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KNOWLEDGE ABOUT HIV/AIDS AMONG ELDERLY WOMEN IN AN INTERDISCIPLINARY HEALTH PROMOTION PROGRAM

O conhecimento sobre hiv/aids entre pessoas idosas de um programa interdisciplinar de promoção à saúde
Conocimiento sobre vih/sida entre personas mayores en un programa interdisciplinario de promoción de la salud

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RESUMO

Objetivo: avaliar o conhecimento sobre HIV/aids em mulheres idosas acompanhadas no programa interdisciplinar Renascer, no Hospital Universitário Gaffrée e Guinle (HUGG), no Rio de Janeiro. **Método:** o estudo caracterizou-se como observacional, descritivo, do tipo transversal, sendo a amostra coletada por conveniência e composta por integrantes do programa Renascer atendidas no ambulatório de geriatria, do Hospital Universitário Gaffrée e Guinle. Avaliou o conhecimento sobre HIV/aids em 51 mulheres idosas de um programa interdisciplinar, no Rio de Janeiro, aplicando questionário relativo ao conhecimento sobre HIV para Terceira Idade (QHIV3I) e o Miniexame do Estado Mental (MEEM). **Resultados:** apesar da maioria das participantes (88,2%) demonstra ter conhecimento ao acertar pelo menos 65% das questões, foram encontradas lacunas para os aspectos relacionados aos conceitos básicos do HIV, à transmissão e ao tratamento. **Conclusão:** entendemos que as estratégias e políticas de educação e informação em saúde, para este perfil da população, devem ser revistas.

DESCRITORES: HIV; Aids; Mulheres; Idosos; Conhecimento.

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ABSTRACT

Objective: to evaluate the knowledge about HIV/AIDS among elderly women followed in the Renascer interdisciplinary program at the Gaffrée e Guinle University Hospital (HUGG) in Rio de Janeiro. **Method:** the study was characterized as an observational, descriptive, cross-sectional study, with a convenience sample made up of members of the Renascer program attending the geriatric outpatient clinic at the Gaffrée and Guinle University Hospital. The study assessed the HIV/AIDS knowledge of 51 elderly women in an interdisciplinary program in Rio de Janeiro, using a questionnaire on HIV knowledge for the elderly (QHIV3I) and the Mini-Mental State Examination (MMSE). **Results:** although the majority of participants (88.2%) demonstrated knowledge by getting at least 65% of the questions right, gaps were found for aspects related to basic HIV concepts, transmission and treatment. **Conclusion:** we believe that health education and information strategies and policies for this population profile should be reviewed.

DESCRIPTORS: HIV; AIDS; Women; Elderly; Knowledge.

RESUMEN

Objetivo: evaluar el conocimiento sobre VIH/Sida de las ancianas que frecuentan el programa interdisciplinario Renascer del Hospital Universitario Gaffrée e Guinle (HUGG), en Rio de Janeiro. **Método:** el estudio fue observacional, descriptivo, transversal, con una muestra de conveniencia constituida por integrantes del programa Renascer que asisten al ambulatorio geriátrico del Hospital Universitario Gaffrée y Guinle. Se evaluaron los conocimientos sobre el VIH/SIDA de 51 ancianas de un programa interdisciplinario de Río de Janeiro, utilizando un cuestionario sobre conocimientos sobre el VIH para ancianos (QHIV3I) y el Mini Mental State Examination (MMSE). **Resultados:** aunque la mayoría de las participantes (88,2%) demostró tener conocimientos al acertar al menos el 65% de las preguntas, se encontraron lagunas en aspectos relacionados con los conceptos básicos del VIH, la transmisión y el tratamiento. **Conclusión:** consideramos que deben revisarse las estrategias y políticas de educación e información sanitaria para este perfil de población.

DESCRIPTORES: VIH; SIDA; Mujer; Anciano; Conocimiento.

