

THE CHALLENGE OF HIV IN ELDERLY: A QUALITATIVE ANALYSIS OF THE ACTION OF MEDICAL DOCTORS OF PRIMARY HEALTH CARE IN PORTO ALEGRE/RS

O desafio do HIV em idosos: uma análise qualitativa da atuação de médicos da atenção primária à saúde em Porto Alegre/RS

El desafío del HIV en ancianos: una analisis qualitativa de la actuación de los medicos de la atención primária de la salud en Porto Alegre/RS

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ABSTRACT

Introduction: The demographic transition that takes place in the Brazilian territory brings to the discussion the process of epidemiological transition that we live in, where infectious diseases add to non-communicable chronic diseases. **Objective:** To compare the performance of the doctors regarding primary and secondary prevention for HIV infection in the elderly population in Primary Care in the city of Porto Alegre/RS. **Methodology:** This is a cross-sectional, mixed study, applied to physicians working at Primary Care in Porto Alegre/RS. **Results:** It was evident that the theme of sexuality, sexually transmitted infections, situations and groups at risk and treatment for HIV are less well-known topics. **Conclusions:** Primary care physicians do not perform primary and secondary prevention for HIV infection in the elderly on a routine basis. **Descritores:** Health of the Elderly; HIV; Infectious Disease Medicine; Geriatrics; Public Health.

RESUMO

Introdução: A transição demográfica que ocorre no território brasileiro traz para discussão o processo de transição epidemiológica que vivemos, onde as doenças infectas parasitárias somam-se às doenças crônicas não transmissíveis. **Objetivo:** Descrever a atuação dos médicos da Atenção Básica na prevenção primária e secundária em relação à infecção pelo HIV na população idosa atendida pela Atenção Primária à Saúde (APS) do município de Porto Alegre/RS. **Metodologia:** Estudo transversal, misto, realizado com médicos que atuam na APS em Porto Alegre/RS. **Resultados:** Evidenciou-se que a temática da sexualidade, infecções sexualmente transmissíveis,

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situações e grupos de risco e tratamento para o HIV são temas de menos conhecimento. **Conclusões:** Os médicos da rede básica de saúde não realizam prevenção primária e secundária para a infecção pelo HIV em idosos de forma rotineira.

Descritores: Saúde do Idoso; HIV; Infectologia; Geriatria; Saúde Pública.

RESUMEN

Introducción: La transición demográfica que ocurre en el territorio brasileño trae para discusión el proceso de transición epidemiológica que vivimos, donde las enfermedades infectoparasitarias se suman a las enfermedades crónicas no transmisibles. **Objetivo:** Describir la actuación de los médicos en la prevención primaria y secundaria en relación a la infección por el VIH en la población anciana atendida por la Atención Primaria a la Salud (APS) del municipio de Porto Alegre / RS. Metodología: Es un estudio transversal, mixto, realizado con los médicos de la APS en Porto Alegre / RS. **Resultados:** Se evidenció que la temática de la sexualidad, infecciones sexualmente transmisibles, situaciones y grupos de riesgo y tratamiento para el VIH son temas de menos conocimiento. **Conclusiones:** Los médicos de la red básica de salud no practican la prevención primaria y secundaria para la infección por el VIH en ancianos de manera rutinera.

Descritores: Salud del Anciano; VIH; Infectología; Geriatria; Salud Pública.

INTRODUCTION

Population aging is one of the great challenges to be faced in Brazil. By interpreting the aging process as a social and cultural construction associated with universal biological processes, it is understood that the imbalance of any of them can result in physical and mental illness. Demographic data have shown that there was an increase in the elderly Brazilian population, reaching almost 20 million Brazilians aged over 60 years old. This demonstrates that the idea of Brazil being a country of young people need to be changed.¹

In Brazil, *Rio Grande do Sul* State had the highest proportion of elderly people. Considering the total number of people living in this State, 13.6% aged 60 years old or more. Its capital, *Porto Alegre* city, had the highest percentage of elderly people (15.04%).¹

Furthermore, there is a direct correlation between the demographic and epidemiological processes. The drop in mortality rates is concentrated among infectious and parasitic diseases (IPDs)—transmissible diseases caused by pathogenic agents such as viruses, bacteria, fungi, and parasites, which are more likely to benefit the young population. Thus, this population ages in greater proportion and are more likely to live with chronic-degenerative diseases.^{2,3}

