Perception of health professionals from a city in the interior of Brazil on the vulnerability of older adults to HIV infection

Percepção de profissionais de saúde de um município no interior do Brasil sobre a vulnerabilidade de idosos a infecção por HIV

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ABSTRACT

Introduction: Discussing the AIDS/Older adult theme is a challenging task, as it contradicts the common association of old age with "asexuality", added to the difficulty in early diagnosis when considering other common comorbidities in this age group. **Objective:** To know the perception of health professionals regarding the possibility of HIV/AIDS infection in older patients. **Methods:** This cross-sectional observational study received a favorable opinion (19072313.9.0000.5152) from the Human Research Ethics Committee (Universidade Federal de Uberlândia – UFU). Dentists, nurses, and physicians from the Primary Care Network participated. We applied Questionnaire 1 to 15 professionals and analyzed the content to elaborate Questionnaire 2, applied to 220 professionals. **Results:** In the χ^2 test of independence, the professionals presented a response pattern similar to that expected for most items, indicating that the profession does not determine the Yes or No answer. The exploratory factor analysis identified dimensions and allowed us to eliminate items that did not contribute to the formation of these dimensions. After three attempts, we found five factors and kept only highly correlated items (r>0.5) in the anti-image matrix. Nine of the 25 items were excluded. We performed a multivariate mixed general linear model (professions x factors). An interaction effect between factors and profession was found for factors 2 (Lack of professional engagement), 3 (Lack of engagement of public management), and 5 (Stigma). **Discussion:** The results suggest similarities and differences in the responses given by health professionals, showing the influence of both common and specific training base of these professionals. **Conclusion:** Older adults are vulnerable due to the non-use of condoms, a practice known to most health professionals. AIDS in old age is not the focus of care in public health services, given the low participation of some professions in the public system and their lack of knowledge, considering the old curricula in educational institutions, which do not offer disciplines to expand the training of this professional.
Keywords: comprehensive health care; AIDS; aged; health personnel.

RESUMO

Introdução: A temática AIDS/Idosos é uma tarefa desafiadora, pois contraria a associação comum da velhice à "assexualidade", acrescentado da dificuldade no diagnóstico precoce com outras comorbidades comuns na velhice. **Objetivo:** Conhecer a visão de profissionais de saúde diante da possibilidade de infecção por HIV/AIDS no paciente idoso. **Métodos:** Este estudo é observacional transversal. Participaram dentistas, enfermeiros e médicos da Rede de Atenção Primária. Aplicou-se o Questionário 1 a 15 profissionais e realizou-se análise de conteúdo com o objetivo de elaboração do Questionário 2, aplicado a 220 profissionais. **Resultados:** No χ^2 de independência, os profissionais apresentaram padrão de resposta semelhante ao esperado para a maioria dos itens, indicando que não é a profissão que determina o Sim e o Não. A análise fatorial exploratória identificou dimensões e permitiu eliminar os itens que não contribuem para a formação dessas dimensões. Após três tentativas, foram encontrados cinco fatores, mantendo somente itens com correlação elevada (r>0,5) na matriz de anti-imagem. Entre esses itens, 9 dos 25 foram excluídos. Executamos o Modelo Linear Geral Multivariado Misto (profissões x fatores). Observou-se o efeito de interação entre fatores e profissão para os fatores 2 (Desconhecimento pelo profissional), 3 (Falta de engajamento da gestão pública) e 5 (Estigmas). **Discussão:** Os resultados sugerem que há semelhanças e diferenças nas respostas oferecidas pelos profissionais de saúde, mostrando tanto a influência da base comum da formação desses profissionais quanto da base específica da formação. **Conclusão:** Os idosos são vulneráveis em virtude do não uso do preservativo, sendo essa prática de conhecimento da maioria dos profissionais de saúde. A AIDS na Terceira Idade não é alvo de atenção pelos serviços públicos de saúde, resultado da pouca participação de algumas profissões no sistema público e falta de conhecimentos, considerando os currículos antigos nas instituições de ensino, que não oferecem disciplinas para a formação mais ampla desse profissional.
Palavras-chave: assistência integral à saúde; AIDS; idoso; pessoal de saúde.

