of the disease. It demonstrates the need of understanding about the spread process of HIV/AIDS by health professionals and that the population over 60, understands how the disease works, its mechanisms of transmission and prevention.

**Keywords:** HIV; Acquired immunodeficiency syndrome; Aged; Condoms; Knowledge; Brazil/ethnology.

**RESUMO:** *Introdução:* O processo de transição demográfica no Brasil vem sendo acompanhado de um aumento na incidência de HIV em idosos, fator esse que deve ser investigado a fim de encontrar possíveis condições relacionadas, permitindo a criação de estratégias eficazes para a redução de tal incidência. *Objetivos:* Avaliar o conhecimento sobre HIV/AIDS e o uso de preservativo em um grupo de idosos da cidade de São Paulo. *Métodos:* Estudo analítico, transversal e quantitativo realizado a partir da aplicação do "Questionário sobre conhecimento e prevenção pessoal de HIV/AIDS" em 115 idosos de ambos os sexos com idade igual ou superior a 60 anos, orientados em tempo e espaço e que aceitaram os termos do TCLE. A análise de dados foi feita de forma quantitativa, sob os aspectos: conhecimento sobre HIV/AIDS (conceito, transmissão e prevenção) e prevenção pessoal. Os dados foram analisados por estatística descritiva e inferencial pelo programa R 3.6.0. *Resultados:* Houve predominância de respondentes do sexo feminino (68,7%). A maioria dos entrevistados não faz o uso de preservativo (75%). Apesar de 83% apresentar conhecimento suficiente sobre HIV/AIDS, 66% acreditam que existe cura para a doença e 54% afirmaram que o vírus pode ser transmitido por picada de mosquito. *Conclusões:* constatou-se que, apesar do bom nível de conhecimento demonstrado pelos participantes sobre o HIV/AIDS, ainda persistem dúvidas quanto às formas de transmissão e a possibilidade de cura da doença. Demonstra-se a necessidade de compreensão do processo de expansão do HIV/AIDS pelos profissionais de saúde e que a população acima de 60 anos entenda como a doença funciona, seus mecanismos de transmissão e prevenção.

**Descritores:** HIV; AIDS, Síndrome de imunodeficiência adquirida; Idoso; Preservativos, Conhecimento; Brasil/etnologia.

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## INTRODUCTION

In Brazil, the sharp decline in fertility associated with reduced mortality has resulted in a significant population aging process. In 2010, the elderly represented 8.6% of the national population, and the projection for 2050 is that they will represent 20% of the population. The health care system faces important challenges resulting from this demographic transition, such as the increase of chronic diseases prevalence<sup>1</sup>.

One of the challenges arising from the demographic transition is the increase in the incidence of HIV (Human Immunodeficiency Virus) in the elderly over the years. There has been an increase in the number of infected in this age group, however, it is still the case that the majority of infection by HIV affects young people between 25 and 39 years<sup>2</sup>. By analysing the national epidemiological data, in Brazil, until 2007, Sinan reported 168 cases of HIV in individuals aged 60 years or older, while in 2018 there were 627 new cases reported, representing a total of 7,469 cases reported between 2007 and 2018<sup>3</sup>.

There are several factors that relate the vulnerability of the elderly to HIV, e.g. the lack of prepare of health professionals to deal with the sexuality of the elderly, social pragmatisms related to sexual activity in the elderly, the low adherence to the use of condoms, and the lack of adequate information about HIV / AIDS (Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome) and other STIs (Sexually Transmitted Infections).

The Ministry of Health<sup>4</sup>, through the National Policy for the Elderly, seeks to prevent the spread of HIV / AIDS with campaigns and distribution of condoms (with lectures on its correct use), in order to educate, clarify doubts of the elderly population and prevent them from contracting HIV. For Souza et al.<sup>5</sup>, despite the development of such campaigns, the message is not reaching the population and the campaigns are still unknown to many, a fact that contributes to the poor impact in the dissemination of STI knowledge.

