

Aging profile, adherence to the Elderly Health Handbook and health self-perception, Ituiutaba-MG (2015 and 2018)

Perfil de envelhecimento, adesão à Caderneta de Saúde da Pessoa Idosa e autopercepção de saúde, Ituiutaba-MG (2015 e 2018)

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Abstract

Studies with elderly people considering the different demographic and socioeconomic profiles are fundamental to understand the dynamics of life expectancy and the formulation of public policies. **Objective:** To evaluate and compare demographic and socioeconomic variables, adherence to the Elderly Health Handbook and self-perception of health of the elderly in Ituiutaba-MG in the years 2015 and 2018. **Methods:** This is a cross-sectional study with 304 elderly people seen at basic health units using a semi-structured questionnaire. Descriptive and inferential statistics using the Mann-Whitney Test and chi-square were used to compare the variables investigated over the interval of three years. **Results:** There was a transition in the age group from 60- to 69-year-old in 2015 to 70- to 79-year-old in 2018, with prevalence of elderly people with a partner and that do not live alone. The people evaluated had predominantly low education levels and the prevalent monthly income was lower in 2018 than in 2015. Moreover, low adherence to the Health Record for the Elderly and reasonable perception of health prevailed between the years evaluated. **Conclusion:** The findings of this study highlight the necessity to improve the municipal adherence of public health policies aimed at the elderly, ensuring better health monitoring and promoting quality of life.

Keywords: Health of the Elderly; Population Dynamics; Health Profile.

Resumo

Estudos com idosos que considerem os diferentes perfis demográfico e socioeconômico são fundamentais para a compreensão da dinâmica da expectativa de vida e formulação de políticas públicas. **Objetivo:** Avaliar e comparar variáveis demográficas, socioeconômicas, a adesão à Caderneta de Saúde da Pessoa Idosa e a autopercepção de saúde de idosos de Ituiutaba-MG nos anos de 2015 e 2018. **Métodos:** Trata-se de um estudo transversal que avaliou 304 idosos

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atendidos nas Unidades Básicas de Saúde utilizando questionário semiestruturado. Estatísticas descritiva e inferencial por meio do teste de Mann-Whitney e qui-quadrado foram utilizadas para comparar as variáveis investigadas no intervalo de três anos. **Resultados:** Verificou-se transição da faixa etária, de 60-69 anos em 2015 a 70-79 anos em 2018, que vivem com companheiro(a) e não moram sozinhos. A baixa escolaridade foi predominante nos anos avaliados e a renda mensal prevalente em 2018 foi menor que no ano de 2015. Além disso, a baixa adesão à Caderneta de Saúde da Pessoa Idosa e uma percepção de saúde razoável prevaleceram entre os anos avaliados. **Conclusão:** Os achados deste estudo reiteram a necessidade de avanço na adesão municipal de políticas públicas de saúde voltadas para o idoso, garantindo melhor acompanhamento em saúde e promoção da qualidade de vida.

Palavras-chave: saúde do idoso; dinâmica populacional; perfil de saúde.

Introduction

The human aging is a natural and multicausal process marked by social and behavioral factors that are determinant to the senescence¹. The major challenge of elderly health policies is to provide a functional elderly population and to promote health quality, role played by multidisciplinary teams and gerontology professionals^{2,3}.

The interventions that reduce health problems and morbidities through a healthy life style with less vulnerability and more independence and autonomy became the most successful health strategy in geriatrics⁴. The stereotype built through generations about the aging profile of the elderly is not appropriate to contemporary society because of a heterogeneous manifestation of old age. Thus, the current view on healthy aging is understood by the maintenance and maximization of the elderly's functional capacities⁵, requiring knowledge of these strata and more individualized health care⁶.

The Elderly Health Handbook - *Caderneta de Saúde da Pessoa Idosa (CSPI, acronym in Portuguese)*⁷ is an instrument that allows monitoring the patients for a period of five years in a clinical, functional and psychosocial dimension, and it is currently a public health strategy and policy for multidimensional care for the elderly. Data published in April, 2021 show that 58% (n=3,231) of Brazilian municipalities have already implemented the CSPI⁸. However, despite its importance, its discussion in the medical literature is still limited⁹, which reinforces the need for

studies to assess its adhesion by the teams of the Family Health Strategy - *Estratégia de Saúde da Família (ESF, acronym in Portuguese)* that assist the elderly in Primary Health Care.