INTRODUCTION

The world's population continues to age and the number of elderly people is expected to double between 2020 and 2050, reaching 2.1 billion.¹ In Brazil, the elderly population is growing rapidly and between 2012 and 2021, the number of people aged 60 or over jumped from 22.3 million to 31.2 million, an increase of 39.8% over the period. In 2021, elderly women were in the majority, with 78.8 men for every 100 women.²

Alongside population ageing, the number of older people living with the human immunodeficiency virus (HIV) has increased significantly worldwide in the last ten years.³ In Brazil, this increase has occurred mainly among women.⁴ Some of these older people were infected at a young age and grew old with the virus due to treatment, while others acquired it in their 60s or older.⁵

Many of the risk behaviors exhibited by younger people are found among the elderly population,⁶ but the latter age group seems to have less knowledge about HIV/AIDS and less adherence to condoms.⁷⁻⁸ In addition, elderly women have particular issues that increase the risk of HIV infection. They are at high risk of contracting the virus due to the biological changes (such as immunosenescence) caused by ageing,⁶ a lack of awareness of their own vulnerability and often difficulties in talking to their partner⁹ and health professionals about prevention.¹⁰

In addition, older women with HIV are significantly affected by the stigma related to the disease.¹¹ Stigma is associated with a negative and derogatory connotation, is a socially constructed phenomenon and can lead to discrimination, exclusion and labeling.¹² In Brazil, the majority of people living with HIV (PLHIV) have experienced some form of discrimination throughout their lives, a phenomenon considered to be one of the main barriers to accessing HIV prevention and testing services.¹³ Among the various factors associated with HIV and AIDS-related stigma are lack of knowledge about the disease and lack of contact with people living with HIV (PLHIV).¹²

Therefore, lack of knowledge about HIV/AIDS, as well as leading to stigma, is a risk factor for acquiring the infection, especially among the elderly. Studies with elderly Brazilians have shown that, in general, they have doubts about the subject, which can make them more vulnerable to infection.¹⁴⁻¹⁶ Biological and social issues make elderly women even more susceptible to becoming infected with HIV, so it is necessary to investigate the knowledge of this population in order to propose targeted interventions, reduce prejudice against HIV carriers, enable early diagnosis and increase adherence to prevention measures.

The aim of this study is to assess knowledge about HIV/AIDS among elderly women followed up in the Renascer

interdisciplinary program at the Gaffrée e Guinle University Hospital (HUGG) in Rio de Janeiro.

METHODS

The study was characterized as an observational, descriptive, cross-sectional study, with the sample collected by convenience and composed of members of the Renascer program seen at the geriatrics outpatient clinic of the Gaffrée e Guinle University Hospital (HUGG), from September 2021 to July 2022. Renascer is an interdisciplinary program to promote the health and quality of life of the elderly, created in 1995, which currently has around 200 elderly people registered, 123 of whom are women.

Before answering the questionnaire, the participants were approached and informed of the nature of the study, and when they agreed to take part in the research, they signed an informed consent form (ICF). Of all the elderly people who agreed to take part in the study and answer the questionnaire, women aged 60 or over (elderly) registered with the Renascer program were included in the study. Five women with a previous diagnosis of a major neurocognitive disorder were excluded from the study.

The sample size was calculated using the Raosoft statistical calculator [<http://www.raosoft.com/samplesize.html>] using a 95% confidence level as a parameter, a sampling error of a maximum of 9% and considering the population of 200 elderly women in the Renascer program, it is recommended to collect data from at least 49 elderly people. The prevalence of elderly people with a good level of knowledge used was 83%, based on a study that used the same questionnaire (QHIV3I) in 115 elderly people of both sexes (68.7% female) in 2019, at the Integrated Health Center of the Anhembi Morumbi University in São Paulo.¹⁵

The data was collected in the outpatient clinic of the Renascer program at UNIRIO, using the questionnaire on HIV for the elderly (QHIV3I) developed by Lazzarotto et al,¹⁴ with an approximate time of 15 minutes to complete all the answers, which includes sociodemographic questions and 13 questions on AIDS organized into the following domains: concept, transmission, prevention, vulnerability and treatment. Each question relating to AIDS has the alternatives “true”, “false” or “don’t know” as possible answers. The numbers zero and one were assigned to the answers so that a correct answer was worth one point and an incorrect answer was worth zero points. The questions that were answered with “I don’t know” were considered incorrect, as they reflect a lack of knowledge about the subject, similar to what was done in the study by Liberali et al.¹⁵ Therefore, higher scores indicate more knowledge.

