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Trend of HIV/AIDS infections: aspects of occurrence in older adults between 2008 and 2018

Tendência de infecções por HIV/Aids: aspectos da ocorrência em idosos entre 2008 e 2018

Tendencia de las infecciones por VIH/SIDA: aspectos de la incidencia en ancianos entre 2008 y 2018

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Abstract

Objective: this study aimed to analyze the sociodemographic, clinical and epidemiological profile of HIV/AIDS cases in older adults in the state of Piauí, Brazil. **Method**: this is a descriptive study with retrospective collection, using secondary data from the Brazilian Information System for Notifiable Diseases, from 2008 to 2018. Data collection occurred from August to September 2019, with data processing and mapping performed using the TabWin software, version 3.6. Absolute and relative frequencies were calculated, as well as the incidence, using Microsoft Excel, version 7.0. **Results**: from 2008 to 2018, there were 262 new cases of HIV/AIDS reported among older adults in the state, representing 4.5% of the total number of cases, with a growth trend in the period, in which 76.0% were aged 60-69 years old, 64.9% were male, 64.8% brown-skinned, 54.5% had low schooling, 53.4% lived in the city of Teresina, and 70.9% with transmission through heterosexual relationships. **Conclusion and implications for the practice**: a growth trend in HIV/AIDS cases in older adults in the state of Piauí over the past 10 years was identified. The results of this study contribute to knowing the epidemiological dynamics of this condition in the state and to developing prevention and control strategies for this infection.

Keywords: Aged; Notification; HIV; Acquired Immunodeficiency Syndrome; Sexually Transmitted Diseases; Epidemiology.

Resumo

Objetivo: analisar o perfil sociodemográfico, clínico e epidemiológico dos casos de HIV/Aids em idosos no estado do Piauí. **Método:** estudo descritivo, com coleta retrospectiva, a partir de dados secundários do Sistema de Informações de Agravos de Notificação, referentes ao período de 2008 a 2018. Coleta realizada de agosto a setembro de 2019, com processamento dos dados realizados por meio do programa *TabWin*, versão 3.6. Realizou-se cálculo das frequências absoluta e relativa, assim como o cálculo de incidência, utilizando-se do Programa *Excel,* versão 7.0. **Resultados:** de 2008 a 2018, foram notificados 262 casos novos de HIV/Aids em idosos no estado, 4,5% do número total de casos, com tendência de crescimento no período, sendo 76,0% da faixa etária entre 60 e 69 anos de idade, 64,9% do sexo masculino, 64,8% pardos, 54,5% com baixa escolaridade, 53,4% residentes em Teresina e 70,9% com transmissão pela relação heterossexual. **Conclusão e Implicações para a prática:** verificou-se tendência de crescimento dos casos de HIV/Aids em idosos, no estado do Piauí, ao longo dos últimos 10 anos. Os resultados deste estudo contribuem para o conhecimento da dinâmica epidemiológica desse agravo no estado e para a elaboração de estratégias de prevenção e controle da infecção.

Palavras-chave: Idoso; Notificação; HIV; Síndrome de Imunodeficiência Adquirida; Doenças Sexualmente Transmissíveis; Epidemiologia.

Resumen

Objetivo: analizar el perfil sociodemográfico, clínico y epidemiológico de casos de VIH/SIDA en ancianos del estado de Piauí. **Método:** estudio descriptivo, con recolección retrospectiva, utilizándose datos secundarios del "Sistema de Informações de Agravos de Notificação", referente al período de 2008 a 2018. Recolección realizada de agosto a septiembre de 2019, con procesamiento de datos realizado en el Programa *TabWin*, versión 3.6. Se realizó el cálculo de frecuencias absolutas y relativas, así como el cálculo de incidencia, utilizándose del Programa *Excel*, versión 7.0. **Resultados:** de 2008 a 2018 se notificaron 262 nuevos casos de VIH/SIDA en ancianos en el estado, 4.5% del total de casos, con tendencia creciente en el período, siendo 76.0% entre 60 y 69 años, 64,9% hombres, 64,8% morenos, 54,5% con baja escolaridad, 53,4% residentes en Teresina y 70,9% por transmisión heterosexual. **Conclusión e implicaciones para la práctica:** hubo tendencia de crecimiento en los casos de VIH/SIDA en ancianos, en Piauí, durante los últimos 10 años. Los resultados de este estudio contribuyen al conocimiento de la dinámica epidemiológica de esta condición en el estado y al desarrollo de estrategias para prevención y control de la infección.

