

Health behaviors and healthy aging: a study with community-dwelling elderly
Comportamentos de saúde e envelhecimento saudável: um estudo com idosos da comunidade
Comportamientos de salud y envejecimiento sano: un estudio con ancianos de la comunidad

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This is a quantitative study carried out in 2015 with the aim of investigating the health behaviors of a sample of elderly people living in the city of Pará de Minas (MG), Brazil, and the relationship between the practice of activities and healthy aging. The sample consisted of 303 community-dwelling elderly, predominantly women, 60 years old and older, who did not present cognitive decline. More than half of the participants assessed their own health as excellent or good; the most prevalent chronic non-transmissible diseases were vision problems, hypertension, hypercholesterolemia, allergy and rheumatic problems. The participants had good eating habits and did not use alcohol and tobacco and this fact may be related to the good perception of health reported. The elderly who practiced physical and mental activities presented lower number of diseases and/or better self-perception of health. We conclude that the practice of activities, especially physical and cognitive activities, contributes to the promotion of healthy aging.

Descriptors: Behavior; Aged; Healthy aging.

Este é um estudo quantitativo realizado em 2015, que teve como objetivo investigar os comportamentos de saúde de uma amostra de idosos residentes na cidade de Pará de Minas (MG) e a relação entre a prática de atividades e o envelhecimento saudável. A amostra foi composta por 303 indivíduos residentes na comunidade, predominantemente mulheres, com 60 anos de idade ou mais, que não apresentavam declínio cognitivo. Mais da metade dos participantes avaliou a própria saúde como ótima ou boa; as doenças crônicas não transmissíveis mais prevalentes foram problemas de visão, hipertensão arterial, hipercolesterolemia, alergia e problemas reumáticos. Os participantes possuem bons hábitos alimentares e não fazem uso de álcool e tabaco, o que pode estar relacionado à boa percepção da saúde relatada. Os idosos que praticavam atividades apresentaram menor número de doenças e/ou melhor autopercepção da saúde. Conclui-se que a prática de atividades, especialmente as físicas e cognitivas, contribui para promoção do envelhecimento saudável.

Descritores: Comportamento; Idoso; Envelhecimento saudável.

Este es un estudio cuantitativo realizado en 2015, con el objetivo de investigar los comportamientos de salud de una muestra de ancianos residentes en la ciudad de Pará de Minas (MG), Brasil y la relación entre la práctica de actividades y el envejecimiento sano. La muestra fue compuesta por 303 individuos residentes en la comunidad, predominantemente mujeres, con 60 años de edad o más, que no presentaban descenso cognitivo. Pero de la mitad de los participantes evaluó la propia salud como óptima o buena; las enfermedades crónicas no transmisibles más prevalentes fueron problemas de visión, hipertensión arterial, hipercolesterolemia, alergia y problemas reumáticos. Los participantes poseen buenos hábitos alimentares y no usan alcohol y tabaco, lo que puede estar relacionado a la buena percepción de la salud relatada. Los ancianos que practicaban actividades presentaron menor número de enfermedades y/o mejor autopercepción de la salud. Se concluye que la práctica de actividades, especialmente las físicas y cognitivas, contribuyen para la promoción del envejecimiento sano.

Descriptores: Conducta; Anciano; Envejecimiento saludable.

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INTRODUCTION

Aging can be understood as a heterogeneous and multidetermined phenomenon¹. Three patterns of aging can be observed: normal, healthy and pathological².

Normal aging is characterized by the deterioration of body cells and tissues. Pathological aging, in turn, involves weaknesses and greater vulnerability of the body to diseases, causing the decline of immunological functions. Finally, healthy aging is associated with reduced risk for illness and disability, good mental and physical functioning, and active involvement with life².

The search for understanding the characteristics of healthy aging and its many determinants has generated a variety of definitions. Among them, there are approaches focused on the biomedical model, with predominance of physical aspects, while others emphasize sociological aspects, i.e. linked to social activity, interaction and participation. There are yet psychological models that highlight positive adaptation, resilience and the use of coping resources³.

However, it is observed that the biomedical perspective is the one that prevails in the investigations on the theme⁴. A review⁴ that analyzed 28 studies found that physical functioning and absence of deficiencies were included in almost all definitions of healthy aging; no other component was present in more than 50% of the studies.