The increase in the number of HIV/AIDS cases in the elderly may be associated with advances in the pharmaceutical and medical industry that is now aiding the prolongation of their active sexual life<sup>6</sup>. In addition, negligence regarding the use of condoms during sexual intercourse and the lack of knowledge about the disease, may also be related.

The present study aims to assess knowledge about HIV / AIDS and the use of condoms in a group of elderly people in the city of São Paulo, to verify whether there is a relationship between these factors and the increased incidence of HIV / AIDS in this age group. The purpose of the study is to recognize whether there is a correlation between condom use and the level of knowledge of the disease.

## METHODS

This is an analytical, cross-sectional and quantitative study carried out by applying the questionnaire “Questionnaire on personal knowledge and prevention of HIV / AIDS” in 115 elderly men and women, at the Integrated Health Center of *Universidade Anhembi Morumbi* in São Paulo, in May 2019. The study was approved by the Research Ethics Committee of *Universidade Anhembi Morumbi* (CAAE: 05032818.9.0000.5492).

The questionnaire “Questionnaire on personal knowledge and prevention of HIV/AIDS” was created by the authors of the study, being an adaptation of the “Questionnaire on HIV in the Third Age” (QHIV3I). Such adaptation was made because the QHIV3I evaluates, in addition to the knowledge of the elderly about HIV/AIDS, specific characteristics of the participants that were not taken into account in the present study (socioeconomic level, education, presence of a steady partner and religion). The adaptation consisted of selecting 9 of the 15 questions from QHIV3I, and introducing a question on sexual prevention.

The HIV / AIDS knowledge questionnaire covers questions about general knowledge of the disease (questions 1 to 5), transmission (questions 6 to 8) and HIV/AIDS prevention (question 9). The questions were answered in “yes”, “no”, or “I don’t know”. There is also a tenth question on personal prevention “do you use condoms during sexual intercourse?” with two answer options, “yes” or “no”. Inclusion criteria were: elderly aged 60 years or over, of both sexes, oriented in time and space and who gave written consent to participate. The exclusion criteria were: individuals who are not literate and / or unable to answer the questionnaire.

The questionnaire was applied through an active search for elderly people who met the inclusion criteria and who were at the Integrated Health Center of *Anhembi Morumbi* University during the research (May 2019). Before answering the questionnaire, the elderly were approached and informed of the nature of the study, and when they agreed to participate in the research, they signed an informed consent form (ICF).

The data analysis was done in a quantitative fashion, under the following aspects: knowledge about HIV/AIDS and personal prevention. The knowledge of the disease was examined from questions 1 to 9, about its concept, its transmission and its prevention. Six or more correct questions indicate that the participant had knowledge about the disease, and any result other than this indicated insufficient knowledge about HIV/AIDS. The answer “I don’t know” was considered incorrect, as it indicated a lack of knowledge on the subject. Finally, the question on personal prevention indicated whether the interviewees used condoms during sexual intercourse.

To analyse the data collected, descriptive statistics of frequency and percentage of occurrence of each class were used for categorical variables. To verify the association between categorical variables, Pearson's chi-square test with Yates continuity correction was used. For the variables "average of correct answers for the nine questions", the F test was used to verify the differences between individuals who use condoms or not. All statistical analyses were performed using the software R 3.6.0 (R Development Core Team, 2018).

## RESULTS

The study evaluated 79 women and 36 men, 68.7% female and 31.3% male. The mean age of the participants was  $68 \pm 6.3$ . There was no association between the participants' sex and knowledge about the disease ( $p = 0.999$ ), since 84.6% of women and 83.3% showed sufficient knowledge. In the topic regarding general knowledge of HIV, both sexes obtained the same rate of success (74%). Regarding transmission, women had

**Table 1.** Rate of hit per question in the questionnaire

Dimension assessed	Question	Correct answer
General knowledge	1. Is the HIV virus the cause of AIDS?	87%
	2. Does the person with AIDS virus always show symptoms of the disease?	44%
	3. Is AIDS a disease that occurs only in homosexuals, prostitutes and drug users?	78%
	4. Elderly people shouldn't worry about AIDS, because it affects only young people?	96%
	5. Is AIDS a curable disease?	66%
Transmission	6. Can AIDS virus be transmitted by hugging or kissing on the cheek?	92%
	7. Can AIDS virus be transmitted by mosquito bites?	54%
	8. Can AIDS virus be transmitted using shared syringes and needles?	99%
Prevention	9. Does the use of condoms during sexual relations prevent the transmission of the AIDS virus?	90%

