Deaths from HIV/AIDS in aged adults in the Federal District: an analysis from 2007 to 2016

Óbitos por HIV/AIDS em idosos no Distrito Federal: uma análise de 2007 a 2016

Ruth da Conceição Costa e Silva Sacco[1], Raissa Gomes Magalhães[2], Amanda de Siqueira Cabral[2], Patrícia Maria Fonseca Escalda[3]

ABSTRACT

Introduction: Infection with the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) in Brazil experienced a significant increase in the last decade among individuals aged over 60 years. This scenario indicates the need to know the mortality profile from AIDS in aged adults, in order to promote educational and preventive actions, in addition to professional development to improve the care provided to these patients. **Objective:** To describe the epidemiological profile of aged adults who died of AIDS in the Federal District (FD) from 2007 to 2016. **Methods:** This is a descriptive ecological study, based on secondary data from the Brazilian Mortality Information System, obtained through the Health Situation Analysis and Data Management of the Health Department of the FD. The analysis was carried out in the Statistical Package for the Social Sciences (SPSS). **Results:** Deaths occurred more frequently among men (74.1%), especially those aged from 60 to 69 years (70.4%). The gender ratio was 2.85. Most of them only had primary school education (42.0%), were married or in a common-law marriage (43.0%), and were white/Caucasian (52%). Regarding the place of residence, Plano Piloto was the place with the highest incidence (45.7%), followed by Ceilândia (12.3%) and Taguatinga (8.6%). **Conclusion:** It was found that AIDS, among aged adults, follows the national trend, occurring most frequently in older males, demonstrating that it is necessary to improve the implementation of prevention practices among this population. It is necessary to better study AIDS-related stigma and prejudice barriers, both among older adults and health professionals, to overcome them, to increase life expectancy of these patients and to improve their quality of life.

Keywords: aged; AIDS; mortality; epidemiology, descriptive.

RESUMO

Introdução: A infecção pelo vírus da imunodeficiência humana/síndrome da imunodeficiência adquirida (HIV/AIDS) no Brasil experimentou um aumento importante na última década entre os indivíduos com mais de 60 anos. Esse cenário aponta a necessidade de se conhecer o perfil da mortalidade por AIDS em idosos, no sentido de se adotar ações educativas e preventivas, além da capacitação profissional para o cuidado desses pacientes. **Objetivo:** Descrever o perfil epidemiológico de idosos que morreram por AIDS no Distrito Federal (DF) no período de 2007 a 2016. **Métodos:** Estudo descritivo, do tipo ecológico, com base em dados secundários do Sistema de Informação sobre Mortalidade, obtidos por meio da Gerência de Informação e Análise de Situação em Saúde da Secretaria de Saúde do DF. A análise foi realizada no Statistical Package for the Social Sciences (SPSS). **Resultados:** Os óbitos foram predominantes em homens (74,1%), especialmente entre 60 e 69 anos (70,4%). A razão por sexo foi de 2,85. Os de ensino fundamental (42,0%), casados/união estável (43,0%) e de raça/cor branca (52%) foram a maioria. Quanto ao local de residência, o Plano Piloto apresentou maior ocorrência (45,7%), seguido de Ceilândia (12,3%) e Taguatinga (8,6%). **Conclusão:** Observou-se que a AIDS, entre os idosos, segue a tendência nacional, predominância em idosos jovens do sexo masculino, demonstrando que as ações de prevenção necessitam obter maior alcance nessa população. As barreiras relacionadas ao preconceito e ao estigma da doença, tanto dos idosos quanto dos profissionais de saúde, precisam ser melhor estudadas no sentido de superá-las para aumentar a sobrevida e a qualidade de vida desses pacientes.

Palavras-chave: idoso; AIDS; mortalidade; epidemiologia descritiva.

INTRODUCTION

Population aging in Brazil has accelerated in recent decades. In 2000, 5.90% of the Brazilian population belonged to this group, while in 1991, aged adults represented 4.80%[1]. Data from the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística* – IBGE) indicate that in Brazil, in 2050, 21.87% of the population will be composed of aged adults[2].

The aging process, and consequently the changes in the population structure, challenges society to ensure quality of life for aged adults. The scenario of economic and sanitary changes for this population segment requires the health sector to pay a closer look at the care of aged adults, to guarantee the full exercise of their rights[3].