In 1930, infectious diseases accounted for 46% of total deaths. Currently, they account for less than 5%.⁴ Consequently, deaths from cardiovascular diseases and external causes have increased significantly. The transition according to the model proposed by Abdel Omran⁴ has been happening in most industrialized countries and some Latin American “neighbors” such as Chile, Cuba and Costa Rica, but not exactly in Brazil.⁵

Some aspects that characterize the epidemiological transition model for Brazil:

- 1) *There is no substitution, but superposition between the stages in which communicable and chronic degenerative diseases now associated with accidents and violent deaths predominate;*
- 2) *There has been a drastic reduction in immune-preventable diseases. The incidence of measles, polio, tetanus, pertussis, and diphtheria, for example, declined from 153,000 cases in 1980 to less than 1,000 cases today in 2002. But this trend has not been accompanied by the suppression of other communicable diseases. Some were reintroduced, such as dengue fever and cholera; other diseases, such as malaria, leprosy, and leishmaniasis, became stronger; schistosomiasis and hepatitis B and C persisted, and other diseases, such as AIDS, emerged. This indicates a two-way nature as if it were a “counter epidemiological transition”;*
- 3) *The process is not resolved clearly, in a ‘prolonged transition’.*⁶

This overlapping of steps promotes complex discussions on future projections of this new model. The “emergency” of acquired immune deficiency syndrome (AIDS) demonstrated in the 1990s that this movement would not be linear and rapid, with the spread of new and old infectious diseases, configuring a complex epidemiological profile. From this moment on, the concept of emerging and re-emerging diseases has been used. The incidence of these diseases in humans has been increasing over the last two decades or threatens to increase shortly. This profile of infectious and parasitic diseases is evident in Mexico and Brazil, which are currently the two countries considered to have a “complex model of epidemiological transition”.⁵

Recently, by making projections of IPDs among the elderly population in 2020, studies estimate that the incidence of some infectious diseases, such as malaria and typhoid fever, will decline, while the incidence of other diseases, such as tuberculosis, leprosy, leptospirosis, meningitis, tetanus, and schistosomiasis, will tend to remain constant. However, there is a tendency for the incidence rates of AIDS, visceral and tegumentary leishmaniasis, dengue fever, hepatitis, and Chagas disease to increase by 2020.^{7,8}

The lack of specific studies focusing on the distribution of infectious diseases among the elderly population is worrying since projections show that the incidence of some diseases will increase. Considering the aforesaid, this study aims at characterizing the performance of primary care physicians in the *Porto Alegre* city, *Rio Grande do Sul* State, Brazil.

METHODS

This cross-sectional, exploratory-descriptive, survey-type study was conducted using an online questionnaire. The participants were physicians working in primary care units in *Porto Alegre* city. Inclusion criteria were family and community physicians (FCPs) and general practitioners (GPs) working either in Primary Health Care or *Estratégia Saúde da Família* [Family Health Strategy] units and providing outpatient care for elderly patients. Exclusion criteria were

physicians having other specialties and other health care workers (non-physicians).

The participants signed the informed consent form (ICF). Data collection took place through an online questionnaire distributed through Google Docs application, which was sent to the institutional e-mail provided by the Health Department of *Porto Alegre* city and remained available from September 10th to October 10th, 2018 (30 days).

A descriptive analysis of the studied variables was performed to characterize the sample. Concerning the open questions, content analysis was performed, which is a technique to read and interpret the content of all kinds of documents. When these documents are properly analyzed, the doors to the otherwise inaccessible knowledge of aspects and phenomena of social life opens. The content analysis consists is comprised of five stages: preparation of the information, transformation of the content into units, classification of units into categories, description, and interpretation.⁹

As far as ethical considerations are concerned, this study did not expose the participants to risks. After the informed consent documents provided by the Health Department of *Porto Alegre* city were signed by the participants and the study was approved by the Research Ethics Committee, data began to be collected. This study is in accordance with the Resolution No. 466/12 from the National Health Council¹⁰ and the National Research Ethics Committee. Furthermore, this study was approved under the *Certificado de Apresentação para Apreciação Ética* (CAAE) [Certificate of Presentation for Ethical Appreciation] No. 87793918.0.0000.5336 and Legal Opinion No. 2.773.821.