**Table 2.** Percentage of correct answers about HIV related to the three dimensions of questions

General knowledge level	General knowledge	Transmission	Prevention
Insufficient	40%	67%	68%
Sufficient	81%	85%	94%

Regarding personal prevention, 29 participants answered that they use condoms during sexual intercourse (25%), and 86 participants answered that they do not use condoms (75%).

Although the average of correct answers for those

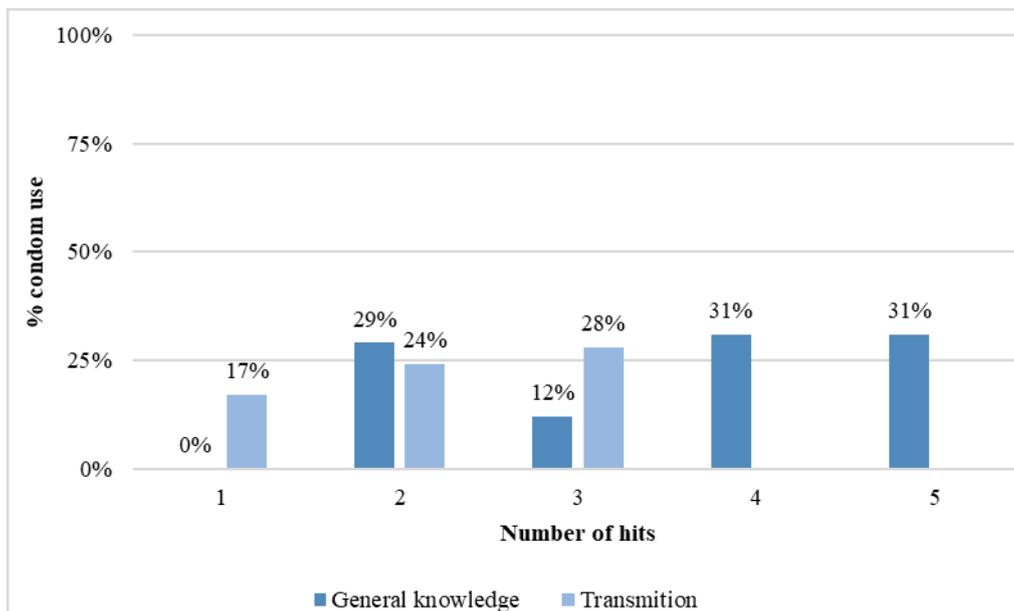
a higher rate of correct answers (86%) than men (80%), however no statistical significance was seen ( $p = 0.133$ ). As for prevention, the difference in the correct answers rate was only 1%, 89% for women and 90% for men. When doing an general analysis, the average of correct answers in the topic "general knowledge" was 74%, while the topics transmission and prevention were 82% and 90%, respectively.

The biggest knowledge deficit in terms of general knowledge of the disease was with regards to the presence of symptoms in individuals with HIV (44% correct rate), followed by the existence of a cure for AIDS (66% correct rate). Within the topic of transmission of the disease, the biggest knowledge deficit was with regards to the possibility of the HIV virus being transmitted by mosquito bites (54% correct rate) (Table 1).

It was found that 96 participants had sufficient knowledge about HIV / AIDS (83%), and 19 participants had insufficient knowledge (17%). The distribution of correct answers in the subcategories can be seen in Table 2.

who use condoms was greater than the participants who do not use them, there was no statistical differences by the F test between the mean of those who use them or not ( $p = 0.129$ ) (Graph 1).

**Graphic 1.** Number of correct answers in the categories “general knowledge” and “transmission” vs condom use



It was also noted that the higher the rate of correct answers in questions about transmission, the greater the use of condoms by the participants (Graph 1).