After adding up the scores obtained in the QHIV3I, the patients were classified into two groups, “Has knowledge” and “Does not have knowledge” about HIV. In the concept,

transmission and prevention domains, which had three questions each, scores greater than or equal to two in each question were considered knowledgeable. In the vulnerability and treatment domains, which only had two questions, getting one or more right in each was considered knowledge. The general knowledge of the participants was obtained by adding up the 13 items, which can produce a minimum score of zero and a maximum score of 13, with those who obtained scores greater than or equal to eight being classified in the “Has knowledge” group.

In the final section of the instrument, there are questions about religiosity and lifestyle habits, which include AIDS as a divine punishment, knowledge of someone infected with HIV, condom use and HIV testing. Two questions on sexuality were added to the questionnaire, one on interest in the subject, with the alternatives being “yes” and “no”, and the other on frequency of sexual activity using a six-item scale (zero, once a week, two to three times a week, four to seven times a week, fortnightly or monthly).

Finally, the Mini-Mental State Examination was carried out on the participants and the cut-off points for screening cognitive deficits established by Bertolucci et al.¹⁷ were used to classify them as altered or not. The cut-off points considered altered were: 13 or less for illiterate, 18 or less for low/medium (less than eight years) and 26 or less for high education (greater than or equal to eight years).

The data collected was included in a database in Microsoft Office Excel® 2007. Numerical variables were described using the mean and standard deviation and categorical variables using absolute and relative frequency. A normality test was carried out using the Kolmogorov-Smirnov test to assess whether the numerical variables followed a normal distribution. As the variables did not follow a normal distribution, the Mann-Whitney U-test was used to compare the distribution of both the numerical and ordinal variables between the two groups. Age followed a normal distribution, but as it was the only one, we preferred to unify the analysis. Spearman’s correlation test was used for the correlation analysis, since the data was non-parametric and ordinal. The association between categorical variables was made using Fisher’s exact test or the likelihood ratio when the tables were not 2x2. In all analyses, $p < 0.05$ was considered statistically significant.

The study followed the guidelines of the Declaration of Helsinki, was approved by the Ethics Committee of the Hospital Universitário Gaffrée e Guinle under CAAE code: 50633821.2.0000.5258, and was evaluated and approved under opinion number 4.945.215, on August 31, 2021. All participants were instructed and informed about the purposes of using their clinical data for research by means of the Free and Informed Consent Form. As data collection took place during the

pandemic period, all hygienic and sanitary measures were taken to minimize the likelihood of contamination.

RESULTS

Characterization of the population

The characteristics of the population are shown in Table 1. A total of 51 participants were included in the study. Age ranged from 60 to 96 years and averaged 77.5 ± 8.3 years. More than half had studied for eight years or more (58.8%) and most of them declared themselves Catholic (70.6%). Less than a sixth earned more than three times the minimum wage (13.7%) and the majority were women without a partner (74.5%). With regard to sexual practice, the majority (76.5%) had never used a condom; only a minority (15.7%) of the participants said they had an active sex life, but almost half

(45.1%) said they sought information about sex/sexuality. Most of them (54.9%) don't know anyone who has the AIDS virus and only around a third (39.2%) have ever been tested for HIV (Table 1).

Knowledge of HIV/AIDS

In a general analysis of knowledge, using the QHIV3I, none of the participants got all 13 questions right, with the highest and lowest scores being 12 and four, respectively. There was an average of $9.7 (\pm 2.1)$ correct answers and the majority of participants (88.2%) demonstrated knowledge of HIV/AIDS by getting at least eight or more questions right. The question with the highest percentage of errors was about whether a person with the AIDS virus always shows symptoms of the disease (error rate 82.4%), followed by the question about whether there is a cure for AIDS (error rate 52.9%). The distribution of hits and misses per question can be seen in Table 2.