Understanding the dimensions of aging can provide evidence on the implementation and monitoring of health policies, as prescribed in the guidelines of the National Health Plan for the Elderly - *Plano Nacional de Saúde da Pessoa Idosa (PNSPI, acronym in Portuguese)*¹⁰, enabling the planning and organization of health services to meet the various aging profiles of a population. Health self-perception is a subjective assessment tool to evaluate an individual's health, which may be subject to interventions and changes in their state¹¹. After all, does the elderly's own perception of health change with the construction of a new aging identity, with public health policies and with the restructuring of the way in which their health is monitored?

Therefore, this study sought to compare demographic and socioeconomic aspects, as well as CSPI adherence and the health self-perception of elderly people cared for in Basic Family Health Units in Ituiutaba-MG in 2015 and 2018 as a possible follow-up strategy of the aging profile of this population.

Material and Methods

Sample and Type of study

This is a descriptive and cross-sectional study carried out in the city of Ituiutaba-MG.

Non-institutionalized elderly people of both sexes, selected by convenience, assisted in 11 Basic Family Health Units and 1 Mixed Health Unit, were interviewed in 2015 (n=149) and 2018 (n=155). The interviews were carried out while waiting for medical care in the waiting room or before the meetings of the National Program on Hypertension and Diabetes *mellitus* – *Programa Nacional de Hipertensão e Diabetes mellitus* (HiperDia, acronym in Portuguese,).

In order to define the sample size of the study in the years evaluated, an error of 0.05 and a sampling error between 4 and 0.8% were adopted for prevalence between 50 and 1%, respectively. For that, a confidence level of 95% was considered based on the prevalence of elderly people in Ituiutaba-MG¹², corresponding to 10% of the population of the state of Minas Gerais.

Research Design and Procedures

Data collections were carried out from May to August 2015 and from March to September 2018, using the same semi-structured questionnaire containing demographic (age, sex, education level, marital status and family arrangement), socioeconomic (occupation and family income)¹³, and health variables. The questionnaire also assessed the participants health self-perception in levels (poor, fair, good and excellent). In addition, the elderly were asked if they had the CSPI. The research was approved by the Human Research Ethics Committee at the Federal University of Juiz de Fora (No. 1.089.051) and at the Federal University of Uberlândia (No. 3.070.463).

Inclusion and exclusion criteria

This study included elderly people (60-year-old or older) who voluntarily agreed to participate in the research by signing the Informed Consent Term and who answered the questionnaire autonomously through an interview. Elderly people who did not sign the consent form and who did not complete or

interrupted the interview were excluded from the study.

Statistical analysis

To characterize the sample, all data were tabulated using the computer program Microsoft Office Excel 2010[®] and analyzed by the method of descriptive statistics considering absolute (n) and relative (%) frequency, median, interquartile deviation and first and third quartiles. Data normality was assessed using the D'Agostino-Pearson test. The Mann-Whitney test was used to compare non-parametric data for demographic, socioeconomic and health variables between 2015 and 2018. In order to verify whether the sociodemographic profile differed between the two years, in relation to the frequencies of categorical variables, the chi-square test of independence with Yates correction was performed, and the residuals were evaluated when a statistical difference was found. All analyses were performed using the Bioestat 5.3 program, considering a significance level of 5%.

Results

The study was carried out with 149 and 155 elderly individuals in 2015 and 2018, respectively (Table 1). The majority of respondents in 2015 had an average age of 70-year-old, with the first and third quartiles equal to 65- and 74-year-old, and an interquartile deviation equal to 9 (min: 60-year-old and max: 85-year-old). These results were similar to what was surveyed in 2018: the average was 71-year-old (p=0.339), with the first and third quartiles equal to 64- and 76-year-old, and interquartile deviation equal to 12 (min: 60-year-old and max: 87-year-old). The age group of 60- to 69-year-old prevailed in 2015 (n=73, 49.0%), while the age group of 70- to 79-year-old prevailed in 2018 (n=76, 49.0%). Regarding gender, there was a prevalence of women for both years investigated (n=99, 66.4% in 2015; n=89, 57.4% in 2018; $\chi^2=2.621$, p=0.133).