Palabras clave: Anciano; Notificación; VIH; Síndrome de Inmunodeficiencia Adquirida; Enfermedades de Transmisión Sexual; Epidemiología.

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INTRODUCTION

Population aging is a reality experienced by several countries in the world. In Brazil, a notorious, quick and proportional increase was projected; currently, the older adult group represents an important percentage of the Brazilian population and, in the next 20 years, this percentage will represent 13% of the population, exceeding 30 million.[1]

The population aging process was the result of an increase in life expectancy and of a decrease in the birth rate, which, together with the improvement in the quality of life resulting from the evolution of technologies in the health area, allowed the older adults to have a healthy and active aging, with independence and autonomy to fulfill basic needs.[2]

However, some diseases that limit the health of this population have gained prominence in recent years. In 2017, in Brazil, 42,420 new cases of infection by the Human Immunodeficiency Virus (HIV) and 37,971 cases of Acquired Immunodeficiency Syndrome (AIDS) were diagnosed, with the detection rate per 100,000 inhabitants being 18.3. Likewise, in the period from 1980 to June 2018, there was a total of 982,129 AIDS cases in the country. Between 2007 and June 2018, notifications in the Information System for Notifiable Diseases (*Sistema de Informação de Agravos de Notificação*, SINAN) accounted for 247,795 cases of HIV infection in Brazil. Among this total percentage, people aged 60 years old and over were estimated at 7,469 cases (3.0%).[3]

In the last three decades, an estimated 13,665 cases of AIDS have been estimated for senile age groups, with 34.36% of the occurrences affecting females. It is clear, therefore, that the epidemiological design denotes the need to change the social concept addressed to the older adult, due to this stereotype of sexual inactivity, which reconfigures for this population the risk of acquiring HIV, a fact that contributes to the significant increase in the number of events.[4]

The Epidemiological Report counted cases closed until January 2020, in the period from 2009 to 2019: 7,204 new AIDS diagnoses in Piauí, 873 in individuals from 50 to 64 years old; 125 in people aged 65 to 79; and 11 cases in people aged 80 and over.[5]

The increase in the number of HIV infection cases in the older adult population is related to some factors: prolonged survival due to antiretroviral therapy; scarcity of campaigns directed to safe sexual practice among older adults, such as the use of condoms; in addition to the existence of a taboo on sexuality in old age. Furthermore, the lack of knowledge in this segment regarding the pathology by the older adults themselves stands out.[4,6]

Given the above, it is therefore necessary that managers and health professionals understand the importance of analyzing the epidemiological design of cases of older adults with HIV/AIDS, in the state of Piauí, Brazil, by means of the notification records in the SINAN, in order to develop coping strategies in the face of the process described. Knowing the sociodemographic, clinical, and epidemiological profile of the HIV/AIDS cases in this population group will provide subsidies for the elaboration and implementation of actions and policies with a preventive approach and focused on the management of HIV in older adults. Based on these considerations, the objective was to analyze the sociodemographic, clinical, and epidemiological profile of the HIV/AIDS cases in older adults in the state of Piauí.

METHOD

This is a descriptive study with retrospective collection, in which the reported cases of HIV/AIDS in the older adults were analyzed, in the state of Piauí, Brazil, from 2008 to 2018, representing the time series of cases among the older adults, associating with the consistent aging process of the Brazilian population.

In 2018, Piauí had an estimated population of 3,263,754 people, of which the established older adult population was 401,089, representing 12.29% of the general population.[7]

The data were obtained from the SINAN of the Health Secretariat of the State of Piauí (*Secretaria de Estado da Saúde do Piauí*, SESAPI), in the Coordination of Communicable Diseases, from August to September 2019.

The source population of the study was made up of all the cases of HIV/AIDS in adults in the state of Piauí, Brazil, notified in the SINAN from 2008 to 2018, corresponding to 5,587 records. The inclusion criteria were defined as follows: being 60 years of age or older, residing in Piauí, and presenting complete data. Duplicate cases were excluded. Therefore, the sample of 262 cases was reached.