INTRODUCTION

The growth of the older adult population in Brazil and the world is a reality observed in the demographic statistics. According to projections by the World Health Organization (WHO), until 2025, Brazil will be the sixth country in the world in number of older adults, reaching about 30 million, which corresponds to 15% of the Brazilian population[1]. The National Policy for Older Adults (*Política Nacional do Idoso* – Law 8,842 of January 4, 1994) and the Statute of Older Adults (*Estatuto do Idoso* – Law 10,741 of October 1, 2003) consider older adults people aged 60 years and over[2].

Valentini and Ribas (2003) report that the increase in the older population comes with scientific developments that, to some extent, ensure longevity and better conditions for a healthy old age. On the other hand, health professionals do not connect common diseases in old age – for example, coronary heart diseases, dementias such as Alzheimer, cancers, and lung diseases – with multiple comorbidities and differential diagnosis, dismissing the possibility of another underlying disease, such as acquired immunodeficiency syndrome (AIDS)[3].

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HIV/AIDS epidemic is currently a phenomenon of great magnitude in Brazil. The disease progresses to a part of the population physically fragile and with a more complex approach: older adults. The Department of Sexually Transmitted Diseases (STD), AIDS, and Viral Hepatitis of the Ministry of Health estimated approximately 734,000 people living with HIV/AIDS in Brazil in 2014, corresponding to a 0.4% prevalence. Men aged 60 years and older had a significant increase in detection rate in the last ten years. The detection rate among women according to age presents a significant increasing trend in those aged 60 years and older in the last ten years, raising 40.4% from 2004 to 2013[4].

AIDS is not just an organic disease, it is a psychosocial event, whose theme is usually linked to stigma, prejudice, and derogatory feelings. Old age also carries its own labels hiding prejudices and stereotypes as a phase of human development marked by aging events[5].

Connecting these two themes can be a challenging task, as they contradict the frequent association of old age with asexuality. The association of increased longevity, improved sexual quality of life due to scientific discoveries, and traditional resistance to condom use, makes this population susceptible to acquire HIV/AIDS[5].

Therefore, AIDS is a threat to public health, and the epidemiological trend suggests that, in a short time, the number of older adults infected with HIV will be significantly higher. This situation is mostly due to the physical and psychological vulnerability of specific key groups, the lack of access to health services, and the negligence to their risk exposure, either regarding their sexually or use of illicit drugs[6].

This increase in older adults infected represents a challenge for public health policies since the campaigns concentrate their attention mainly on the young population[6].

Knowledge only, however, is not enough to change behaviors so that the individual can adopt safe practices to avoid infection. It is necessary to focus on sociocultural aspects to reduce risks and vulnerabilities, as society's deep-rooted concept that sex is a prerogative of youth helps to keep this part of the population unassisted. Monitoring and follow-up of these events must be considered on primary health care since it is the main gateway for populations to the public health system (*Sistema Único de Saúde* – SUS), particularly older adults[6].

Most health professionals do not believe that STDs affect older adults, either by their own judgment or by misconceptions, according to beliefs about sexuality and vulnerability to HIV in this age group, delaying diagnosis and preventing immediate identification[7].

Early AIDS diagnosis in people aged 60 years or older is difficult, as this infection is not yet part of the list of differential diagnosis of common diseases in older adults. When it occurs, the specific treatment is delayed and with the lack of organic reserve, a characteristic of this population, the progress of AIDS is generally faster, severe, and fatal[8].

Considering the increasing older population in Brazil, the number of cases of AIDS at the age of 60 years or older, and the insufficient training of health care professionals in this issue, this work had as general objective to know the perception of health professionals facing the possibility of HIV/AIDS infection in older patients.

OBJECTIVE

To evaluate the knowledge of health professionals regarding the vulnerability of older patients to STDs.

METHODS

Ethical aspects

This research complied with the ethical aspects concerning the research involving human beings (Resolution 196/96, National Health Council, 1996), after a favorable opinion from the Human Research Ethics Committee (19072313.9.0000.5152) of Universidade Federal de Uberlândia (UFU), Minas Gerais.