This is a mixed study, but because it is part of a multi-articulate research project, this work addresses only the qualitative results.

RESULTS

The questionnaire was sent to 213 physicians by e-mail, but 15 returned (either full inbox or e-mail error). Thus, 198 physicians received the questionnaire. At the end of the data collection period, 40 people filled out the questionnaire. Two workers (a gynecologist and a nurse) were excluded from the study because they were non-physicians. Therefore, 38 answers were considered valid.

The study participants were aged from 26 to 67 years old, with an average of 42 ± 10 years old. They had a length of service from one to 30 years in primary care, with an average of 11.5 ± 9 years old. Fifteen participants (39.5%) were general practitioners and 23 (60.5%) were family and community physicians. The data listed below were submitted to content analysis, in which each of the three open answers of the questionnaire was categorized in isolation. Hence, description and interpretation of the data were performed.

The physicians had to justify their answer after marking the alternative “No” in question 3 (“Do you follow up or provide treatment to elderly patients bearing human immunodeficiency virus (HIV)/AIDS in the health care unit?”). So, answers with several considerations emerged and were grouped as follows: of the 21 participants reporting

not treating elderly patients with HIV in the unit, 13 (62%) reported that their patients were eligible to be referred to an infectious disease specialist for treatment by the Specialized Treatment Service (STS). Nevertheless, they receive follow-up treatment of other pathologies from their reference physicians in the unit:

“Because all of them are receiving treatment of HIV (CD4 count less than 350) in STS units. I follow up patients with other pathologies”. (P5, FCP, 55 years old)

Furthermore, four (19%) physicians reported not following up elderly patients with HIV:

“I have not found patients with that profile in the community yet”. (P6, FCP, 29 years old)

“We have no registered cases of elderly people with HIV”. (P9, FCP, 32 years old)

There may be two ways to interpret these findings: lack of diagnosis in this age group due to odd requests for specific serological tests in elderly people resulting in false-positives, or this epidemiological profile has not yet been found in the region. Therefore, three (14%) physicians reported not feeling able to start treatment in the unit and end up referring patients even without fulfilling the criteria, and one (4%) physician reported that the elderly with HIV opted to not receive treatment at the unit for cultural reasons.

“We do follow up patients with HIV at the unit”. (P23, FCP, 47 years old)

“We have not received any up-to-date training”. (P7, GP, 50 years old)

“The patient does not want to receive it at the health care unit for cultural reasons”. (P31, GP, 30 years old)

Part IV of the questionnaire had two qualitative questions for analysis, which invited the participant to reflect on the justification for the late diagnosis of HIV in this age group and explain in which patients the HIV serological tests should be performed immediately while providing outpatient care for elderly people.

Several areas were highlighted during the analysis of the answers to question 16 (“as a medical professional, what is your opinion regarding the justification for the late diagnosis of HIV infection among the elderly population?”). There were mixed answers during the interviews, but it is worth noting that sexuality was addressed by 11 (29%) physicians:

“Disinformation, myths about the elderly’s sexuality in the sense that many people think that they have fewer sexual

relationships, issues related to the fact that professionals feel embarrassed to ask". (P18, FCP, 54 years old)

"The prejudice against the elderly regarding their sexuality and the lack of research by the assistant professional". (P3, GP, 33 years old)

"There are few educational programs in sexuality and promoting and preventing sexually transmitted diseases targeted to the elderly population". (P39, GP, 55 years old)

Sexuality has been cited in different contexts. The participants ignored the fact that elderly patients have an active sexual life, which led to a lack of preventive information about these patients. Physicians are considered people seeking to know how their feelings affect consultations. Consequently, the embarrassment felt while asking patients about their sexuality during outpatient visits becomes an obstacle.

The elderly's sexuality is viewed as a taboo or prejudice by the health care team. The participants pointed out that there is little incentive to promote programs aimed at sexual education and prevention of sexually transmitted diseases in the elderly population. Therefore, 11 participants (29%) reported having concerns about the lack of requesting and offering HIV serological and rapid tests to this population. This justification should be taken into account to explain the late diagnosis of HIV in patients aged over 60 years old. It is important to clarify that three people mentioned that the problem stems from national policies, which are deficient. The other two participants pointed out that the health care team does not offer this care nor encourage its provision.

