Health, Behavioral and Social Characteristics of Nonagenary And Centenary Elderly People

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Abstract

The aim of the study was to describe the health, behavioral and social characteristics of nonagenarian and centenary elderly. This was a quantitative, descriptive and cross-sectional study with the participation of 41 nonagenarian and centenary elderly, of both sexes, enrolled in the Family Health Strategies. It was used a questionnaire of sociodemographic characteristics of health and falls, the Mini Mental State Examination (MMSE), International Physical Activity Questionnaire (IPAQ) and the Daily Living Activity Index developed by Katz. Data were analyzed by descriptive statistics. The results show a predominance of females (65.9%), elderly people living with relatives (48.8%), no pathologies (56.1%), and falls in the last year (53.7%). , have a good perception of their health (70.7%), have low functional capacity (66.0%), cognitive

impairment (75.6%), do not use tobacco (75.7%) and are physically inactive (83.0%). The relevance of this theme requires further studies and the development of strategies in order to provide quality of life and health to the long-lived population.

Keywords: Aged 80 years or older; Health conditions; Lifestyle; Quality of life;

1. Introduction

The worldwide demographic transition shows that in most countries the proportion of elderly people aged 80 and over is unquestionably increasing (PEREIRA *et al*., 2015) due to reduced mortality and birth rates, leading to significant changes in the age structure of the population (MIRANDA; MENDES; DA SILVA, 2016) and important implications, especially in health (PEREIRA *et al*., 2015).

Data from the Brazilian Institute of Geography and Statistics (IBGE, 2017) show that Brazil, in 2016, had 1,81% of its octogenarian, nonagenarian and centenarian population. The projection for 2030 is that this percentage will rise to 2,93% (IBGE, 2017). In this way, centenarians represent the maximum expression of human longevity, as a result of improved health, sanitation and income (NETTO; KIRADAI, 2015).

Along with the demographic transition, there is the epidemiological transition characterized by the reduction of morbidity and mortality due to parasitic infectious diseases and the predominance of morbidity and mortality due to noncommunicable chronic diseases (NCDs) (MARINS; SLOB, 2018). These changes in age profile have a qualitatively important impact on the morbidity and mortality landscape. Thus, care management, interdisciplinary care focused on prevention, promotion and health protection is extremely important, developed and applied by the Family Health Strategies (FHS) (XAVIER; NASCIMENTO; JUNIOR, 2019).

Studying on the theme of aging has become a challenge in order to understand the increase in life expectancy and how to approach the elderly with chronological age above 80, 90 and 100 years, which are termed as very old, older elderly. elderly, older and long-lived elderly, in addition to octogenarians, nonagenarians and centenarians, referring to the decade of life in which the elderly are (NAMAN *et al.*, 2016).

Understanding aging as a complex phenomenon, one realizes the need to reflect on the importance of sociocultural, health and life trajectory issues of the elderly, in order to promote healthy aging. This condition depends as much on the circumstances of life as on the role of the State and civil society in defining appropriate policies and assisting the elderly in order to favor the (re) significance of their longevity (DEBIA; SILVEIRA, 2019).

Therefore, care for the very elderly is extremely important, so that they have conditions to live well, with health, autonomy and quality of life, which favors the decision-making of the health team in primary care, where FHS are places aimed at preventing diseases and promoting health care actions in this population (SOUSA *et al*., 2018).

Thus, the aim of the present study was to describe the health, behavioral and social characteristics of nonagenarian and centenary elderly registered in four FHS in Santa Rosa / RS.

2. Method

This is a quantitative, descriptive and cross-sectional study. Forty-one non-aged and centenary elderly men and women participated in this study. Were selected to participate in this study elderly people aged 90 years or older, registered in four FHS in the municipality of Santa Rosa / RS. The municipality currently has 17 FHS, but the four that had different socioeconomic contexts were chosen. All elderly patients enrolled in these selected FHS were included in the study.

The identification and location of the addresses of the elderly included in the study was performed by searching the IPM® electronic medical record. Data collection was performed in August 2018. With the report generated by the system, home visits were made according to the registered address. The elderly who were at home, were invited to participate in the study, signed the Informed Consent Form and were followed the ethical aspects for research with human beings. For the elderly who were not at home, a second attempt was made. Thus, 112 elderly were identified, in which 35 elderly were not found at the address provided and 36 elderly had died, totaling 71 losses.