Table 1 - Sociodemographic characteristics of the elderly women. Rio de Janeiro, RJ, 2022

Characteristics	Participants (n=51)
Average age (SD)	77,5 ($\pm 8,3$)
Schooling (%)	
< 8 years	21 (41,2)
≥ 8 years	30 (58,8)
Monthly income (%)	
Up to 3 minimum wages	44 (86,3)
> 3 minimum wages	7 (13,7)
Religion (%)	
Catholic	36 (70,6)
Evangelical	6 (11,8)
Spiritist	5 (9,8)
Other	4 (7,8)
Partner (%)	
Yes	13 (25,5)
No	38 (74,5)
Sexual activity (%)	
does not	43 (84,3)
monthly	3 (5,9)
Weekly	2 (3,9)
2 to 3 times a week	1 (2)
4 to 7 times a week	2 (3,9)
Condom use (%)	
never	39 (76,5)
sometimes	5 (9,8)
rarely	2 (3,9)
always	5 (9,8)

Characteristics	Participants (n=51)
Average age (SD)	77,5 (±8,3)
Seeking information about sex/sexuality (%)	
yes	23 (45,1)
no	28 (54,9)
Have you ever been tested for HIV (%)	
yes	20 (39,2)
no	31 (60,8)
Know someone with HIV (%)	
yes	23 (45,1)
no	28 (54,9)

n - sample size; SD - standard deviation; HIV - human immunodeficiency virus.

The analysis of the women's knowledge in each of the domains studied shows that most of them have knowledge of the various topics, with the transmission domain having the greatest gap and the treatment domain being the one they know the most about (Table 3).

Table 2- General knowledge of HIV/AIDS among study participants (n=51). Rio de Janeiro, RJ, 2022.

	Errors N (%)	Hits N (%)
"Concept" domain		
Does HIV cause AIDS?	8 (15,7)	43 (84,3)
Do people with the AIDS virus always show symptoms of the disease?	42 (82,4)	9 (17,6)
Can the AIDS virus be identified through laboratory tests?	3 (5,9)	48 (94,1)
"Transmission" domain		
Can the AIDS virus be transmitted by soaps, towels and toilet seats?	16 (31,4)	35 (68,6)
Can the AIDS virus be transmitted by hugging, kissing on the cheek, drinking from the same glass?	16 (31,4)	35 (68,6)
Can the AIDS virus be transmitted by mosquito bites?	16 (31,4)	35 (68,6)
"Prevention" domain		
Does using a condom during sex prevent the transmission of the AIDS virus?	11 (21,6)	40 (78,4)
Is there a specific condom for women?	7 (13,7)	44 (86,3)
Does the use of the same syringe and needle by several people transmit AIDS?	0 (0)	51 (100)
Vulnerability" domain		
Is AIDS a disease that only occurs in male homosexuals, prostitutes and drug users?	6 (11,8)	45 (88,2)
Elderly people shouldn't worry about AIDS because it only affects young people?	7 (13,7)	44 (86,3)
Treatment" domain		
Is AIDS a treatable disease?	5 (9,8)	46 (90,2)
Is AIDS a curable disease?	27 (52,9)	24 (47,1)

n - sample size; HIV - human immunodeficiency virus.

Table 3- Assessment of the knowledge of study participants (n=51). Rio de Janeiro, RJ, 2022.

Domains	Has knowledge N (%)	Doesn't know N (%)
Concept	44 (86,3)	7 (13,7)
Transmission	39 (76,5)	12 (23,5)
Prevention	47 (92,2)	4 (7,8)
Vulnerability	47 (92,2)	4 (7,8)
Treatment	49 (96,1)	2 (3,9)
Total knowledge	45 (88,2)	6 (11,8)

n - sample size.

Sociodemographic factors and HIV knowledge

We decided to see if there was an association between sociodemographic variables (age, income, religion and schooling) and knowledge about HIV. The population was divided into two age groups, <75 years (n = 18; 35.3%) and ≥75 years (n = 33; 64.7%) and no association was observed between age and any other variable. The same was true for the income variable.