The most part of the elderly interviewed stated that they had some level of education (n=101, 67.8% in 2015; n=109, 70.3% in 2018) (Table 1), prevailing up to four years of schooling (n=78, 52.3% in 2015; n=73, 47.1% in 2018). Education stratified by age group in 2015 revealed that most elderly in the age group of 60-69 (n=34, 46.6%) and 70-79 (n=40, 63.5%) reported having up to four years of schooling, and that the frequency of illiteracy was higher among the elderly over 80-year-old (n=7, 53.8%). In 2018, most

elderly people, regardless of age group, revealed having up to four years of education (60- to 69-year-old, n=30, 46.2%; 70- to 79-year-old, n=33, 43.4 %; \geq 80-year-old, n=10, 71.4%).

In both years evaluated, most elderly people reported having a partner. On the other hand, in 2018 there was a reduction in the report of the presence of a spouse (+12.2%, $p < 0.04$), but the majority declared that they did not live alone, presenting another type of family configuration (Table 1).

Table 1. Demographic profile of the elderly assisted at the Health Units, Ituiutaba-MG (2015 and 2018)

| Variables | 2015 | | | 2018 | | | p-value |
|--|----------------|--------------|-------------------|----------------|--------------|-------------------|---------------------|
| | Women n (%) | Men n (%) | Total n (%) | Women n (%) | Men n (%) | Total n (%) | |
| Age group (years) | | | | | | | |
| 60-69 | 53 (53.5) | 20 (40.0) | 73 (49.0) | 42 (47.2) | 23 (34.8) | 65 (41.9) | 0.445 |
| 70-79 | 40 (40.4) | 23 (46.0) | 63 (42.3) | 43 (48.3) | 33 (50.0) | 76 (49.0) | |
| 80 or above | 6 (6.1) | 7 (14.0) | 13 (8.7) | 4 (4.5) | 10 (15.2) | 14 (9.1) | |
| Education level | | | | | | | |
| Educated | 68 (68.7) | 33 (66.0) | 101 (67.8) | 59 (66.3) | 50 (75.8) | 109 (70.3) | 0.723 |
| Non educated | 31 (31.3) | 17 (34.0) | 48 (32.2) | 30 (33.7) | 16 (24.2) | 46 (29.7) | |
| Marital status | | | | | | | |
| Com companheiro(a) | 54 (54.5) | 41 (82.0) | 95 (63.8) | 41 (46.1) | 39 (59.1) | 80 (51.6) | 0.043* |
| Sem companheiro(a) | 45 (45.5) | 9 (18.0) | 54 (36.2) | 48 (53.9) | 27 (40.9) | 75 (48.4) | |
| Family arrangement | | | | | | | |
| Lives alone | 21 (21.2) | 9 (18.0) | 30 (20.1) | 21 (23.6) | 18 (27.3) | 39 (25.2) | 0.363 |
| Lives with a partner | 30 (30.3) | 15 (30.0) | 45 (30.2) | 31 (34.8) | 25 (37.9) | 56 (36.1) | 0.33 |
| Lives with children with/without a partner | 31 (31.3) | 13 (26.0) | 44 (29.5) | 21 (23.6) | 11 (16.6) | 32 (20.6) | 0.098 |
| Lives with grandchildren with/without a partner | 0 (0.0) | 3 (6.0) | 3 (2.0) | 16 (18.0) | 12 (18.2) | 28 (18.1) | <0.0001** |
| Other | 17 (17.2) | 10 (20.0) | 27 (18.1) | 0 (0.0) | 0 (0.0) | 0 (0.0) | <0.0001** |

*p-value < 0,05; **p-value < 0,0001.

Table 2 presents socioeconomic characteristics of the studied population. According to the elderly self-declaration, most of them had a monthly family income in 2015 between one thousand and two thousand reais (n=102, 68.5%), while in 2018 it was less than one thousand reais

(n=69, 44.5%). The association test revealed that the monthly income of the elderly differed between the years evaluated ($\chi^2=33.946$, $p < 0.0001$) and, to better explore the statistical significance, it was observed that there was an association between income <R\$ 1,000.00 and from

R\$1,000.00 to R\$2,000.00 between the years evaluated, revealing $\chi^2=33.9463$ and $p<0.0001$ if an independence test was performed between these variables. In the analysis of adjusted chi-squared residuals, it is possible to observe a higher frequency of

elderly people who reported monthly income from R\$1,000.00 to R\$2,000.00 in 2015 (68.4%, residual of $\chi^2=4.998$, $p=0.01$) and <R\$1,000.00 in 2018 (44.5%, residual of $\chi^2=5.6688$, $p=0.01$).