The instruments used for data collection consisted of:

- Questionnaire of sociodemographic characteristics (gender - male and female, age - 90 to 99 years and 100 years and over, marital status - married, widowed, single, education - illiterate, incomplete elementary school and complete elementary school) health and downfalls of users.
- The Mental State Mini-Exam (MMSE), prepared by Folstein *et al*. (1975), validated for the Brazilian population by Bertolucci *et al*. (2014) was used to assess cognitive functioning. It is one of the most widely used tests for assessing cognitive functioning worldwide. It examines temporal and spatial orientation, short-term memory (immediate or attention) and evocation, calculation, movement coordination, language and visospatial skills. The cut-off point for cognitive decline is less than or equal to 15 for illiterate, less than or equal to 22 if the subject has between one and eleven years of schooling, and less than or equal to 27 if more than twelve years of schooling (BERTOLUCCI *et al.,* 2014).
- The International Physical Activity Questionnaire - IPAQ in short form tested and validated by Matsudo *et al*. (2001) which allows estimating the weekly time spent on physical activity and physical inactivity. It is composed of four open questions and its information allows to estimate the time spent per week in different dimensions of physical activity (walking and physical exertion of moderate and vigorous intensity) and physical inactivity (sitting position). Physically active (≥150 minutes) and physically inactive (<150 minutes) were considered cutoff points suggested by the authors of the instrument used (MATSUDO *et al.,* 2001).
- Daily Life Activities Index developed by Katz *et al*. (1963) to assess the functional capacity and autonomy of the elderly was used. Scale that allows to assess the autonomy of the elderly to perform the basic activities and essential to daily life, called Basic Activities of Daily Living (BADV). Functional assessment is performed from the sum of the points, totaling a score, using the cutoff point suggested by the Hartford Institute for Geriatric Nursing (1998), which is considered independent (6 points), moderate dependence (4 points) and dependent (2 points or less points).

After conducting the pilot study, which took place in the months prior to data collection and was conducted with elderly people who did not belong to the FHS that were included in the study, the

assessment of vision perception and structural adequacy of the questionnaire was included. The identification and location of these elderly people was performed by electronic medical records and the interview was conducted at home.

Data were tabulated and further analyzed by relative and absolute frequency. This study was approved by the Research Ethics Committee under Consubstantiated Opinion number 2,758,805. The recommendations of Resolution 466/2012 of the National Health Council were followed.

3. Results and Discussion

Forty-one nonagenarian and centenary elderly participated in the study, most of them female (65.9%), with incomplete elementary school (65.9%), widowed (73.2%), receiving a minimum monthly salary (53 , 7%) and was between 90 and 99 years old (92.6%). Still, 48.8% of participants reported living with relatives (Table 1).

Table 01. Social characteristics of nonagenarian and centenary elderly registered in four FHS in the municipality of Santa Rosa / RS. 2018. (n=41).

VARIABLE	n	%
SEX		
Male	14	34,1
Female	27	65,9
AGE RANGE		
90 a 99 years	38	92,6
+ de 100 years	3	7,3
SCHOLARITY		
Illiterate	13	31,7
Incomplete Elementary School	27	65,9
Complete primary education	1	2,4
CIVIL STATUS		
Married	4	9,8
Widowed	30	73,2
Single	7	17,1
INCOME		
1 minimum wage	22	53,7
2 minimum wages	16	39,0
3 or more minimum wages	3	7,3
WHO LIVES WITH		
Alone	10	24,4
Relatives	20	48,8
Caregivers	2	4,9
LSIE	9	22,9

LSIE – Long Stay Institution for the Elderly.

Source: Authors (2019).

In this study, a higher prevalence of women was observed, which reflects the higher female longevity, a phenomenon known as feminization of old age. This is due to lower exposure to certain occupational risk factors, greater female concern for their own health and self-care, and frequent use of health services in search of care (JÚNIOR *et al*., 2019). Naman *et al*. (2017), reinforce that this phenomenon has been following the population aging in the world, being more evident in the older age groups. When reporting this phenomenon, the authors state that older women are more likely to be widowed, which can be observed in the data of this study where they reported by 73.2% the widowed marital status.

There was a preponderance of low education among the participants in this study Júnior *et al*. (2019) points out that in the mid-twentieth century there was no appreciation of formal education and socioeconomic conditions were precarious, reflecting the difficulty of access to schools. Furthermore, the authors show that low education may influence cognitive impairment, ie, elderly with low education may have a higher cognitive deficit compared to elderly with more years of schooling, in addition to being associated with negative outcomes, such as, mental health problems, chronic conditions and frailty. Also, regarding the participants' income, most of the elderly reported receiving only a minimum monthly salary. The low income of the elderly, in a way, may be related to low education, as it hinders the insertion and access to the labor market, a job that would guarantee higher income and, consequently, a better retirement (ALMEIDA *et al*., 2015). This finding corroborates the results of the research by Pimenta *et al*. (2015), where the sample consisted of elderly people with low socioeconomic status. The research showed that low-income elderly have worse health conditions compared to individuals with higher incomes. Thus, the study showed that in Brazil the disparities between health conditions and socioeconomic status of the elderly still prevail.