Regarding religion (Table 4), they were categorized as Catholic and non-Catholic and the results showed an association between being Catholic and getting the question “HIV causes AIDS” right (p = 0.039). On the other hand, more non-Catholic patients know someone with HIV (p = 0.002) and have been tested for HIV (p = 0.013) than Catholic patients.

The more years of schooling the higher the proportion of correct answers to the question “elderly people shouldn’t worry about AIDS, as it only affects young people”, in the vulnerability domain (p = 0.015), and none of them understood AIDS as a divine punishment (p = 0.024). Furthermore, only two of the

30 participants who had studied for more than eight years were still sexually active, and it was possible to observe an association between a high level of schooling and the absence of sexual activity (p = 0.046) (Table 4). Finally, the association between general knowledge about HIV and the sociodemographic variables studied was evaluated, but these did not seem to influence the latter.

Cognitive assessment and HIV knowledge

In relation to the cognitive assessment using the MMSE, the participants scored between 16 and 30 points and the median was 28 points on the instrument, totaling eight (15.7%) with an altered test and 43 with a normal test (84.3%). There was no association between the MMSE and age, religion or income, nor was there an association between knowledge of the five domains or general knowledge about HIV and the MMSE. However, contrary to expectations, longer schooling was associated with altered MMSE and shorter with normal MMSE (p = 0.015).

Table 4- Association between religion and schooling with sexual activity, knowing someone with HIV, previous testing and knowledge about HIV. Rio de Janeiro, RJ, 2022.

Variables	Religion		p-value	Schooling		p-value
	Catholic n=36 (%)	Non-Catholic n=15 (%)		≥ 8 years n=30 (%)	< 8 years n=21 (%)	
Frequency of sexual activity.						
None	30 (83,3)	13 (86,7)	0,645 ^a	28 (93,3)	15 (71,4)	0,046 ^a
Monthly	2 (5,6)	1 (6,7)		2 (6,7)	1 (4,8)	
Weekly	1 (2,8)	1 (6,7)		0 (0)	2 (9,5)	
2-3 times/week	1 (2,8)	0 (0)		0 (0)	1 (4,8)	
4-7 times/week	2 (5,6)	0 (0)		0 (0)	2 (9,5)	

Variables	Religion		p-value	Schooling		p-value
	Catholic n=36 (%)	Non-Catholic n=15 (%)		≥ 8 years n=30 (%)	< 8 years n=21 (%)	
Do you know anyone with HIV?						
yes	11 (30,6)	12 (80)	0,002*	15 (50)	8 (38,1)	0,568
no	25 (69,4)	3 (20)		15 (50)	13 (61,9)	
Have you ever been tested for HIV?						
yes	10 (27,8)	10 (66,7)	0,013*	11 (36,7)	9 (42,9)	0,773
no	26 (72,2)	5 (33,3)		19 (63,3)	12 (57,1)	
Is AIDS a divine punishment?						
errors	3 (8,3)	1 (6,7)	1	0 (0)	4 (19)	0,024*
hits	33 (91,7)	14 (93,3)		30 (100)	17 (81)	
Does HIV cause AIDS?						
errors	3 (8,3)	5 (33,3)	0,039*	5 (16,7)	3 (14,3)	1
hits	33 (91,7)	10 (66,7)		25 (83,3)	18 (85,7)	
Elderly people shouldn't worry about AIDS?						
Errors	5 (13,9)	2 (13,3)	1	1 (3,3)	6 (28,6)	0,015*
Hits	31 (86,1)	13 (86,7)		29 (96,7)	15 (71,4)	
MMSE results						
altered	6 (16,7)	2 (13,3)	1	8 (26,7)	0 (0)	0,015*
normal	30 (83,3)	13 (86,7)		22 (73,3)	21 (100)	