The review abovementioned showed that, with exception of physical functioning, there is little agreement among researchers regarding other elements that characterize good aging⁴. Thus, although well-being and quality of life are present even in the context of illness and disability, the number of diseases and self-perception of health are important indicators of healthy aging.

Health behaviors are among the factors that contribute to healthy aging⁵. Health behaviors are understood as the set of good habits that include the practice of physical exercises, balanced eating, regular sleep and

social activities that generate satisfaction and motivation in life⁶.

To analyze the impact of physical activities during old age, a study⁷ investigated the quality of life of 80 women aged 60 years and over, 40 of whom were practitioners of physical activity and 40 were non-practitioners. Functional capacity, physical and mental health, pain, subjective perception of general health, and emotional and social aspects were evaluated. It was verified that the scores of all domains evaluated were better for the physically active elderly, confirming the importance of these activities in old age⁷.

Physical activities, coupled with healthy eating, also contribute to the prevention of obesity and chronic non-communicable diseases (CNCs)⁸. In old age, there is a highest occurrence of CNCs such as diabetes, cardiovascular diseases, cancer, and chronic respiratory diseases⁹. These diseases influence the quality of life of elderly people and their families, reinforcing the importance of activities to prevent their occurrence⁸.

Learning new things, working throughout life, staying active and exercising memory and attention favor the activation of neural connections and preserve the health of the elderly¹⁰. In a survey¹¹ that evaluated eight individuals aged 60-87 years participating in 13 weekly meetings for activities with crosswords and guessing games through clues showed that the cognitive activities performed generated positive results in the cognitive, psychological and social performance of the elderly.

Nutritional behaviors also influence healthy aging¹². An investigation¹³ on the diet of the elderly in a city of São Paulo found that of the 73 individuals evaluated, only 5 (6.8%) presented a "good quality" diet, one that included balanced consumption of proteins, carbohydrates, vegetables, grains, sugars. It was also verified that the average consumption of portions of fruits, vegetables, cereals, milk and dairy products was below the minimum recommended, highlighting the importance of choosing a healthy menu during life and especially in old age to prevent diseases caused by poor diet¹³.

Harmful behaviors such as alcoholism and smoking can also alter the body's functional capacity and, consequently, the aging process. Smoking and alcoholism, as well as sedentary lifestyle and unhealthy diet, are considered risk factors for problems such as obesity, hypertension and high cholesterol⁹.

Smoking is related to factors that can lead to loss of functional capacity and the development of various diseases, such as lung cancer. Alcoholism, in turn, is related to malnutrition and diseases of the pancreas, stomach and liver. Thus, the use/consumption of these substances may negatively affect the aging process¹⁴.

Thus, health behaviors are associated with the occurrence of chronic non-communicable diseases⁸ and healthy aging. Knowing the regional and cultural specificities that may be influencing the health behaviors of the elderly represents an important support for the creation of effective public policies that promote the quality of life of the population. The present study aimed to investigate the health behaviors of elderly people living in the city of Pará de Minas (MG) and the relationship between the practice of activities and healthy aging.

METHOD

This is an exploratory, descriptive study with quantitative approach carried out in the city of Pará de Minas (MG). This municipality, chosen for convenience, is located 90 km from the capital of the state of Minas Gerais, in the central-west region. According to data from IBGE¹⁵, Pará de Minas has 6,086 individuals aged 65 or over, corresponding to 7.23% of the population.

For data collection, three institutions that offered services for the elderly who had the availability and interest to participate were initially contacted, and interviews were scheduled.

The study was also disseminated at a Regional Meeting of Senior Citizens promoted by the Municipality of Pará de Minas and at the end of the masses in a church in the city. In both cases the name and telephone number of the interested people were noted.

Subsequently, one of the researchers contacted them to schedule a time for the evaluation. The Snowball technique was used, characterized by the indication of possible participants.

The interviews were conducted between May and September 2015 by Psychology students and a Psychologist, who was also responsible for the training of the students and for coordinating the work. The evaluations were carried out in the institutions or in a place chosen by the participants.