Table 2. Socioeconomic profile of the elderly assisted at the Health Units, Ituiutaba-MG (2015 and 2018)[†]

| Variables | 2015 | | | 2018 | | | p-value |
|---|----------------|--------------|-------------------|----------------|--------------|--------------------|--------------------|
| | Women n (%) | Men n (%) | Total n (%) | Women n (%) | Men n (%) | Total n (%) | |
| Monthly family income[†] | | | | | | | |
| < R\$ 1,000.00 | 16 (16.2) | 6 (12.2) | 22 (14.9) | 43 (48.3) | 26 (39.4) | 69 (44.5)** | <0.0001* |
| R\$ 1,000.00 to 2,000.00 | 71 (71.7) | 31 (63.3) | 102 (68.9) | 36 (40.4) | 26 (39.4) | 62 (40.0)** | |
| > R\$ 2,000.00 | 12 (12.1) | 12 (24.5) | 24 (16.2) | 9 (10.1) | 14 (21.2) | 23 (14.8) | |
| Retirement and/or spouse's pension | | | | | | | |
| Yes | 86 (86.9) | 45 (91.8) | 131 (88.5) | 72 (81.8) | 61 (93.8) | 133 (86.9) | 0.808 |
| No | 13 (13.1) | 4 (8.2) | 17 (11.5) | 16 (18.2) | 4 (6.5) | 20 (13.1) | |

[†] Family income = minimum wage (in BRL): R\$ 788.00 (2015) and R\$ 954.00 (2018)¹⁴; *p-value < 0.0001.

The most cited occupation was retired and/or spouse's pensioner between the years evaluated (Table 2) and only a quarter of the population studied revealed having the CSPI in both years evaluated (n=45, 30.2% in 2015; n=39, 25.2% in 2018; $p=0.393$).

Most elderly people claimed to have a reasonable perception of health (n=69, 46.4% in 2015; n=65, 41.9% in 2018) (Table 3). Once the data were stratified by age groups, it was observed that self-perception of reasonable health continues to prevail among the elderly aged 60- to 69-year-old in both years evaluated (n=41, 56.2% in 2015; n=32, 49.2% in 2018). In 2018, the good and excellent levels of health self-perception were the most reported among the elderly over 70 years old (70- to 79-year-old, n=30, 39.5%; ≥ 80-year-old, n=7, 50%). Overall, there was a difference in health self-perception, once it was more frequently reported as good in 2018 (median=3, $p=0.027$) when compared to 2015. Therefore, the interrelation of

demographic and socioeconomic variables was evaluated with positive health self-perception (good and excellent), revealing an association between health perception and age groups in 2015 ($\chi^2=7.116$, $p=0.028$). It was observed a difference in positive health perception between the age group of 60-69 and 70-79 ($\chi^2=6.8595$, $p=0.0088$), and that a chi-square between these age groups and the positive health perception would present statistical significance ($\chi^2=7.1155$, $p=0.028$). Besides, the elderly aged 70- to 79-year-old revealed to perceive their health better compared to other age groups (21.5%, $\chi^2=7.116$, $p=0.05$; residual $\chi^2=2.3918$), while the elderly aged 60- to 69-year-old perceive their health negatively (poor and regular) (34.9%, $\chi^2=7.116$, $p=0.01$; residual $\chi^2=2.6492$).

In 2018, a positive health perception was associated with monthly income ($\chi^2=10,107$, $p=0.006$). Once explored the statistical significance, it was found that this association was observed for monthly incomes from R\$1,000.00 to R\$2,000.00

and >R\$2,000.00 ($\chi^2=8.0504$, $p=0.0045$), generating a chi-square value if positive health perception and these monthly incomes were associated ($\chi^2=10.1065$ and $p=0.0064$). In the analysis of chi-square residues, it was found that the elderly who have higher income (>R\$ 2,000.00) had a

better perception of their health (good and excellent) (11.6%, $\chi^2=8.0504$, $p=0.01$), while those with a monthly income between R\$1,000.00 and R\$2,000.00 had a negative perception (poor and regular) (24.5%, $\chi^2=8.0504$, $p=0.05$).