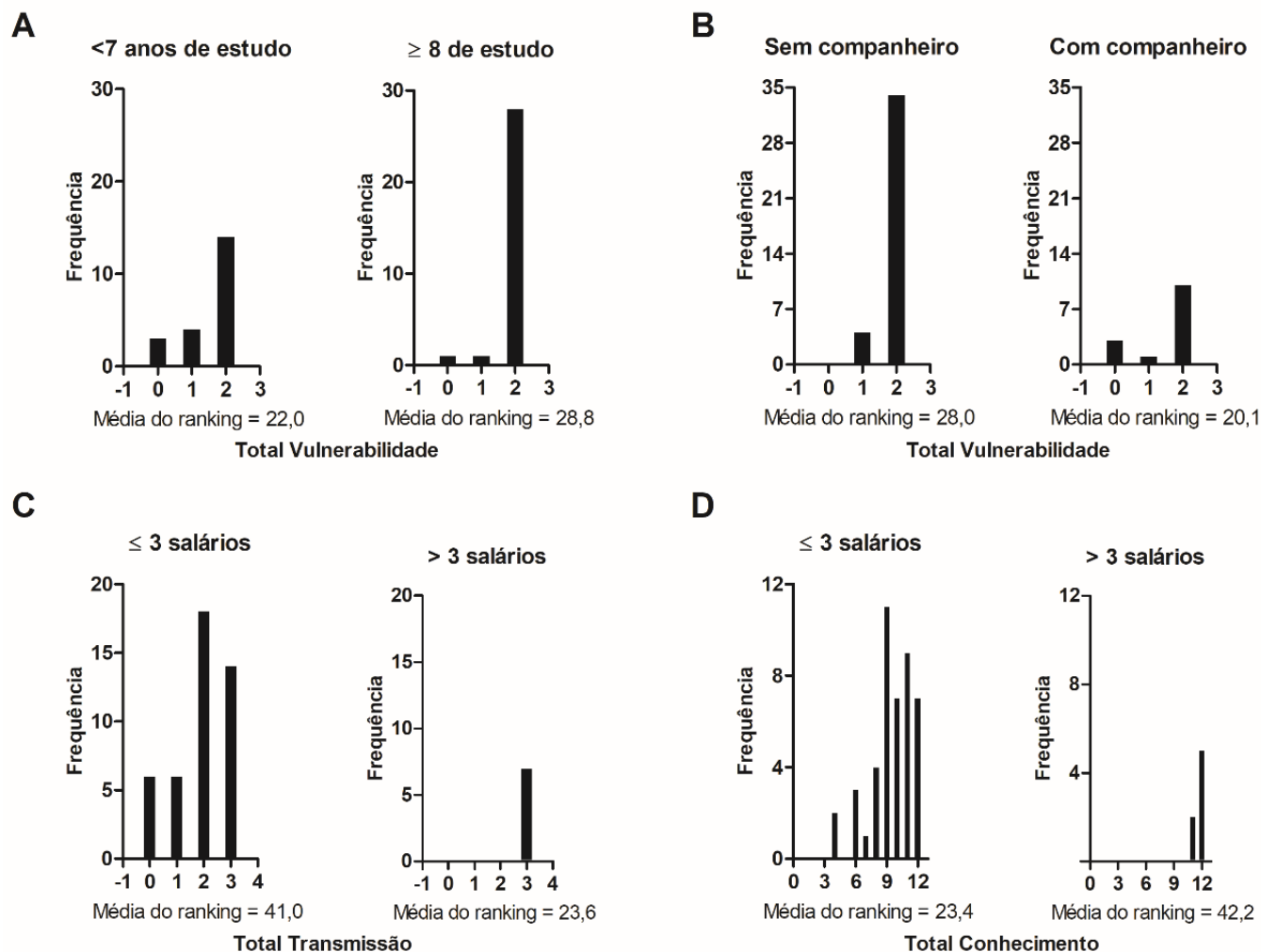
Statistical analysis: Fisher's test; a - The test used was the likelihood ratio, as it was not a 2x2 table; * - significant p-value <0.05; n - sample size.