Most of the elderly interviewed live with family members. According to Pimenta *et al*. (2017) this reflects the reality of many developing countries, where the percentage of older people living with their children remains high, even with increasing longevity. Widows in need of physical and cognitive assistance and with insufficient income are the largest contingent among the elderly living with the family of a son or daughter, who are responsible for the care of the elderly (PEDRAZI *et al*., 2010).

Observing the data in table 2, it is noted that 53.1% of the elderly participants claimed to have no pathology diagnosed by the doctor, however, the majority (78.0%) used medication regularly. This fact can be explained in this study because the sample is made up of very elderly elderly attending FHS, considering that Forsetlund, Eike and Gjerberg (2011) explain that the increased demand for health services due to the aging process consequently causes the greater use of medications as a health site action.

Table 02. Health characteristics of nonagenarian and centenary elderly registered in four FHS in the municipality of Santa Rosa / RS. 2018. (n=41).

VARIABLE	N	%
PRESENCE OF DISEASES		
Yes	18	43,9
No	23	56,1
USE OF MEDICINAL PRODUCTS		
Yes	32	78,0

No	9	22,0
USE DEAMBULAR AID		
Yes	14	34,1
No	27	65,8
FALLS IN THE LAST YEAR		
Yes	22	53,7
No	19	46,3
FUNCTIONAL CAPACITY		
Very dependent	27	66,0
Moderate dependence	12	29,4
Independent	1	2,5
COGNITIVE DEFICIT		
Likely cognitive impairment	31	75,6
No cognitive impairment	4	9,7
Did not answer	6	14,6
HEALTH PERCEPTION		
Good	29	70,7
Regular	10	24,3
Bad	2	4,9

Source: Authors (2019).

Regarding the need for walking aid, 65.8% of the elderly reported not needing assistance for such activities. These results are similar to those found in the study by Bortoluzzi *et al*. (2017) aimed to assess the prevalence and factors associated with functional dependence of long-lived elderly living in small municipalities. The survey showed that 74% of the oldest old were independent for basic activities, which included the ability to walk, as well as the 94.2% cited by Pinto-Júnior *et al*. (2016). The authors show that independence in these basic activities is associated with the absence of chronic pain and multimorbidities, a case that also occurs in the present study, considering that most of the elderly people surveyed had no diagnosis of disease.

The New England Centenarian Study (NECS) demonstrated that most centenarians markedly delay the presence of life-threatening illnesses until the end of their lives, and better support the onset of chronic disease. The hypothesis suggested by the authors is that with increasing age, there is not so much decline in the prevalence of disease-associated genetic variants, but there is a selection of variants associated with longevity, which can not only counteract the deleterious effects of genetic and environmental factors. but also provide protection against basic aging mechanisms, slow the rate of aging and delay the onset of age-related diseases and syndromes (SEBASTIANI; PERLS, 2012).

Regarding variable and declines in the last year, 53.7% of the oldest old reported having suffered at least one fall in the last 12 months. According to the World Health Organization (WHO,2010) global report, falls are defined as an “inadvertent displacement of the body to the ground or other lower level caused by multiple factors”. A study conducted by Smith *et al*. (2017) where 240 elderly residents of the

urban area of João Pessoa were interviewed, Paraíba (Brazil) showed that individuals aged 80 years or older suffer more falls compared to other age groups. The authors associate these results with alterations in cognitive status (or that do not correspond to the present study), reducing the willingness to perform tasks and causing muscle weakness, resulting in difficulty in gait execution. Exposing or exposing cannot cause seriousness in view of the possibility of health damage such as abrasions, bruising, dislocations, fractures, and the fear of a new fall. All of these factors can trigger a difficulty in performing basic and instrumental activities of daily living. (LENARDT *et al*., 2019).

The basic and instrumental activities of daily living are linked to the functional capacity of the elderly (FREITAS; SOARES, 2019), given that only 2.5% of participants consider themselves functionally independent, it is noteworthy that this functional decline present in the process aging should not be understood as a synonym of dependence or disability, but rather associated with clinical-functional vulnerability, ie, greater susceptibility to functional decline in life. These organic alterations comprise the main dimensions of functionality, resulting, consequently, in locomotor deficit, dysfunctions in mood, cognition and communication, directly affecting the autonomy and independence of the elderly to perform basic daily tasks. (FREITAS; SOARES, 2019).