Finally, when we evaluated the use of condoms with the number of correct answers in the subcategories ‘general knowledge’ and ‘transmission’, we saw a trend in the increase the use of condoms in relation to a greater number of correct answers, however, this data was not statistically significant ( $p = 0.4553$ ).

## DISCUSSION

The survey participants were mostly women (68.7%), this reiterates the reality that the search for medical services is more prevalent in females. According to Lemos<sup>7</sup>, men still relate the disease to fragility and vulnerability, not as a biological condition, with an addition of cultural and social values, suggesting that misinformation makes the male population not seek preventive health care.

Among the three parts evaluated in this study (knowledge, transmission and prevention), knowledge about HIV was the most deficient. The greatest lack of knowledge shown by the participants was with regards to the presence of symptoms in individuals with HIV, with only 44% of correct answers. Our data follows the same thread shown in Melo<sup>8</sup>, where unsatisfactory responses about general knowledge of HIV/AIDS predominated among the elderly. Although knowledge about the disease was suboptimal when compared to other areas of the study, both sexes showed a success rate of 74% in questions about knowledge of the disease, a fact that is also discussed by Bastos et al.<sup>2</sup>, in which two thirds of interviewees had a minimal understanding of the disease. In a general aspect,

although both studies positively evaluate the knowledge of the elderly (over 60%), this factor seems not to be enough to decrease the incidence of the disease in this age group.

A high level of knowledge was presented in terms of transmission, however, the large percentage of error in the question about the transmission of HIV by mosquito bite demonstrates that there is still a lag in knowledge about transmission of the disease. Similarly, in Monteiro<sup>9</sup>, a considerable proportion responded that transmission by mosquito bite was possible (25%).

It is also important to note that regardless of the level of knowledge, individuals have an understanding of HIV prevention. This may be related to the ease of access to information currently available. In contrast, Brito et. al.<sup>10</sup> evaluated the knowledge about HIV/AIDS in prevention oriented elderly and a portion of the participants did not indicate the use of condoms as a means of prevention.

With regards to the personal prevention, 25% of the participants answered that they use condoms during sexual intercourse, while 75% do not use condoms. This fact can be justified by the majority of respondents being women without an active sex life or having a steady partner and believing that prevention is not necessary. Interestingly, a large part of the interviewees used this justification when answering that they did not use condoms during sexual intercourse, however, this data have not been quantified.

It was found with the present study, that although the “general knowledge” about HIV/AIDS had a significant percentage of correct answers, there is still misinformation regarding some aspects of the disease, such as: the belief that HIV is transmitted by mosquito bites (54%) and the existence of a cure for AIDS (66%).

In addition, a lower success rate was identified

regarding the general knowledge of HIV / AIDS when compared to the other areas analyzed. It is worth noting that information about this topic is transmitted mostly by social media such as television, radio and newspapers<sup>11</sup>, therefore it becomes apparent that knowledge about STIs is not disseminated mainly through these means. It is necessary, therefore, that public health and health professionals seek to broaden the understanding of the increase of AIDS in this age group in order to implement strategies for the education of the elderly, making the population over 60 understand how the disease works, its transmission and prevention mechanisms and in the same way, that the professional becomes aware of the current situation of STI increase in

the elderly.

It is suggested the need to expand the discussions on the theme, addressing the social, economic and cultural diversity of the respondents in future studies, with larger samples and equally represented by the female and male genders, simultaneously carrying out the education of the elderly about HIV / AIDS after collecting data from the interview.

It is important to note that the limitations of this research refer to the sample number, suggesting that the group is not representative of the city of São Paulo; predominantly female respondents.

**Author's contributions:** *Liberali BM*: planning the research project, applying the questionnaire, collecting and analyzing data, writing the study, references. *Neves SCM*: planning the research project, applying the questionnaire, collecting data and writing the study. *Oliveira LS*: planning the research project, applying the questionnaire and writing the study. *Batista BD*: planning the research project, applying the questionnaire, writing the study, title in English and abstract. *Nacaratto DCFF*: text review and general guidelines. *Cavazzana CL*: initial guidelines, planning and review of the research project.

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