Analysis of QHIV3I scores

It was decided to estimate whether sociodemographic variables had an impact on the total number of correct answers on the QHIV3I or on the number of correct answers in each of the domains. The analysis showed that older people with a higher level of schooling ($p = 0.016$) and without a partner ($p = 0.012$) obtained a higher number of correct answers to the questions

in the vulnerability domain (Figure 1.A and B). In addition, the group with an income of more than three times the minimum wage scored higher both in total knowledge about HIV ($p = 0.001$) and in the transmission domain ($p = 0.003$), suggesting that this variable may influence knowledge about HIV in the population studied (Figure 1.C and D).

Figure 1 - Histograms comparing the distribution of the number of correct answers to the QHIV3I among the social variables. Rio de Janeiro, RJ, Brazil, 2022.



A - Distribution of the total number of correct answers in the vulnerability domain according to schooling ('< 7 years of schooling', n = 21 and '≥ 8 years of schooling', n = 30); B - Distribution of the total number of correct answers in the vulnerability domain according to whether or not they had a partner ('Without a partner', n = 38 and 'With a partner', n = 13); C - Distribution of total correct answers in the transmission domain according to monthly income ('≤ 3 salaries', n = 44 and '> 3 salaries', n = 7); D - Distribution of total correct answers in the questionnaire according to monthly income ('≤ 3 salaries', n = 44 and '> 3 salaries', n = 7). Only statistically significant comparisons have been presented, where the average ranking is the value used to show the group with the highest or lowest score. Statistical analysis: Mann Whitney U-test; $p < 0.05$.

Correlation analysis

Finally, we looked for correlations between the numerical variables related to sociodemographic and clinical information (e.g. age and MMSE) and the QHIV3I score. A weak negative correlation ($r = -0.326$; $p = 0.020$) was found between age and the total number of correct answers in the transmission domain, i.e. the younger the participant, the higher their score in this domain. It was also observed that, as expected, the total number of correct answers correlated with the total number of correct

answers in each of the domains, but that the Mini-Mental State Examination did not correlate with any of the variables studied.

DISCUSSION

Population ageing comes hand in hand with advances in health and improvements in people's quality of life and brings with it changes in the population's disease profile. HIV infection is one of the increasingly common problems among

the elderly and the aim here was to examine the knowledge of elderly women about this virus and AIDS, since it is women who seek health services more frequently and who tend to have longer lives.¹⁸

The study population was predominantly made up of women aged 75 or over, who were Catholic, earned up to three salaries and had eight years or more of schooling. This profile differs from that of other studies which have assessed the knowledge of elderly people of both sexes, where the majority are younger and have a lower level of education.^{8,14-15,19} The findings of this study indicate that the elderly women taking part in the Renascer program are knowledgeable about HIV/AIDS, even though none of them answered all the questions correctly. As in other studies, a high frequency of errors was observed, mainly in questions relating to the concept of the disease, treatment and transmission.^{8,14-15}

When the participants were asked if they knew anyone with HIV and if they had ever been tested for HIV, it was observed that fewer Catholics knew or had ever been tested for the virus. In the study carried out by Corno and de Walque²⁰ in which socioeconomic determinants of stigma and HIV testing in adults in Africa were assessed, it was found that stigma was positively associated with the Catholic religion for women, and that both women and men with stigmatizing beliefs were less likely to have been tested for HIV.

A study carried out with residents of rural Rwanda assessed the association between knowledge about HIV transmission and the stigma of the disease and showed that knowing more about transmission reduces the desire for social distancing, in other words, it increases the willingness to engage and interact with PLHIV in the community.²¹ Knowledge about transmission was insufficient in almost a third of the elderly women studied, who believe that HIV can be transmitted by soaps, towels, toilet seats, kissing on the cheek, hugging, drinking from the same glass and by mosquito bites. This lack of knowledge about transmission can contribute to the stigma of the disease. The fact is that the majority of PLHIV in Brazil have experienced some form of discrimination²² and that stigma can reduce testing and the search for care.²³ Among the participants evaluated, only around a third had already been tested, which is worrying, but not surprising, given that current recommendations for screening, routine HIV testing and risk assessment among the elderly population are weak.⁸

The number of correct answers in the vulnerability domain revealed that women without a partner and with more schooling scored higher. It is expected that women without a partner have more knowledge about vulnerability. In addition, the literature reveals that elderly people with an illiterate/primary level of education were twice as likely to test positive for HIV/syphilis in the rapid test,²⁴ i.e. they are more vulnerable.