Most of the nonagenarian and centenary elderly studied (75.6%) were classified as having a probable cognitive deficit. According to Esteves *et al*. (2018), the decline in cognitive skills is influenced by age, genetic, sociodemographic and lifestyle aspects. Still, the mentioned authors show that one of the causes of decreased cognitive skills is the decline of executive functions. According to Lopes, Bastos and Argimon (2017) executive functions are responsible for managing behavior such as decision making, mental monitoring, planning, initiative, inhibition and organization, being highly sensitive to the effects of human aging. Thus, executive functions are related to a series of mechanisms of cognitive process optimization to solve complex problems.

Regarding the participants' health perception, it was observed that the majority (70.7%) reported good health. Health perception is a multidimensional indicator that aggregates sociodemographic, environmental, social, cultural and clinical factors and is therefore considered an effective and reliable method to measure health aspects of the population. In this sense, negative self-perception of health was associated with dependence on functional capacity, which reinforces its validity as an indicator that demonstrates the real health conditions of the elderly.

According to Garcia *et al*. (2018), the elderly may associate self-rated health with autonomy and the presence of family and social relationships, considering the ability to act on these environments. The study by the above-mentioned authors, whose objective was to evaluate the relationship between self-perception of health, sociodemographic data, nutritional status and perception of quality of life of 110 elderly people under follow-up in two Basic Health Units of Vinhedo / SP showed that 55.5% of the elderly perceived their health as good. Still, the authors point out that self-rated health is associated with the social and psychological aspects of the elderly.

Table 3 shows the variables related to the behavioral characteristics of the very elderly in the study. The results showed that most of them do not use tobacco (75.7%), are physically inactive (83.0%) and spend four hours or more sitting during a normal week (65.9%).

Table 03. Behavioral characteristics of nonagenarian and centenary elderly registered in four FHS of Santa

Rosa / RS. 2018. (n=41).

VARIABLE	N	%
TOBACCO USE		
Yes	10	24,3
No	31	75,7
PHYSICAL ACTIVITY LEVEL		
Physically active (≥150 minutes)	7	17,0
Physically inactive (<150 minutes)	34	83,0
SITTING DURING THE WEEK		
≥4 hours	27	65,9
<4 hours	14	34,1

Source: Authors (2019).

Regarding tobacco use, similar studies have shown that with advancing age the percentage of smokers tends to decrease (BARBOSA, *et al*., 2018). According to data from Vigitel (2016), in 2016, smoking had a prevalence of 13.5% in individuals aged 55 to 64 years, however, when analyzing people aged 65 and over, the percentage of smokers was of 7.7%. In this sense, older people who are still smokers, who have survived the excessive rates of premature tobacco deaths, tend to be poorly motivated to quit smoking, underestimating their own risks and considering themselves relatively immune to the harm caused by tobacco (BARBOSA *et al*., 2018).

Regarding the level of physical activity, the majority, 83.0% of the participants were physically inactive, performing less than 150 minutes of physical activity per week. Similar results were found in a study conducted by Streit *et al*. (2015) whose objective was to verify the association between the level of physical activity with the health conditions of centenary elderly. Thus, it was observed that the centenarians are poorly physically active, since their daily activities are of light intensity, without regularity and orientation and are usually performed within the home environment.

According to Vigitel (2018), physical inactivity is considered one of the main risk factors for noncommunicable chronic diseases, being considered the fourth main risk factor for global mortality, causing 6% of all deaths (WHO, 2018). Thus, it is estimated that 3.2 million people die each year as a result of physical inactivity (WHO, 2018). Against this background, WHO recommends its Member States to develop, implement, update, evaluate and monitor policies and programs to promote health through the optimization of nutrition and physical activity (REZENDE *et al*., 2015).

From this perspective, the association of sedentary habits, such as spending more than four hours sitting during the day, corroborates physical inactivity (MAZO *et al*., 2018). In a study by Mazo *et al*. (2018), whose objective was to associate sitting time with the main diseases affecting the elderly over 64 years, it was found that sitting time is a risk factor for the occurrence of diabetes and dyslipidemia. In addition, chronic diseases were associated with this sedentary behavior. Furthermore, the results showed that 1710 minutes per week in the sitting position can predict the occurrence of diabetes and sitting for more than 1380 minutes per week can predict the occurrence of dyslipidemia.

4. Final Considerations

The results of this study indicate that although the elderly have achieved longevity, they have poor quality of life due to functional disability, cognitive impairment and number of falls. However, they have a good perception of health, a positive fact given the situation identified.

Given this, the evaluation and characterization of this long-lived population becomes relevant, as the identification of this information can contribute to the planning of interventions and care actions in order to ensure a successful aging. The importance of this theme is reinforced, and further studies are needed, especially of a longitudinal nature.

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