Participants

The present work is a cross-sectional study, conducted in the city of Uberlândia, Minas Gerais, Brazil, from November 2013 to December 2015. Physicians, dental surgeons, and nurses from the Municipal Primary Health Care, including Basic Health Units (*Unidades Básicas de Saúde* – UBSs), Family Health Basic Units (*Unidades Básicas de Saúde da Família* – UBSFs), and Older Adult Care Units (*Unidades de Atenção ao Idoso* – UAIs) were invited to participate in the study.

We used the probabilistic method for sample composition. The estimated number of the population was 514 individuals, and the formula used to determine the sample size was the one by Fonseca and Martins[9], indicated for calculations involving a finite population, reaching a minimum sample of 220 participants.

Procedures

For data collection, we applied a self-administered questionnaire with 25 sentences, divided into five thematic areas related to the health of older adults and HIV/AIDS. First, the researcher asked the Municipal Secretariat of Health of Uberlândia (Personnel Management) to perform the survey in the Units aforementioned, in a meeting with the coordinators of the target Units (UBS, UBSF, and UAI), providing explanations about the research and on the approval or rejection of the invited health professionals. In this meeting, the coordinators received the self-administered questionnaires together with two copies of the Informed Consent Form (ICF), so they could invite the professionals under their supervision. The coordinators were informed that participants should sign the ICF and return it to them, and only after this process, they could deliver the questionnaires, thus protecting the total confidentiality of the information.

A total of 20% of the collection performed was repeated after the first two weeks to confirm the reliability of the procedure[10].

Statistical analysis

We used exploratory factor analysis with varimax rotation, considering all participants and each independent profession. A 0.5 correlation value was used as a cut-off point in the anti-image matrix to identify items that did not compose the generated model. We

adopted a self-value greater than 1 to determine the number of factors extracted in each model. To select the loads of each item in the extracted factors, we used only values higher than | 0.3 |. Finally, we used a multivariate general linear model (GLM) between professions and factors extracted from the exploratory factor analysis. All analyses adopted a 5% significance level.

RESULTS

The exploratory factor analysis aimed at identifying possible dimensions and eliminating items that did not fit into the model of factors generated. In the anti-image matrix, we assessed the value of each item to measure sample adequacy. By using the 25 items, we found that items 3A, 3D, 3E, 4A, 4B, 4E, and 5E presented values below the cut-off point and eliminated them from the analysis. In the remaining 18 items, 1E and 2A showed values below the cut-off point and were eliminated from the analysis.

While performing the factor analysis, we removed items 1E, 2A, 3A, 3D, 3E, 4A, 4B, 4E, and 5E after three analyses, using the criteria r<0.5. Item 1E was removed from the analysis, as it opposed studies[5] that demonstrate that AIDS in older adults is a public health issue as this population is susceptible and vulnerable with a high incidence of the disease. Items 2A and 3A were excluded by a confusing response pattern of 49.1 and 50%, respectively. Items 3D and 3E were eliminated for being obvious answers, declaring the test unnecessary and inappropriate, and contradicting the data from the Ministry of Health[11], which affirm that the incidence of the disease in older adults exceeds that of other age groups. Items 4A, 4B, and 4E were removed as they contradicted the confidentiality of patients. Item 5E was cut because people who marked this item claimed to have no care difficulties, but also marked other items claiming to have difficulties.

The third exploratory factor analysis was performed with the remaining 16 items, which all presented values above the cut-off point and were kept in the analysis, resulting in the factors described below, explaining 53.9% of variance **(Table 1)**.

Table 1 – Component matrix after varimax rotation with factor loadings of each item.

Items	Factors				
	1	2	3	4	5
Item 2B	0.776				
Item 1D	0.606				
Item 3B	0.591				
Item 4D	0.488				
Item 5D	0.462				
Item 2D		0.779			
Item 5B		0.744			
Item 1C		0.705			
Item 3C		0.417			
Item 5A			0.405		
Item 1B			0.747		
Item 2C			0.608		
Item 4C			0.333		
Item 2E				0.625	
Item 5C					0.754
Item 1A					0.613

Source: elaborated by the author.

Factor 1 presented an eigenvalue of 2.16, explaining 13.5% of variance. We named this factor *Older adult unawareness*. It comprised the items Resistance to condom use (2B), Older adults' perception of their own risk is little or almost none (1D), Request for examination must be preceded by an extensive clarification to the patient (3B), Communication must be made by the health team in charge (4D), and Difficulty with older adult adherence to treatment (5D).