For data collection, a form was used designed specifically for research and based on the information from the AIDS notification/investigation form (patients aged 13 or over), registered in the SINAN, which had the variables addressed in this study: age, gender, race, schooling, municipality of residence, criteria for defining the disease, according to the Rio de Janeiro/Caracas Criterion and to the Adapted CDC, mode of transmission, and treatment evolution.

The age variable was categorized by grouping in intervals of 10 years, in the age groups of 60-69, 70-79, and 80 years old and over, to classify the older adults into young, mid-old age, and very old age,[8] respectively, same age groups as available in the SINAN.

For data processing, the free TabWin (*Tab for Windows*) program, version 3.6 was used, which is the software developed by the SUS IT Department (DATASUS).

For data analysis, reports were prepared with frequency distributions of the HIV/AIDS cases and, to calculate the absolute and relative frequencies and the incidence, the *Excel* program, version 7.0 was used. The incidence coefficient for each year was calculated to verify how HIV/AIDS behaved in the population over 60 years of age in Piauí.

Regarding the ethical aspects, authorization was requested from the SESAPI and, after institutional authorization, it was approved by the Research Ethics Committee of the Federal University of Piauí, according to opinion No. 3.335.061 and Certificate of Presentation for Ethical Appreciation (*Certificado de Apresentação*

para Apreciação Ética, CAAE) No. 14072819.3.0000.5214, guaranteeing the anonymity and confidentiality of the personal information accessed and the commitment to use the data for research purposes.

RESULTS

In the study, the 262 new cases of HIV/AIDS in older adults notified in the SINAN from 2008 to 2018 in Piauí, Brazil, were analyzed. Table 1 presents the data in relation to the sociodemographic profile of the cases. Regarding the age group, the most affected was the one between the ages of 60 and 69 years old (76.0%), mostly male (64.9%), brown-skinned (64.8%), with low schooling (54.5%), followed by those with no schooling (14.1%). As for the municipality of residence, 117 (53.4%) were from Teresina, the capital of Piauí. The high percentage of Unknown values in the schooling variable stands out (14.9%).

Of the 5,849 new cases of HIV/AIDS in adults notified in the SINAN in the 2008-2018 period, 262 occurred with the older adults, representing 4.5% of the total number of cases. Although this percentage is not too expressive, there is an increase in the number of individuals reported with HIV/AIDS from one year to another, with the exception of the years 2011, 2014, and 2018 that recorded an increase in cases compared to previous years (Table 2).

Figure 1 shows the coefficient of incidence of HIV/AIDS in the older adults corresponding to each year, with a higher coefficient in 2017, with 9.6 cases per 100,000 inhabitants, followed by 2015, with 8.2 cases per 100,000 inhabitants.

Table 3 shows the data regarding the clinical and epidemiological characteristics of the cases analyzed. Of the 262 cases analyzed, only 190 met the definition criteria, with a significant percentage of Unknown (21.9%) also being observed in the mode of transmission. It is highlighted that, in 119 (62.7%) of the cases, the criterion of the Adapted CDC was used, in which 186 (70.9%) had heterosexual relations as mode of transmission, 204 (77.9%) evolved alive, and 47 (17.9%) died of AIDS (Table 3).

In Figure 2 there is an increase in the number of notifications of new cases, in the three age groups, over the analyzed period.

Table 1. Sociodemographic profile of the notified cases of HIV/AIDS in older adults, in the 2008-2018 period. Teresina, PI, Brazil, 2019. (n=262)