"There is unpreparedness regarding early diagnosis within the context of primary care, difficulty in addressing the issue in relation to this age group and need to conduct more rapid testing campaigns targeting this population". (P31, GP, 30 years old)

"Little effort to test this age group. Public policies do not focus on the prevention of sexually transmitted diseases in this age group". (P20, FCP, 40 years old)

"There is a lack of requests for serological/rapid tests because we do not see the elderly as sexually active beings". (P10, FCP, 30 years old)

According to the statements, 10 (26%) physicians highlighted personal issues and reported that the late diagnosis of HIV infection was justified by the lack of inclusion of this infection in the differential diagnosis in this population. Moreover, eight participants (21%) pointed out that people aged over 60 years old would not be in risk groups.

"I believe that we as health care professionals take time to think of HIV as a differential diagnosis in the elderly population". (P2, GP, 26 years old)

"Prejudice from the team, which still thinks about 'risk groups' to diagnose HIV". (P6, FCP, 29 years old)

"Not suspecting an HIV infection because of the patient's age, as he/she is in the group in which HIV is most frequent! Associating the symptoms with other chronic pathologies existing in the patient". (P37, GP, 30 years old)

Nevertheless, two statements are implying that the subject is not of interest to the elderly patient, as well as to the professional, which can be the reason why the physician did not address the problem during the consultation.

"Lack of focus on this search by professionals, who focus on the other demands of elderly patients. The elderly also does not seek, like younger patients, this diagnosis". (P30, FCP, 46 years old)

"It is not the main concern about the approach showed by neither the professional nor the elderly patient". (P25, FCP, 59 years old)

Question 17 asked about the profile of an elderly patient who would immediately request an HIV serological test during outpatient visits. The qualitative analysis revealed that, even though the interviewees mentioned several profiles, it was possible to organize the answers into four groups.

The most cited group involved answers related to risk situations/risk groups. In this case, 22 (58%) physicians pointed out the following situations that increased the risk of HIV contamination: safe or unsafe sex (15), drug users (eight), street people (four), alcohol abuse (two), same-sex sexual behavior (one), sex with HIV-positive partners (one), indigenous people (one), and prisoners (one).

"Vulnerable population such as homeless people, indigenous people, prisoners, drug users and those who claim to have many partners". (P31, GP, 30 years old)

"Patient with tuberculosis, pharmacodependent subjects (especially if using injectable drugs), unprotected sex, if the patient has any sexually transmitted disease, if the patient has same-sex sexual behavior, if the patient has sex with an HIV-positive partner". (P39, GP, 55 years old)

"Elderly person without a partner (divorced, widowed...) and I think that test should increasingly become a routine part of the epidemiology of Porto Alegre city, and little use of condoms". (P18, FCP, 54 years old)

The risk situations mentioned are associated with the routes of HIV transmission. On the other hand, some aspects can be discussed, such as the issue of the elderly's active sexual life, reinforcing what was highlighted in question 16. The participants themselves neglected this practice in this age group. Consequently, they considered that the patients who have multiple partners or simply maintain an active sexual life were eligible for immediate investigation. There are groups cited by the participants that are debatable from a scientific point of view, as can be seen from the physician P31, who considers indigenous people and prisoners as groups at risk. According to the last *Protocolo Clínico e Diretrizes Terapêuticas (PCDT)* [Clinical Protocol and Therapeutic Guidelines], indigenous people are considered as a priority population and people in prison as a key population regardless of age group.

The second most cited group according to sixteen interviewees (42%) was the symptomatology during the consultation. It is evident that the signs and symptoms of sexually transmittable diseases (urethritis, genital warts, chancre, inguinal adenopathy), with injury or complaints about genital organs, were the most frequently found according to seven physicians. This justified the request to test the patients immediately. Other symptoms, especially those that make the health care professional include AIDS (opportunistic diseases) in the differential diagnosis regardless of age groups such as diarrhea, weight loss, and skin lesions, were mentioned by nine participants. The diagnosis of tuberculosis was also cited by four professionals, demonstrating that they start the patient's therapy properly.