A relevant public health problem that has come up in recent decades has been the increasing number of cases of acquired immunodeficiency syndrome (AIDS) worldwide. Regarding Brazil, there is a mounting concern about the increase in AIDS cases in aged adults[4].

According to the Ministry of Health, in 2017, 42,420 new cases of human immunodeficiency virus (HIV) and 37,791 AIDS cases were diagnosed in Brazil, according to various sources of notification. The number of AIDS cases diagnosed in the period from 1980 to June 2018 is 982,129 cases. The AIDS detection rate from 2012 to 2017 has been decreasing, representing a decrease of 15.7% in the period. Regarding mortality, a total of 11,463 deaths in which the underlying cause was AIDS (ICD10: B20 to B24) were recorded in this period, with a standardized mortality ratio of 4.8/100,000 inhabitants, with a decrease of 15.8% from 2014 to 2017[5].

However, AIDS mortality rates indicate significant increase in adults aged 60 years old or older. From 2006 to 2017, AIDS

[1]Graduate Program in Health Sciences and Technologies, Ceilândia College, Universidade de Brasília (UnB) – Brasília (DF), Brazil.
[2]Graduation in Speech Therapy, Ceilândia College, Universidade de Brasília (UnB) - Brasília (DF), Brazil.
[3]Graduation in Collective Health, Ceilândia College, Universidade de Brasília (UnB) - Brasília (DF), Brazil.

mortality rate among men increased from 5.4 to 8.8 (per 100,000) and, among women, from 2.5 to 3.4 (per 100,000). As a result, AIDS mortality in aged adults has increased considerably, despite the availability of therapy in the Brazilian Unified Health System (*Sistema Único de Saúde* – SUS), with the implementation of universal access to healthcare services for the population, in December 2013, in addition to the expansion of early HIV infection diagnosis[5].

Several factors explain the growth of the aged population, among them, access to new healthcare technologies, especially those available in the Brazilian SUS. Life expectancy in the country has also shown an important increase. The Federal District (DF) has the highest life expectancy in the country, 74.7 years for men and 81.7 years for women[6]. However, in the aging process, the disease burden mainly impacts chronic-degenerative diseases, such as HIV/AIDS, which, when not controlled, affect the quality of life of aged adults, decreasing their autonomy[7].

This scenario indicates the need to know the mortality profile from AIDS in aged adults so that educational and preventive activities can be subsidized, as well as professional development for the proper management of these patients.

OBJECTIVE

This study aimed to describe the epidemiological mortality profile from AIDS in aged adults in the FD from 2007 to 2016.

METHODS

This is an ecological study, in which time series analyses were performed concerning HIV/AIDS deaths among aged adults residing in the FD from 2007 to 2016.

The main source of secondary data (deaths) was the Brazilian Mortality Information System (*Sistema de Informação sobre Mortalidade* – SIM), obtained from the Health Situation Management and Analysis (*Gerência de Informação e Análise de Situação em Saúde* – GIASS) of the Health Department of the Federal District (*Secretaria de Saúde do Distrito Federal* – SES/DF). To calculate the specific mortality coefficient, the District Household Sample Survey (*Pesquisa Distrital por Amostra de Domicílios* – PDAD) conducted by the Planning Company of the Federal District (*Companhia de Planejamento do Distrito Federal* – CODEPLAN) was used as a source for population data.

The variables studied were: year of death, gender, race/color, age group, education, marital status, underlying cause of death — established by the International Classification of Diseases (ICD-10) for all causes of death and for HIV/AIDS as a specific cause (categories B20-B24 ICD-10).

The data was tabulated in Microsoft Excel 2016 (Office 365, Windows®) and analyzed in Statistical Package for the Social Sciences (SPSS), version 25.

This study was approved by the Research Ethics Committee of SES/DF (Report No. 2.269.757) and by *Universidade de Brasília* (Report No. 2.202.975) and had the support of the Research Support Foundation of the Federal District (*Fundação de Apoio à Pesquisa do DF* – FAP/DF) and the Coordination for the Improvement of Higher Education Personnel (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* – CAPES), Funding Code 001.

RESULTS

There were 81 deaths in the FD, from 2007 to 2016, considering HIV/AIDS, classification B20-B24 (Chap. I, ICD-10). Among these, 74.1% were men, with a predominance of aged adults from 60 to 69 years old (70.4%), with primary education (42.0 %), married or in common-law marriage (43.0,0%), and white/Caucasian individuals (51.9%) (**Table1**).