Variables	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Abs.* total	Total (%)
Age													
60-69	8	8	13	12	16	24	14	23	27	33	21	199	76.0
70-79	3	2	7	2	6	1	5	8	3	10	5	52	19.8
≥80	-	1	-	1	-	-	3	1	2	1	2	11	4.2
Abs.* total	11	11	20	15	22	25	22	32	32	44	28	262	100.0
Total (%)	4.2	4.2	7.6	5.7	8.4	9.5	8.4	12.2	12.2	16.8	10.8	100.0	-
Gender													
Male	7	7	16	10	11	14	14	24	19	30	18	170	64.9
Female	4	4	4	5	11	11	8	8	13	14	10	92	35.1
Abs.* total	11	11	20	15	22	25	22	32	32	44	28	262	100.0
Total (%)	4.2	4.2	7.6	5.7	8.4	9.5	8.4	12.2	12.2	16.8	10.8	100.0	-
Race													
White	1	4	6	1	4	5	1	5	6	12	3	48	18.3
Black	4	1	1	1	3	6	3	2	5	5	5	36	13.7
Asian	-	-	-	-	-	-	-	-	-	-	-	-	0.0
Brown	6	5	13	12	15	13	18	25	19	24	20	170	64.9
Indigenous	-	-	-	1	-	-	-	-	-	-	-	1	0.4
Unknown	-	1	-	-	-	1	-	-	2	3	-	7	2.7
Abs.* total	11	11	20	15	22	25	22	32	32	44	28	262	100.0
Total (%)	4.2	4.2	7.6	5.7	8.4	9.5	8.4	12.2	12.2	16.8	10.8	100.0	-

Reference: *Abs.=Absolute. **IES=Incomplete Elementary School; CES=Complete Elementary School; IHS=Incomplete High School; CHS=Complete High School; IHE=Incomplete Higher Education; CHE=Complete Higher Education. ***=219 cases per municipality of residence, not notifiable. Source: SINAN/SESAPI (2019)

Table 1. Continued...

Variables	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Abs.* total	Total (%)
Schooling**													
None	3	2	7	2	1	5	3	2	2	6	4	37	14.1
IES	5	4	6	6	7	7	6	7	10	13	4	75	28.6
CES	-	1	7	3	5	7	6	12	5	13	9	68	26.0
HIS	-	-	-	2	3	3	-	1	4	1	4	18	6.9
CHS	1	1	-	1	4	1	3	-	2	1	2	16	6.1
IHE	-	-	-	-	-	-	-	1	-	1	-	2	0.8
CHE	-	-	-	-	-	1	-	1	1	3	1	7	2.7
Unknown	2	3	-	1	2	1	4	8	8	6	4	39	14.8
Abs.* total	11	11	20	15	22	25	22	32	32	44	28	262	100.0
Total (%)	4.2	4.2	7.6	5.7	8.4	9.5	8.4	12.2	12.2	16.8	10.8	100.0	-
Municipality of residence***													
Teresina	3	3	6	3	10	13	11	12	18	25	13	117	53.4
Coast Macro-Region	1	1	1	3	3	2	2	5	3	2	2	25	11.4
Mid-North Macro-region	3	-	3	3	5	3	2	2	5	1	2	29	13.2
Semiarid Macro-region	1	-	3	2	2	2	2	7	2	7	5	33	15.1
Closed Macro-Region	-		4	1	4	1	-	-	2	2	1	15	6.9
Abs.* total	8	4	17	12	24	21	17	26	30	37	23	219	100.0
Total (%)	3.1	1.5	6.5	4.6	9.2	8.0	6.5	9.9	11.5	14.1	8.8	100.0	-

Reference: *Abs.=Absolute. **IES=Incomplete Elementary School; CES=Complete Elementary School; IHS=Incomplete High School; CHS=Complete High School; IHE=Incomplete Higher Education; CHE=Complete Higher Education. ***=219 cases per municipality of residence, not notifiable. Source: SINAN/SESAPI (2019)

Table 2. Distribution of the HIV/AIDS cases, according to diagnosis year and to age group, in the 2008-2018 period. Teresina, PI, Brazil, 2019. (n=262)

Diagnosis Year	<60 years old	>60 years old	Total
	n(%)	n(%)	N
2008	264(96.0)	11(4.0)	275
2009	311(96.6)	11(3.4)	322
2010	362(94.8)	20(5.2)	382
2011	302(95.3)	15(4.7)	317
2012	436(95.2)	22(4.8)	458
2013	493(95.2)	25(4.8)	518
2014	590(96.4)	22(3.6)	612
2015	569(94.7)	32(5.3)	601
2016	594(94.9)	32(5.1)	626
2017	801(94.8)	44(5.2)	845
2018	865(96.9)	28(3.1)	893
Total	5,587(95.5)	262(4.5)	5,849

Source: SINAN/SESAPI (2019).