Three professionals pointed out that tests for dementia were requested since HIV and syphilis can lead to cognitive changes and reversible dementia.

"Elderly patient with weight loss, cognitive or neurological changes (investigation of dementia), prolonged cough or fever, mass or swelling of any topography, complaints about fatigue or tiredness, confirmed or suspected sexually transmitted diseases or tuberculosis, an elderly patient who is 'single', or patient who is traveling, or attending 'dances', or a patient who have many children/have married many times, or is gay". (P33, FCP, 37 years old)

"Widower who has a social life, symptoms of diarrhea, weight loss, cough, skin lesions". (P8, FCP, 53 years old)

"I would make a request if the patient has cognitive changes or if he/she arrives here in the office with complaints about urethritis or genital organ lesions". (P2, GP, 26 years old)

"Street dweller, drug user, diagnosis of tuberculosis, diagnosis of another sexually transmitted disease, patient with social vulnerability". (P21, FCP, 39 years old)

A smaller group (five - 13%) reported that they currently requested HIV serological tests to be performed in all patients regardless of their complaints. Three (8%) participants reported that they requested these tests only for immunosuppressed patients.

"There's no profile, I make requests for everyone today". (P28, FCP, 49 years old)

"I request HIV serological tests for all elderly people I see". (P35, FCP, 52 years old)

"Immuno-depressed patients". (P7, GP, 50 years old)

"With suspected low immunity". (P16, FCP, 41 years old)

Only 13% of the patients requested the tests routinely, suggesting that it may be one of the causes of the late diagnosis because the professionals seek the characteristic symptoms of AIDS before making this request. Additionally, 8% of the physicians referred to "immunity changes" as a factor in requesting the tests immediately. However, it is important to understand the difference between immunodepression and immunosuppression, as well as their relationship with immunosenescence since immunodepression was mentioned by professionals.

Immunodepression can be defined as the "[...] immune system's state of deficiency in the normal response to aggressive agents. Immunodepression can be primary, secondary, or acquired [...]"¹¹ AIDS causes acquired immunodepression; in contrast, immunosuppression refers to the use of drugs to mitigate the body's immune response.

"[...] is usually used for inhibiting rejection during organ transplants or treating autoimmune diseases such as lupus, rheumatoid arthritis, systemic sclerosis, and inflammatory bowel disease. To accomplish this, medicines are normally used, but other methods such as plasmapheresis or radiation can also be used".¹¹

As already discussed in this work, senescence leads to a decrease in the function of the elderly patient's immune system in a physiological way. Therefore, "low immunity" can be a source of confusion for the professional, since he/she may be suspecting AIDS, immunosenescence specific to the age group, or even a situation of immunosuppression.

DISCUSSION

The physicians were invited to answer what would justify the late diagnosis of HIV infection in the elderly nowadays. Most of them viewed the elderly's sexuality as a taboo or held prejudice against it, highlighting the insecurity when

approaching this practice during outpatient visits. In addition, many participants stated that they preferred not to question the patient for personal reasons. A study¹² revealed that cultural issues represent a real exclusion of the elderly's sexuality in today's society. Consequently, current public policies are not aimed at the elderly's sexual health.

Sexuality plays a major role in the elderly population. Simple affective actions represent a way of expression, often more important than the sexual act. The desire for contact, intimacy, emotional expression, pleasure, love, and affection become an integral part of the elderly's personality as a basic human need. Thus, they should not become socially repressed people.^{13,14}

It is known that the elderly's quality of life is strongly based on health. So, it is important to understand that healthy elderly should have feelings of freedom, activeness, and autonomy. In this context, sexual/affective expression plays a leading role. The emergence of vaginal lubricants and drugs or techniques for treating erectile dysfunction from the pharmaceutical industry made it possible for sexual activity to increasingly become more attractive to the elderly. It is of crucial importance to clarify that the increase in the frequency of sexual activity among elderly people should be associated with the promotion of healthy practices. Such practices should focus on the prevention of sexually transmitted diseases so that the elderly can use barrier methods naturally.¹³