Factor 2 showed an eigenvalue of 2.09, explaining 13.1% of variance. We called it *Professional unawareness*. It consisted of the items Comorbidities as important factors on disease progression (2D), Associated comorbidities hinder the service (5B), It is still little known by the subject population in general and professionals in the field (1C), and Important differential diagnosis factor for other morbidities (3C).

Factor 3 had an eigenvalue of 1.50, explaining 9.4% of variance. We named it *Lack of public administration engagement.* It was composed of the items Missing periodic training as well as further clarification on the appropriate use of PPE (5A), AIDS in old age is not the object of attention of public health services (1B), Difficulty in approaching the subject with society (2C), and In a clear way, as with any other illness (4C).

Factor 4 presented an eigenvalue of 1.46, explaining 9.1% of variance. We called it *Older adult's personal history.* It comprised the item Personal history of long marriage, in which the risk was unknown (2E).

Factor 5 showed an eigenvalue of 1.42, explaining 8.9% of variance. We denominated it *Stigmas*. It consisted of the items Social/psychological aspects can be a barrier to good care (5C) and Sexuality is a taboo in old age (1A).

GLM (**Figure 1**) shows an interaction effect between factors and profession (F=3.06; gl=8,852; p=0.002). The main effects of factors (F=0.67; gl=4,852; p=0.617) or professions (F=1.26; gl=2.21; p=0.285) were not observed.

Factors 1 and 4 did not show differences between professions (Factor 1: 95%CI [-0.19, 0.15]; Factor 4: 95%CI [-0.15, 0.08]). Regarding Factor 2, the average number of dentists (95%CI [0.14, 0.23]) was greater than the number of physicians (95%CI [-0.25, -0.12]) and nurses (95%CI [-0.54, -0.40]). In addition, the average

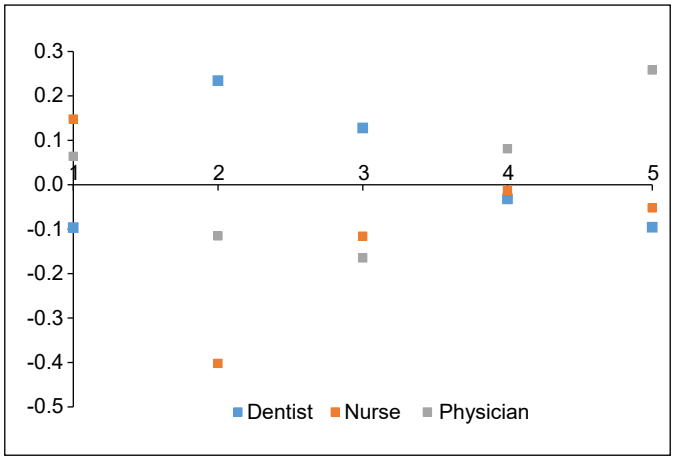

Figure 1 – Average and 95% confidence intervals for each factor and profession.

number of dentists and physicians was higher than that of nurses. Factor 3 presented a higher average number of dentists (95%CI [0.03, 0.13]) than that of nurses and physicians (95%CI [-0.30, -0.12]). Nurses and physicians did not differ. In Factor 5, the average number of physicians (95%CI [0.12, 0.26]) was greater than that of dentists and nurses (95%CI [-0.19, -0.05]). Nurses and dentists did not differ.

DISCUSSION

When analyzing the perception of health professionals regarding the possibility of HIV/AIDS infection in older adults, it is essential to consider the difficulties found by these professionals in the care of this population, such as stigmas, social/psychological aspects, and the knowledge arising from the training of each professional. According to Figueiredo[7], most health professionals rarely believe that STDs can affect older people.

The present study revealed similarities and differences in the answers of health professionals, showing the influence of the common and specific training base of these professionals.

The results obtained in the chi-square test of independence confirm this statement, as most professionals had a response pattern similar to the expected. However, items 1C, 2D, 4A, 4B, and 5C presented values different from the expected, showing that the profession – dentist, nurse, and physician – determines the Yes or No answer. The items mentioned are directly related to the specific knowledge of each professional. Other studies have also shown these differences.