Table 3. Clinical profile of the notified cases of HIV/AIDS in older adults, in the 2008-2018 period. Teresina, PI, Brazil, 2019. (n=262)

Variables	2008-2018*											Abs.** total	Total (%)
Definition criteria***													
Adapted CDC	5	9	11	7	16	16	11	13	11	14	6	119	62.6
RJ/Caracas	5	-	8	6	6	8	7	9	12	6	4	71	37.4
Abs. total**	10	9	19	13	22	24	18	22	23	20	10	190	100
Total (%)	5.3	4.7	10	6.8	11.6	12.6	9.5	11.6	12.1	10.5	5.3	100	-
Transmission mode													
Homosexual	1	-	1	-	-	2	1	2	1	-	1	9	3.4
Bisexual	-	-	1	-	1	-	-	1	-	3	-	6	2.3
Heterosexual	8	10	15	11	17	17	16	21	21	25	25	186	70.9
Drugs	-	-	-	-	-	-	-	-	-	1	-	1	0.4
Perinatal	-	-	-	-	-	1	1	-	-	1	-	3	1.1
Unknown	2	1	3	4	4	5	4	8	10	14	2	57	21.9
Abs. total**	11	11	20	15	22	25	22	32	32	44	28	262	100
Total (%)	4.2	4.2	7.6	5.7	8.4	9.6	8.4	12.2	12.2	16.8	10.7	100	-
Evolution													
Alive	8	11	15	11	17	20	18	24	24	31	25	204	77.9
Death due to AIDS	3	-	4	3	4	5	4	6	8	7	3	47	17.9
Death due to other causes	-	-	-	-	1	-	-	2	-	-	-	3	1.1
Unknown	-	-	1	1	-	-	-	-	-	6	-	8	3.1
Abs. total**	11	11	20	15	22	25	22	32	32	44	28	262	100
Total (%)	4.2	4.2	7.6	5.7	8.4	9.6	8.4	12.2	12.2	16.8	10.7	100	-

Reference: *Each column corresponds to one year, in sequence: 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, and 2018. **Abs.=Absolute. ***=n 190. Source: SINAN/SESAPI (2019).

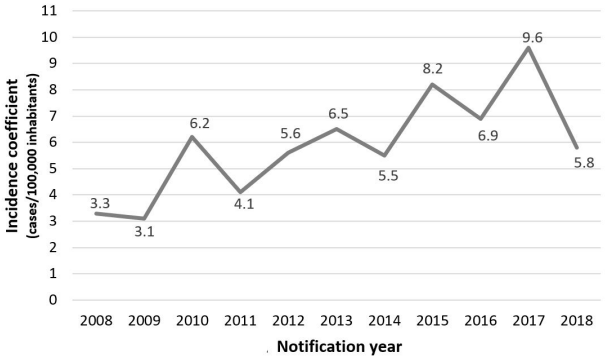

Figure 1. Incidence coefficient (per 100,000 inhabitants) of HIV/AIDS in older adults from 2008 to 2018, according to notification year. Teresina, PI, Brazil, 2019.
Source: SINAN/SESAPI (2019)

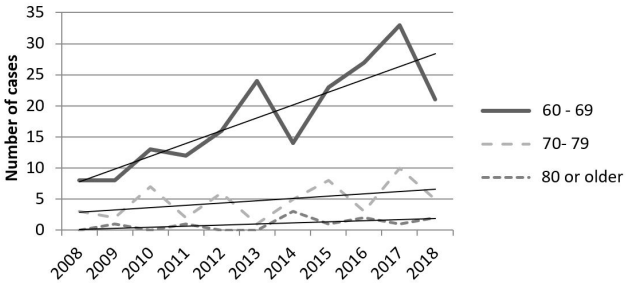

Figure 2. New cases and tendency of HIV/AIDS in older adults from 2008 to 2019, according to age group and to year of notification. Teresina, PI, Brazil, 2019.
Source: SINAN/SESAPI (2019)

DISCUSSION

The increasing trend in the number of HIV/AIDS cases in older adults in Piauí recorded in this study corroborates with national studies, in which this growth is related to the increase in life expectancy and to the non-use of preventive measures for the practice of safe sex by the older adults, who started to have a more active sex life due to the use of drugs for sexual impotence and hormone replacement.[9,10]