In the population studied, low schooling was also associated with normal MMSE, while higher schooling was associated with altered MMSE. This finding was not expected, since the best results are often found in the highly educated population, with a sensitivity of 80% and specificity of 95.6%.¹⁷ In Latin America, the existence of norms based on years of education should be considered with caution, because grouping patients based on their educational background is particularly difficult, due to the high regional discrepancies in the quality of education.²⁵ Here, by adopting only the years studied, no consideration is given to how schooling took place: in a public or private school; in which geographical region of the country it took place; the number of hours spent in school benches.²⁶

Another factor that proved to be relevant in relation to knowledge about HIV was income, where participants with lower incomes obtained lower results in both the transmission domain and general knowledge about HIV. A study that assessed HIV/AIDS knowledge and its associations with socioeconomic disparity among young women in low- and middle-income countries showed similar results, as well as reporting that there are inequalities regarding the transmission of health information to people with different socioeconomic levels, in which individuals with a higher socioeconomic level had better access to health information about HIV/AIDS.²⁷

In general, the participants claimed to seek information about sex/sexuality even without having a partner or having sexual intercourse, but they said they never used condoms, similar to what has been described in other studies carried out with elderly people.^{14-15,19} The low use of condoms seems to be influenced by the difficulty elderly women have in talking to their partners about using condoms, because they don't worry about contraception and because they don't perceive themselves to be susceptible to infection.²⁸ With regard to sexual activity, studies show that women's sexual activity decreases with age more as a result of problems associated with their partner than because of a lack of interest in sex, and that social norms seem to inhibit the sexual expression of older people.²⁹

Two questions with the highest error rate are noteworthy (1- "Does a person with the AIDS virus always show symptoms of the disease?" and 2 - "Is AIDS a curable disease?"). The scientific literature shows that until the T-CD4+ lymphocyte count drops below 200 cells/mm³, people with HIV can remain asymptomatic or have mild symptoms,³⁰ however, in addition to the population studied, other elderly people from different parts of Brazil seem to be unaware that HIV infection can be silent for a long time.^{14-15,19} Similarly, they are unaware that AIDS is treatable, but not curable,³⁰ because although it is effective when carried out properly, stopping antiretroviral therapy (ART) results in a recurrence of viremia over time.³¹ This data suggests that knowledge about the disease among the elderly

is still influenced by news reports from the beginning of the infection (1980s to 1990s) and that updates on the disease are being misunderstood by the population. This makes it necessary to question the effectiveness of HIV/AIDS campaigns, especially those aimed at the elderly, as well as the models used to work on health education with the population.

This study has limitations inherent to its cross-sectional design, which does not allow a cause and effect relationship to be established, but is limited to discussing the association between the variables studied. It also has a small number of participants, making it impossible to carry out regression analyses and extrapolate the data to the entire population. Despite this, the results appear to be robust, given that similar data has been observed in studies in other locations, as well as providing a better understanding of the perception of elderly women about HIV/AIDS and raising questions about the effectiveness of the policies used to educate the population about health, given the lack of knowledge about basic aspects of one of society's most popular diseases. Therefore, although the members of the Renascer group have a good general knowledge of HIV/AIDS, after four decades since the emergence of the disease there are still gaps in their knowledge, which have an impact on their lives and social interaction.

CONCLUSION

The participants in the Renascer group have a good level of knowledge about HIV/AIDS and the MMSE score did not affect their knowledge of the disease. However, they had gaps in their knowledge, especially in the area of transmission, reported low adherence to condom use and testing and seem not to have kept up to date on the subject. These data suggest that it is necessary to create HIV/AIDS public health programs aimed at both women and older people, as well as health professionals, in order to reduce stigma and update the population on new prevention strategies, forms of transmission and treatment. Finally, these data reveal the need to broaden debates on the subject, encouraging future research to find appropriate information and communication strategies to increase the reach of prevention and care.

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