Melo[8] found that health professionals have different responses regarding the use of marijuana. Lara[12] also noted that this difference existed in his study on the perception of family health professionals about the quality of life at work. This shows the present counterpoints between medical ethics and cultural factors. These facts explain the existing knowledge conflicts concerning care and address professional insecurity. Cutolo[13] reported on medical education and current medical practice, showing the need to transform the medical schools in the country, including all the curricular structure and the health-disease concept, providing training for physicians convinced of the importance of combining technical excellence with concepts closer to reality, and preparing them for the new labor market, which has been structured beyond the academic sphere.

Analyzing the GLM results between professions and factors, we verified that differences occurred only when there was interaction between factors and professions. Factors 1 (Older adult unawareness) and 4 (Older adult's personal history) showed no differences because these factors involve the knowledge of older adults, not professionals. These factors grouped items related to older adults' unawareness and personal history, which are not influenced by the training or experience of health professionals. The other factors differed due to their association with the experience of each professional, as well as their training. Future studies might be associated with the results of this investigation, adding the perception of older adults regarding the proposed theme.

In Factor 2 (Professional unawareness), the average number of dentists was higher than that of physicians and nurses, given that this profession traditionally brings the idea of high specialization, more focused on the oral cavity, which enabled great advances but fragmented scientific relationships between ideas and their contexts, away from the many subjects that should be added to their training. New curricula are being included so that dentistry can be more assertive in people care. An example is the School of Dentistry at Universidade Federal de Uberlândia, which did not include a specific discipline of Geriatrics in its old curriculum. The new curriculum, approved through the pedagogic project[14], has a theoretical discipline of Geriatrics.

Factor 3 (Lack of public administration engagement) had a higher average number of dentists, showing the low participation and knowledge of these professionals regarding the public system, unlike physicians and nurses, who have lived this reality for a longer period. The answers indicated an equal view of physicians and nurses. Again, as an example, the old curriculum of the School of Dentistry at Universidade Federal de Uberlândia did not include an internship in SUS, while the current one has a mandatory internship, in addition to the possibility of extension projects[14].

Factor 5 (Stigmas) presented an average number of physicians higher than that of dentists and nurses. This result may indicate a lower humanization of physicians due to a greater distance to their patients. Nurses and dentists had equal averages, demonstrating that they are closer to their patients, with more humanized care[15].

According to Siqueira[16], some results indicate the responsibility of the university in this serious distortion of professional training in a North American study conducted in the 1950s and which remains current. The research shows that upon entering college, most young people showed a special interest in exercising the profession guided by a spirit of altruism and desire to help others. At the end of the course, however, little remained of this ideal in the newly graduated. The data collected allowed the author to conclude that, paradoxically, during medical school, cynicism conceived as a professional rule grew significantly, while humanism diminished.

Based on the results obtained, we found a limitation in the study, as the year of graduation of each professional was not determined, which could also be related to the changes that have been taking place in the new curricula of each course. Recent curricular changes are already being made with this objective, as previously reported in the School of Dentistry and Medical School at Universidade Federal de Uberlândia. Afterward, it would be possible to verify whether this alteration in the training base would actually change the perception of these professionals.

According to a literature review, no studies related to these professionals regarding older patients and the possibility of HIV/AIDS infection were found. However, the results of this study reveal that this perception follows or diverges from the professionals' answers, which shows the influence of training on some factors. Promoting health actions becomes important, taking into consideration that many patients are unaware of their clinical condition or do not mind informing the health care provider who treats them.

CONCLUSION

AIDS in old age is not the object of attention of public health services due to the low participation and unawareness of some professions in the public system, given the old curricula in educational institutions, which do not offer disciplines to expand the education

of this professional. The study suggests through the items analyzed that dentists have a greater response pattern about unfamiliarity and engagement with the public administration, which results from a higher specialization and lack of these professionals in the public system. The study also shows the necessity of curricular changes so that professionals can be more assertive in people care. Regarding stigma, the greater response pattern of physicians indicates a lower humanization of these professionals as a result of their detachment from their patients.

Participation of each author

Each author has participated actively and sufficiently in this work, and all had final approval of the manuscript version being submitted.

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Conflict of interests

There is no conflict of interest to declare.

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