It was found that, in Piauí and over the analyzed period, in some years there was a decrease in the number of cases reported in the population over 60 years old, differently from what happened in Brazil, where, in the same period, there is an increasing and continuation of cases of HIV/AIDS reported in the SINAN.[3] It is highlighted that the cases notified in the SINAN are new HIV/AIDS events, according to the period determined, and that it is not possible to carry out a more rigorous epidemiological analysis regarding trends in HIV infection in the surveyed state, considering that the compulsory notification of HIV infection dates back to 2014 and that there is still underreporting.

According to the latest HIV/AIDS Epidemiological Bulletin, in Brazil the detection rate of AIDS has been decreasing in the last years, but the North and Northeast Regions show a greater detection trend, whereas in the 2007-2017 period, in Piauí there was a 23% increase of this rate, a figure higher than the national rate of 18.3/100,000 inhabitants.[3] This behavior was observed in the present study, which showed an upward trend in the number of new cases reported. Therefore, when analyzed at national level, this phenomenon reinforces the records found in the state, observing a tendentious growth and indicative of a timid increase in the population's access to the health systems.[11]

Regarding the sociodemographic profile analyzed, the most affected age group was that between 60 and 69 years old, considered young older adults, which presupposes an active sex life, considering that the more advanced the age, the less importance older adults attribute to the sexual practice due to the physiological and biological changes in relation to the older adults' willingness to maintain sexual intercourse, to the presence of pathologies, and to the prejudice on the part of the family.[12] In addition, with the advances in science, this segment of the population has maintained their sexual practices over the years. Hormone replacement and medications to improve sexual performance enabled a more active sex life, but also made the older adults more susceptible to contracting HIV, due to unprotected sexual practices, associated with misconceptions about condom use, being a reality which extends to all ages, not just the older population.[13]

It is also inferred that the infection occurred years before, in the age group of 50 to 60 years old since, for a person to be considered am AIDS case, an interval of five to 10 years from the moment of transmission to the status of seropositive is necessary.[14] Hence the importance of health education in all the age groups, as a fundamental tool in the process of prevention, control, and treatment of infection by the HIV virus.

Regarding gender, the most affected were men. These numbers are ratified by the Epidemiological Bulletin of the Ministry of Health, which shows that the number of HIV/AIDS cases in Brazil is higher in men.[3] The following can be signaled as reasons: the deep-seated preconception of men regarding going to the health service and the inappropriate use of condoms, justified by the allegation of loss of sexual pleasure with the use.[15] This stigma is potentially present, with effects on the identity of individuals, groups, and social relationships, as well as reflecting on health and illness processes.[16]

Among women, it is generally observed that, in the years 2007 to 2017, the detection rate decreased in almost all the age groups, except in the age of 60 or more, where a 21% increase was observed.[3] Although the male gender was the most affected, in the present study, the female gender also presented a significant result, highlighting the phenomenon of the feminization of HIV/AIDS. This process can be explained by the greater biological and social vulnerability of women, which refers to morpho-physiological changes; and the social, to the persistence of cultural and religious patterns that negatively affect the adoption of preventive measures, especially when dealing with the older adult population.[17]

Regarding race, brown-skin showed greater significance among the results. Some studies signal a higher prevalence in the white race, while others confront evidence with brown-skinned individuals. In Brazil, there was a 33.5% increase among the self-declared brown-skinned individuals in the 2007-2017 period.[3] But it is necessary to emphasize that the variable has a subjective aspect, since it is answered by the individuals themselves, and can also be based on the interpretation of the professional who is filling the form.[4]

Regarding schooling, in the same period, a high percentage of Unknown cases was verified, which hinders a better assessment of the HIV/AIDS cases related to this item. As for the cases with informed schooling, the present study verified that low schooling, followed by no schooling, had the highest percentages, which can interfere with the understanding of the risks of the disease and of the preventive methods by the participating older adults. Therefore, the schooling level has a major impact on the transmission of sexually transmitted infections.[18] There is also an association with the difficulty in adhering to treatment and with limited knowledge about the HIV transmission chain.[19] Thus, a high schooling level is an important variable in the prevention of infections, among them HIV/AIDS, considering that people with less study time tend to value health care less.