According to **Table 2,** deaths among aged adults during the period of observation, related to infectious and parasitic diseases, indicating HIV disease as the fifth leading cause of death, representing 3.4% of deaths.

According to **Graphic 1,** groups aged 60 to 69 years and 70 to 79 years showed an increasing trend for HIV/AIDS. This trend was decreasing only for individuals aged ≥80 years.

In accordance with **Graphic 2,** trends in specific mortality from HIV/AIDS by gender showed that, there was an important increase in males, while in females the trend was slightly decreasing in the same period.

Table 1 – Characterization of deaths from HIV/AIDS in aged adults, Federal District, 2007 to 2016.

Characteristics	N	%
Age		
60-69 years old	57	70.4
70-79 years old	22	27.2
≥80 years	2	2.5
Gender		
Male	60	74.1
Female	21	25.9
Race/color		
White	42	51.9
Black	7	8.6
Brown	30	37.0
Ignored	2	2.5
Education		
No	11	13.6
Primary	34	42.0
Secondary	9	11.1
Higher	19	23.5
Ignored	8	9.9
Marital status		
Single	18	22.2
Married/Common-law marriage	35	43.2
Widower	13	16.0
Divorced	13	16.0
Ignored	2	2.5
Total	81	100.0

HIV/AIDS: human immunodeficiency virus/acquired immunodeficiency syndrome.
Source: adapted from data from the Brazilian Mortality Information System (SIM) of the Health Department of the Federal District (SES/DF) (2019).

Table 2 – Deaths classified according to chapter I (some infectious and parasitic diseases) of the International Classification of Diseases (ICD-10), in aged adults, Federal District, 2007 to 2016.

Chapter I classification (ICD-10)	N	%
By protozoal diseases (B50-B64)	1,426	60.1
Other bacterial diseases (e.g., leprosy) (A30-A49)	374	15.8
Intestinal infectious diseases (A00-A09)	203	8.6
Viral hepatitis (B15-B19)	99	4.2
HIV disease (B20-B24)	81	3.4
Tuberculosis (A15-A19)	56	2.4
Arthropod-borne viral fevers and viral hemorrhagic fevers (A90-A99)	32	1.3
Helminthiases (B65-B83)	29	1.2
Sequelae of infectious and parasitic diseases (B90-B94)	25	1.1
Mycoses (B35-B49)	14	0.6
Other	35	1.5
Total	2,374	100.0

HIV: human immunodeficiency virus.
Source: adapted from data from the Brazilian Mortality Information System (SIM) of the Health Department of the Federal District (SES/DF) (2019).