The study titled "The profile of the elderly population living in *Rio Grande do Sul* State",¹⁵ which was carried out with 7,315 elderly people, showed that 35% reported having sex. Nonetheless, only 3.9% reported always using condoms, 3% reported using them sometimes, and 25.5% reported not using them because they considered them harmful, unnecessary or the partner did not like them. As for sexual orientation, only 0.2% of the elderly reported being gay, while 19.3% felt interested in, affinity or sympathy for this orientation. In addition, SILVA et al,¹⁶ who conducted a study with elderly people receiving treatment for HIV, observed that many of the participants considered themselves gay. According to them, "regarding sexual orientation, 51 (73.9%) elderly heterosexuals with HIV and only five (7.2%) elderly homosexuals with HIV were found in the studies A12(18) and A13(19)".¹⁶

Some participants provided more information than necessary. They mentioned that public policies aiming at elderly people's sexual health were poorly implemented. Also, they raised questions about the health care team's unpreparedness and insufficient incentive for events addressing the issue of sexually transmitted diseases and offering HIV rapid tests for in units.

When asked in which situations they would immediately request the diagnostic test, most of the participants mentioned risk groups or situations, followed by symptoms of sexually transmitted diseases, tuberculosis, AIDS, and dementia. Only 13% of the physicians reported routinely requesting tests, while 8% of the participants stated that they only make requests in cases of suspected immunodepression or low

immunity, which may lead the participants to be confused at the moment of the interpretation.¹⁷

Most of the participants reported following up elderly patients with HIV infection, but only 44.7% of them reported doing it at the health unit. Consequently, concerning the reasons why the participants did not provide treatment for HIV, it was evidenced that three out of the 21 participants who did not provide treatment (7.9%) reported not feeling qualified, and four (10.5%) reported not seeing patients with HIV in their communities. The other participants referred their patients to the STS in accordance with protocols¹⁸ but keep following up them at the unit to treat their morbidities.

A study conducted with elderly patients with HIV showed that a very low number of HIV rapid tests were performed in the elderly.¹⁹ In *Minas Gerais* State, Brazil, only 26.6% of 216 elderly people were tested for HIV infection.²⁰ Furthermore, in *São Paulo* State, ALENCAR and CIOSAK interviewed some primary care physicians and nurses. The authors found that performing rapid tests for diagnosis of HIV among the elderly population is not a routine in primary health care units.²¹

CONCLUSIONS

Bearing in mind the aforementioned, it is clear that we need a complete approach, free of prejudice and taboos related to sexuality, gender, sexual options, and age, which arises from the medical practice. Furthermore, we need to focus on humanized care, free of stigma, and discrimination because humans have the right to be respected by the health care teams.

Although few studies address HIV infection among the elderly in Brazil and this is the first Brazilian study carried out with primary care physicians. A structured questionnaire on the elderly population with HIV was applied. It is suggested that public health policies should be improved so that HIV/AIDS could be emphasized in this age group since the study findings confirm an outlook evidenced by the HIV patients' statements.²¹

REFERENCES

1. Instituto Brasileiro de Geografia e Estatística. Estimativas populacionais. Brasília: Instituto Brasileiro de Geografia e Estatística; 2018.
2. Ministério da Saúde. Guia de bolso: Doenças infecciosas e parasitárias. Brasília: Ministério da Saúde; 2010.
3. Silva JVB, Silva MTA, Cruz DF. The Interface between Infectious and Parasitic Diseases and the Family Healthcare Program in Brazil. *Rev Bra de Cien da Saud*. 2018; 24(4): 325-32. doi: 10.4034/RBCS.2018.22.04.05.
4. Omran, AR. The epidemiologic transition: a theory of the epidemiology of population change. *Milbank Q*. 2005; 83(4): 730-757. Doi: 10.1111/j.1468-0009.2005.00398.x.
5. Luna EJA, Silva JJB. Doenças transmissíveis, endemias, epidemias e pandemias. In: FUNDAÇÃO OSWALDO CRUZ. A saúde no Brasil em 2030 – prospecção estratégica do sistema de saúde brasileiro: população e perfil sanitário. Rio de Janeiro: Fiocruz/Ipea/Ministério da Saúde/Secretaria de Assuntos Estratégicos da Presidência da República. 2013; 2:123-176.
6. Chaimowicz F. Saúde do idoso. 2. ed. Belo Horizonte: NESCON UFMG, 2013.