Table 3. Self-reported health perception by elderly people attended at Health Units, Ituiutaba-MG (2015 and 2018)

| | 2015 | | | 2018 | | | p-value |
|-----------|----------------|--------------|-------------------|----------------|--------------|-------------------|--------------|
| | Women n (%) | Men n (%) | Total n (%) | Women n (%) | Men n (%) | Total n (%) | |
| Poor | 15 (15.2%) | 6 (12%) | 21 (14.1%) | 7 (7.9%) | 4 (6.1%) | 11 (7.1%) | 0.072 |
| Fair | 47 (47.5%) | 22 (44%) | 69 (46.4%) | 39 (43.8%) | 26 (39.4%) | 65 (41.9%) | 0.514 |
| Good | 27 (27.3%) | 16 (32%) | 43 (2.8%) | 25 (28.1%) | 30 (45.4%) | 55 (35.5%) | 0.266 |
| Excellent | 10 (10%) | 6 (12%) | 16 (10.7%) | 18 (20.2%) | 6 (9.1%) | 24 (15.5%) | 0.758 |

Discussion

The comparison of demographic and socioeconomic profiles of the elderly assisted in the public health network of Ituiutaba-MG in 2015 and 2018 revealed a population in the process of aging, as observed by the increase in the prevailing age group in 2018, with low education levels, and decline in monthly family income, being mostly dependent on retirement and/or spouse's pension. Health self-perception prevails as reasonable between the years evaluated, although elderly people aged 70 to 79-year-old affirmed having a positive health self-perception in 2015. In addition, in 2018, the increase in family income was associated with a positive health perception, despite a low CSPI adherence in the years evaluated.

According to the last Population Census¹⁵, approximately 14 thousand elderly (14.7%) lived in Ituiutaba-MG, however only 7,541 (4,030 women and 3,511 men) were registered in the municipality's primary health care in 2015, corresponding to 52.7% of this specific population¹⁶. The sample analyzed in this study reveals a similar profile, with a prevalence of females and an increasing rise in the age group of the elderly, which is also a national population pattern¹⁷. Camargos and Gonzaga¹⁸ revealed that the average survival of women was greater than that of men in 2008 (about 3.2 years), which is

justified by a higher demand of women for health services¹⁹, despite they being accompanied by greater morbidity¹⁸.

The low education level of elderly Brazilians comes from the difficulties and low access to education in the country for decades^{4,20,21}. In our study, low education also prevails regardless of age or gender. According to data from the National Household Sample Survey- *Pesquisa Nacional por Amostra de Domicílios (PNAD*, acronym in Portuguese), most elderly people in Brazil only have primary education²⁰. The average number of years of schooling in the country is still impacted by the high illiteracy rate in adults and the elderly, and this can be observed by an analysis of the age groups, because the population aged 40 or over has an average of 6.2 years of schooling, and this number increases among younger people²².

Regarding other sociodemographic characteristics, the marital status between 2015 and 2018 differed in terms of the presence of a partner, with an intriguing increase in the number of participants who declared absence of a partner in 2018, which was more frequent for women than for men. The manifestation of widowhood in old age may explain this fact, since data from the Mortality System - *Sistema de Notificação de Mortalidade*²³ revealed that more than half of deaths in the period from 2015 to 2019 were of men (50.4% in all

Brazilian states and 50.7% in Minas Gerais).

According to Melo et al.²⁰, the family arrangement assumed by the elderly, in addition to their decision and that of their families, is a reflection of historical, sociocultural, political, economic and demographic factors, which together can interfere with their life. Also, according to PNAD²⁰ data about the distribution of family arrangements with elderly people, in Brazil, the couple that lives with their children and relatives prevail, followed by single-parent arrangements and the couple that lives only with their children. This profile was also observed in the population investigated in Ituiutaba-MG, where most elderly people live with a partner.

The data about monthly family income from 2015 to 2018 indicate a prevalence of lower income (<R\$1,000.00) in 2018, revealing an aggravating condition for the health of the elderly, given the need for medication to treat chronic diseases, maintenance of a healthy diet and practice of physical activity^{19, 24-26}. In addition, female longevity can be damaged in this aspect, since low income is one of the factors that affect women during old age¹⁹, because, once considered the income inequalities between genders, elderly women with small participation in the labor market, minimal social resources and dependence on the public health system are commonly the most affected^{20,27}.