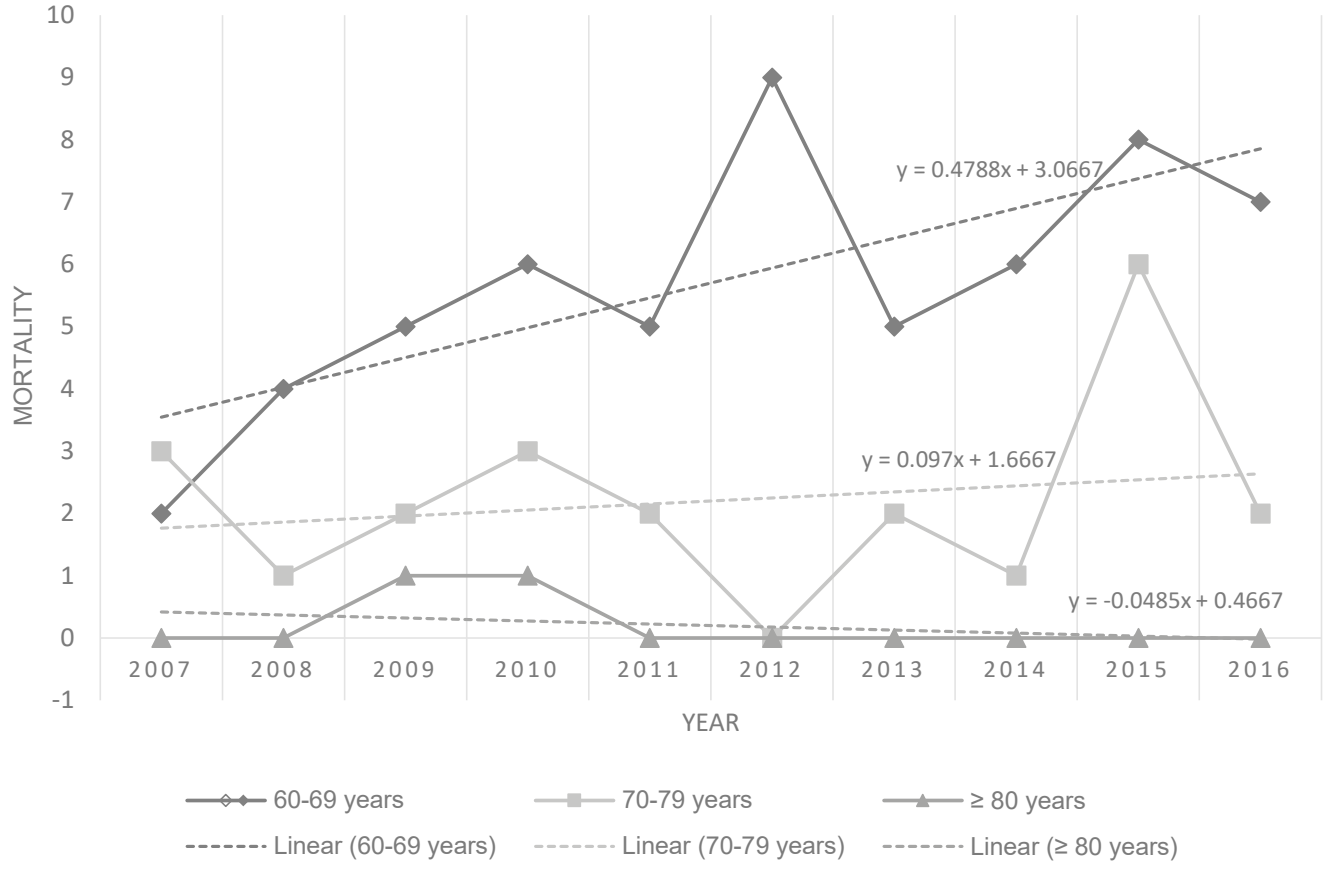
Regarding the place of residence, Plano Piloto corresponded to 45.7% of deaths from HIV/AIDS, followed by Ceilândia (12.3%) and Taguatinga (8.6%) (**Graphic 3**).

DISCUSSION

In Brazil, in 2017, the FD presented a lower mortality rate (2.7 deaths per 100,000 inhabitants) than the national coefficient (4.8 deaths per 100,000 inhabitants) according to the mortality per unit of the federation, with a decline in the standardized mortality rate from AIDS of 25.6% from 2007 to 2017.

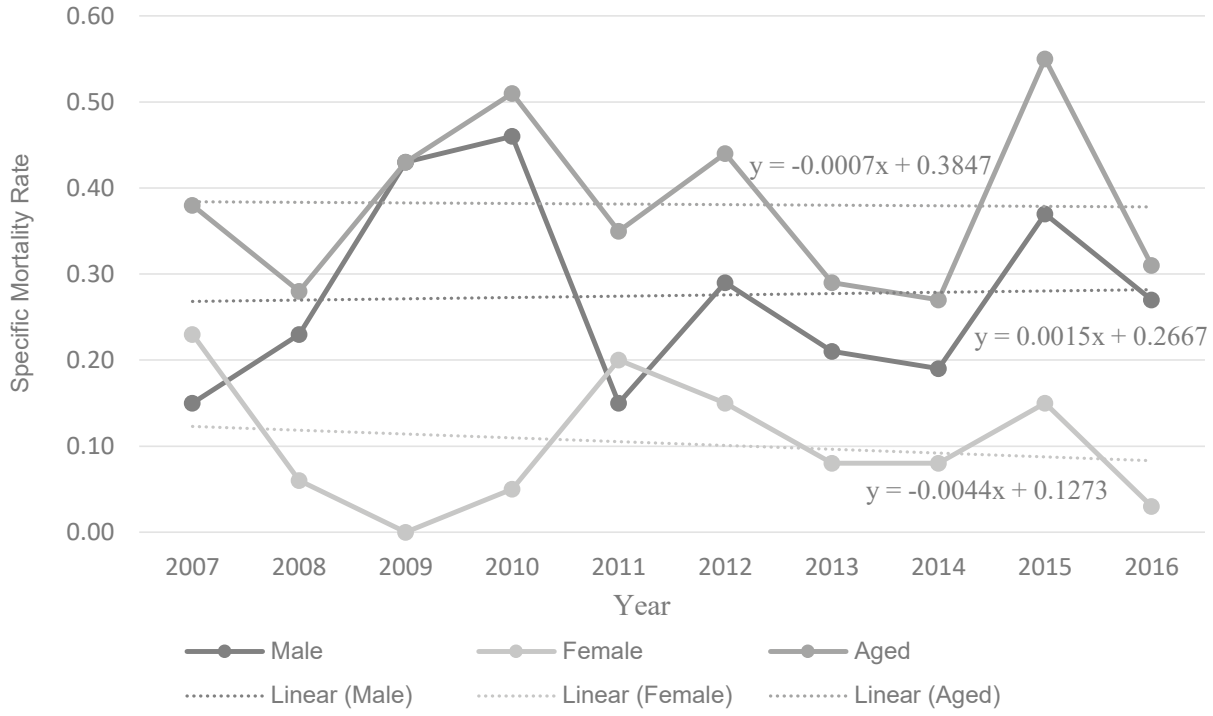
Increasing trends in mortality from AIDS in Brazil were found among individuals aged 60 years old or older, in both genders, achieving a male:female ratio of 2.0[5]. In the FD, the increase in mortality occurred mainly among men, in this same age group.