7. Araújo PR. Evolução da mortalidade por doenças infecciosas e parasitárias. 61 f. 2015. Dissertação (Mestre em Epidemiologia em Saúde Pública) – Escola Nacional de Saúde Pública Sergio Arouca, Rio de Janeiro.
8. Ikuta IM. Aspectos epidemiológicos das doenças infecciosas em idosos no estado do Pará. 2017. Tese (Doutorado em Doenças Tropicais) – Universidade Federal do Pará, Belém, 2017.
9. Minayo MCS. O desafio do Conhecimento: pesquisa qualitativa em saúde. 10 ed. São Paulo: Hucitec, 1994.
10. Ministério da Saúde. Resolução n. 466, de 12 de dezembro de 2012. Aprova diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. Brasília: Ministério da Saúde, Conselho Nacional de Saúde, 2012. Available from: http://bvsms.saude.gov.br/bvs/saudelegis/cns/2013/res0466_12_12_2012.html.
11. Rezende JM. Linguagem médica: imunodepressão; imunossupressão. *Rev de Patol Trop.* 2011; 40(2):199-201.
12. Santos AFM, Assis M. Vulnerabilidade das idosas ao HIV/AIDS: despertar das políticas públicas e profissionais de saúde no contexto da atenção integral: revisão de literatura. *Rev Bras Geriat e Geront.* 2011; 14(1):147-157. doi: 10.1590/S1809-98232011000100015.
13. Mahmud IC, Terra NL. O desafio do HIV/AIDS em idosos e o uso de fármacos para disfunção sexual: um olhar da geriatria preventiva. In: Terra NL, Mahmud IC, Ianiski VB. *Temas de geriatria e gerontologia para a comunidade.* Porto Alegre: EDIPUCRS, 2018. p. 133-150.
14. Garcia E. *Essências em geriatria clínica.* Porto Alegre: EDIPUCRS, 2018.
15. Bós AJG, Mirandola AR, Lewandowski A, Schirmer CL. Perfil dos idosos do Rio Grande do Sul. Porto Alegre: Escola de Saúde Pública – ESP/RS, 2015.
16. SILVA JR, V. B.; SILVA, M. T. A.; CRUZ, D. F. The Interface between Infectious and Parasitic Diseases and the Family Healthcare Program in Brazil. *Rev Bras de Cien da Sau.* 2018; 24(4):325-32. doi: 10.4034/RBCS.2018.22.04.05.
17. Ministério da Saúde. Prevenção combinada do HIV: bases conceituais para profissionais trabalhadores(as) e gestores(as) de saúde. Brasília: Ministério da Saúde, 2017. Available from: <http://www.aids.gov.br/pt-br/pub/2017/prevencao-combinada-do-hiv-bases-conceituais-para-profissionais-trabalhadores-e-gestores>.
18. Secretaria Estadual do Rio Grande do Sul. Protocolo clínico para acompanhamento e tratamento de pessoas com HIV/AIDS na Atenção Primária à Saúde. Secretaria Estadual da Saúde do Rio Grande do Sul. Coordenação de DST/AIDS. Universidade Federal do Rio Grande do Sul. TelessaúdeRS. Porto Alegre: Escola de Saúde Pública, 2016. Available from: https://www.ufrgs.br/telessauders/documentos/protocolos_resumos/protocolos_clinico_hiv_TSRS.pdf.
19. Araújo GM, Leite MT, Hildebrandt LM, Oliveski CC, Beuter M. Self-care of elderly people after the diagnosis of acquired immunodeficiency syndrome. *Rev Bras de Enferm.* 2018; 71(2):793-800. doi: <http://dx.doi.org/10.1590/0034-7167-2017-0248>.
20. Cerqueira MBR. O binômio idosos e HIV/aids: subsídios para pesquisas e políticas públicas. *Rev Esp Acad UFMG.* 2016; 12(187):150-157.
21. Alencar RA, Ciosak SI. AIDS in the elderly: reasons that lead to late diagnosis. *Rev Bras Enferm.* 2016; 69:1140-1146. Doi: <http://dx.doi.org/10.1590/0034-7167-2016-0370>.

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