In general, the elderly investigated show socioeconomic fragility when it is identified the predominance of low income²⁸, and dependence on retirement and/or spouse's pension, although PNAD data in 2017 indicate that the average income of people over 65-year-old is 41% higher than those of the 14-64 age group²⁹, which reinforces the importance of social security for income distribution among the elderly. Besides, it is known that the family arrangement influences income management and meeting the needs of the elderly. In Brazil, income distribution is the result of social movements and economic

policies, although among the elderly there is inequality in the income distribution, which affects mostly women²⁰.

The CSPI was not frequently self-reported by the elderly in Ituiutaba-MG, which demonstrates fragility for multidisciplinary care of these individuals⁶, as the CSPI, in addition to being an informational instrument among health professionals, caregivers and the elderly⁹, also enables multidimensional health monitoring, helping health professionals to identify the elderly needs and to guide them qualified assistance⁷. The low implementation of the CSPI is conditioned by the lack of knowledge of its objectives and application, by the work overload of health professionals, by the weakness of knowledge about gerontology³⁰, as well as by the politicization of the selection and filling of positions in the public health system³¹, resulting in differences in the management of the PNSPI between country regions and cities.

Furthermore, numerous factors influence the health perception, including education level²¹, age, presence of diseases³² and limitations arising from health conditions, as well as a high demand for health services³³. A systematic review described the factors associated with poor health perception in elderly Brazilians, including low monthly household income, polypharmacy and aspects of functional capacity and mental health³⁴. According to the elderly interviewed, a reasonable perception of health is prevalent in both years evaluated, with an association of a positive perception of health with the age group from 70 to 79-year-old (2015) and with a monthly income >R\$ 2,000.00 (2018). The particularities of percentage frequencies of each year analyzed provoke the following questions: what does it make an older elderly population, with lower family income and greater dependence on retirement and/or spouse's pensions currently have a more positive perception of health? Would it be an adaptive process or acceptance of your health condition, or even

gratitude for having survived up to that moment? Carneiro et al.³⁵ suggest caution in the analysis and association of health perception with sociodemographic and health-related variables in a convenience sample, in which the results can be extrapolated only to a similar population and scenario, because this can limit discussion and comparison of data with others cities, country regions and states. However, it reinforces the importance of these findings being used for planning measures to improve the health of the elderly. Thus, the data compared over the three-year period (2015 to 2018) reveal that although health self-perception constitutes a valuable general indicator of health surveillance, it may suffer local and regional interference, which brings to discussion dimensions that need to be recognized at the time of the elaboration of municipal and state health policies that meet the demand of that specific elderly population.

This study possibly presents limitation of recall and information bias, as it is based on self-reported data during interviews carried out with the elderly. In addition, the selection bias must be considered, since the sampling was performed for convenience, which may underestimate some variable, not taking into account worse conditions and health status of most vulnerable elderlies. However, to minimize this effect, studies in the literature were considered in the discussion of data, demonstrating that, in general, the profile of the city investigated does not clash with a simple random sample.

Conclusion

The assessment of demographic and socioeconomic aspects, adherence to CSPI and health perception of elderly people in

Ituiutaba-MG between 2015 and 2018 revealed a population in age transition and a decrease in family income over the three years, the retirement and/or spouse's pension being reported as the only source of income, and with low adherence to CSPI regardless of the year. In 2018, the percentage of elderly people who reported a positive health perception was higher, which was associated with a higher monthly income, as well as the age group of 70-79 was associated with a positive health perception in 2015, despite not being the health self-perception that prevailed.

The low percentage of individuals who claimed to have the CSPI did not allow us to verify whether there is an association with an improvement in the health perception, since the handbook is the health policy that implies the multidimensional monitoring of the elderly. Even so, the adherence and use of the CSPI by the ESF, the elderly and caregivers can contribute to the subjective health condition, especially due to the socioeconomic picture observed, which can also represent other social contexts experienced in Brazil.

Finally, the findings of this study reiterate the need for progress in municipal adherence to public health policies aimed at the elderly, ensuring better health monitoring and promoting the quality of life of this group.

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