Among aged adults, the increase in AIDS mortality may have as important factors the low risk perception, barriers to health care, stigma, and prejudice. It is also important to mention the low HIV testing rate, which may reflect on the late diagnosis of HIV, sometimes revealed only in death. In this context, it is important to highlight that access to HIV treatment is free and universal in Brazil[8].



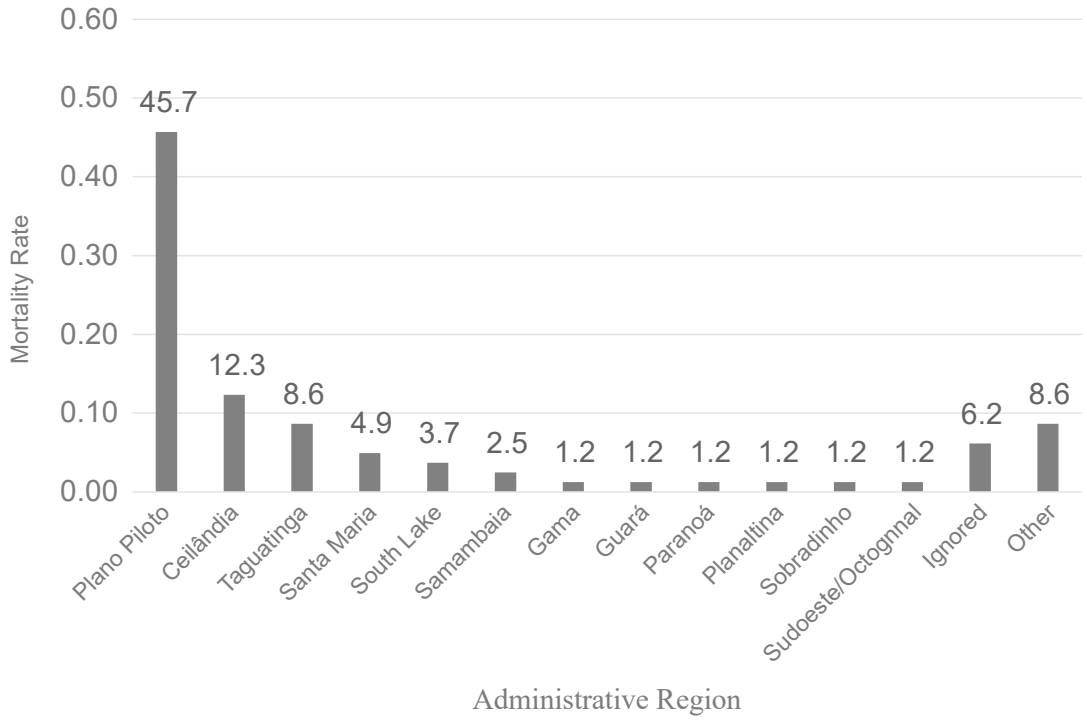
HIV/AIDS: human immunodeficiency virus/acquired immunodeficiency syndrome.
Source: adapted from data from the Brazilian Mortality Information System (SIM) of the Health Department of the Federal District (SES/DF) (2019).