As for the municipality of residence, Teresina, the capital of Piauí, obtained the highest percentage of reported cases, which can be explained by the fact that it is the most populous municipality and considered a major health center, which, consequently, brings easy access to the health system for diagnosis and notification. There are still few studies that address this issue in Piauí, so there are no comparisons. It is observed that the North, Northeast, and Midwest regions had a notable increase in the incidence values[20] due to the epidemiological change, with the expansion of the epidemic to other areas of coverage. During the 1980s and 1990s, the epidemic remained basically restricted to the Southeast and South regions.[21]

For epidemiological surveillance purposes, the definition criteria of Adapted CDC and Rio de Janeiro/Caracas define AIDS cases in individuals over 13 years of age and, in this study, the Adapted CDC had a higher percentage, which can be explained by the fact that it is based on laboratory evidence

of HIV infection and on the presence of diseases indicative of AIDS. On the contrary, the Rio de Janeiro/Caracas criterion is based on the clinical identification of signs and symptoms of various diseases.[22] No comparative studies with this particular variable were found in the literature.

The most prevalent mode of transmission was heterosexual, i.e., through sexual intercourse, a situation also confirmed in other studies,[4,23] which signaled unprotected sexual practices as the main route of transmission among individuals aged over 60 years old, although homo/bisexual transmission among men is also relevant, which is associated with low adherence to condom use for cultural reasons and to the submission of the female population to their spouses. It is therefore understood that the older adults have an active sex life, and this should be taken into account by the health professionals when approaching this population and in HIV/AIDS prevention campaigns.[1]

Thus, the vulnerability of the older adults to sexually transmitted infections can be influenced by a number of factors, from risk behaviors to gaps in the correct management of the issue by the health professionals. Thus, investment in the training of the professionals to adequately approach risk perception by the older adults and the need to adopt safe behaviors can contribute positive consequences for the reduction of indexes.[24]

Most of the cases evolved alive. Study emphasizes the clinical-therapeutic approach to HIV as a determining factor in changing the infection panorama. The treatment is aimed at prolonging survival and at improving quality of life by reducing the viral load and, consequently, reconstituting the immune system.[25]

The study limitation was due to the high percentage of unknown information, which can be related to the inadequate or negligent filling of the forms. In addition, the conduct of the research, from secondary sources, can have some loss in the quality of the data obtained, in the face of possible inconsistencies. However, care was taken to exclude duplicate or incomplete data from the study. It should be added that the SINAN, from where the data of this research were extracted, is the base of official information on morbidity in Brazil. Therefore, it is an important tool for epidemiological research studies

CONCLUSION

The results show that the older adults are part of a rising risk group in the state of Piauí, considering that the number of HIV/AIDS cases in this population showed a growth trend. In the notified cases of older adults with HIV/AIDS in the 2008-2018 period, the majority were male, aged between 60 and 69 years old, presenting low schooling level, and with the heterosexual mode as way of transmission.

The results contribute to the knowledge about the epidemiological dynamics of this condition in the researched state and to the evaluation of infection prevention and control strategies. It may also support the development of actions and strategies by managers and health staff that aim at reducing the vulnerability of this population group to the disease, such as the elaboration of public policies with specificities aimed at the older adults with HIV/AIDS, improving access to the health services and, consequently, to the prevention and control strategies, and to the diagnosis and treatment means, in addition to increased adherence to the therapy. However, further research studies are still necessary to survey the factors related to the vulnerability of the older adults to the infection.

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Study design. Chrystiany Plácido de Brito Vieira. Ana Clara dos Santos e Silva Costa. Maria do Carmo Lopes Dias. Telma Maria Evangelista de Araújo.

Data collection. Chrystiany Plácido de Brito Vieira. Ana Clara dos Santos e Silva Costa. Maria do Carmo Lopes Dias.

Data analysis and interpretation of the results. Chrystiany Plácido de Brito Vieira. Ana Clara dos Santos e Silva Costa. Maria do Carmo Lopes Dias. Telma Maria Evangelista de Araújo. Francisca Tereza de Galiza.

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