Graphic 1 – Evolution of deaths from HIV/AIDS among aged adults, by age group, Federal District, 2007 to 2016.



HIV/AIDS: human immunodeficiency virus/acquired immunodeficiency syndrome.
Source: adapted from data from the Brazilian Mortality Information System (SIM) of the Health Department of the Federal District (SES/DF) (2019).

Graphic 2 – Evolution of HIV/AIDS specific mortality rates (per 10,000 aged individual), by gender, Federal District, 2007 to 2016.



HIV/AIDS: human immunodeficiency virus/acquired immunodeficiency syndrome.
Source: adapted from data from the Brazilian Mortality Information System (SIM) of the Health Department of the Federal District (SES/DF) (2019).

Graphic 3 - Distribution of HIV/AIDS deaths among aged adults in the Federal District, by administrative region, 2007 to 2016.

Other important factors related to AIDS mortality in aged adults remain unclear to healthcare professionals, such as those related to sexuality, since aged adults are not seen as sexually active and, therefore, these issues are not addressed when they are receiving care. Issues such as living with HIV, sexuality, diversities, losses, and death become important in the dialogue with aged adults[9], as well as overcoming old stereotypes and prejudices related to the myth that aged adults are asexual[10].

Currently, sexual activity among aged adults benefits from scientific and technological advances, increased life expectancy, and improvements in quality of life; at the same time, there are increasing concerns about infections by sexually transmitted diseases in this age group[10].

Alencar et al. highlight another important aspect, which is exposure to sexually transmitted infections (STI) by aged adults who are sexually active, as their vulnerability in relation to HIV infections is increased not by sexually active life itself, but by the adoption of unprotected sexual practice. These authors highlight that HIV/AIDS diagnosis in aged adults, in most cases, occurs late and, in some situations, in secondary care rather than in primary health care, demonstrating weaknesses in the network that provides health care to aged adults[11].

According to the sociodemographic profile, deaths from HIV/AIDS occurring in the FD in the period studied showed that 74.1% were men, aged 60–69 years (70.4%), with elementary education (42.0%), married or in common-law marriage (43.0%), white (51.9%).

Regarding the race/color variable, there was an important difference in deaths related to HIV/AIDS in older adults in the FD, as white individuals corresponded to 51.9% of these deaths, while in 2017, the highest occurrence in the general Brazilian population was among black and brown individuals (60.3%), and mortality rate among black women was higher than that observed in black men: 63.3 and 58.8%, respectively[5]. This observation did not collect enough data that justify why most AIDS deaths occur among white aged adults in the FD. In Brazil, race/color is associated with schooling, that is, because brown and black individuals have lower levels of education, they probably have social, cultural, and access barriers to early diagnosis that hinder treatment and its continuity and, therefore, would play a major role in the proportion of deaths from HIV/AIDS [12,13]. An avenue of investigation is that aged adults, whatever their race/color, especially in the FD, have a low level of education due to the intense migratory process in the 1950s and 1960s, which produced learning losses.

CONCLUSION

This study indicated the necessity of overcoming barriers related to prejudice and stigma among aged adults and health professionals, as well as the need to implement preventive activities and health promotion actions directed to this population segment.

Thus, it is suggested to organize the network that provides health care to older adults in such a way as to qualify all contacts with aged users, especially males, providing different approaches to suspected cases of HIV and facilitating early diagnosis and access to treatment, to ensure higher life expectancy with quality for this population.

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Authors' Contributions

RCCS Sacco: project concept, data collection, analysis and interpretation, writing, and approval of the final version submitted. RG Magalhães and AS Cabral: data collection and writing of the text. PMF Escalda: data analysis, critical review, and approval of the final version submitted.

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Conflict of interests

Nothing to declare.

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Address for correspondence:
RUTH DA CONCEIÇÃO COSTA AND SILVA SACCO
Avenida das Castanheiras, Rua 36 Norte, Lote 3. 350, Block D, ap. 202 - Águas Claras
Brasília (DF), Brazil
ZIP Code: 71.900-100
E-mail: ruth.sacco1@gmail.com

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