Four instruments developed by the researchers were used for data collection: 1) Demographic Questionnaire: composed of questions related to schooling, gender, age and marital status; 2) Questionnaire on Health Behavior and Practice of Activities: composed of questions that evaluated the consumption of tobacco, alcohol, fruits and vegetables, and participation in activities; 3) Self-perception questionnaire: consisting of one question in which the elderly were asked to evaluate their own health on a Likert-type scale composed of five options: excellent, good, regular/poor, bad and very bad; 4) Disease questionnaire: used to verify 18 health conditions (use of glasses, high blood pressure, diabetes and others), in which the elderly should report whether or not they had the health condition investigated. The last two instruments were used as indicators of healthy aging.

After data collection, the information was typed and the data were tabulated. Descriptive statistics were used and, in order to verify the relationship between practice of activities and healthy aging, a test was used for comparison of two independent samples (Student's t) and calculation of the effect size. Cohen's D¹⁶ was used for interpretation of the test, namely: [insignificant (< 0.20); small (0.20 - 0.49); medium (0.50 - 0.79); large (> 0.79)]. The study was approved by the Research Ethics Committee of the Federal University of Minas Gerais (CAAE: 38600414.6.0000.5149).

RESULTS

The sample consisted of 303 individuals, predominantly women (n = 230; 75.9%), 60

years of age or older, who did not present cognitive decline. The ages of the participants ranged from 60 to 99 years ($X = 70.79$; $SD = 7.61$). As to schooling, 196 (64.7%) were illiterate or had up to the 4th grade of Elementary School, 31 (10.2%) had completed Primary School, 38 (12.5%) had completed High School, and 38 (12.5%) had Higher Education. In terms of marital status,

128 (42.2%) were married or had a stable relationship, 114 (37.6%) were widowers, 35 (11.6%) were single, and 26 (8.6%) were separated.

Among the health behaviors investigated, 67.7% ($n = 205$) never smoked, 82.8% ($n = 251$) did not drink alcohol in the last week and 68% ($n = 206$) consumed fruits and vegetables daily (Table 1).

Table 1. Health behaviors in the elderly. Pará de Minas, MG, Brazil, 2015.

Ingestion of fruits and vegetables	F	%
Eats on a daily basis	206	68.0
Eats at least three times a week	77	25.4
Consumes rarely or does not consume	20	6.6
Alcohol consumption		
Did not consume in the last week	251	82.8
Consumed with moderation in the last week	50	16.5
Had high consumption in last week	2	0.7
Use of tobacco		
Never smoked	205	67.7
Used to be smoker	75	24.8
Is smoker at present	23	7.6
Total	303	100.0

The evaluation of self-perception of health showed that 56.6% of the participants ($n = 171$) considered their own health as excellent or good; 38.9% ($n = 118$) as regular; and 4.7% ($n = 14$) as bad or very bad. Regarding the health conditions investigated,

the more frequently reported by the participants were: vision problems (79.2%; $n = 240$), high blood pressure (55.1%; $n = 167$) and high cholesterol (38.9%, $n = 118$) (Table 2).

Table 2. Distribution of the elderly according to the most frequent diseases. Pará de Minas, MG, Brazil, 2015.

Diseases	F	%
Vision problems	240	79.2
Arterial hypertension	167	55.1
Cholesterol/HDL	118	38.9
Allergy	105	34.7
Arthrosis/Arthritis	95	31.4
Diabetes	63	20.8
Heart Diseases	60	19.8
Rheumatism	48	15.8
Bronchitis/Asthma	43	14.2

Regarding the activities performed at least once a week, the most frequent were: watching television ($n = 278$, 91.8%), cooking ($n = 238$, 78.6%) and listening to/playing music ($n = 211$, 69.7%). Among the physical activities, 53.2% ($n = 161$) of the participants reported walking and 31.7% ($n = 96$) did

gymnastics once a week or more frequently than this. In relation to activities that demand greater cognitive investment, 43% ($n = 130$) have the habit of reading books, 30.4% ($n = 92$) of reading newspapers, and 12.9% ($n = 39$) play jigsaw puzzles/crossword puzzles every week (Table 3).

Table 3. Statistical analysis of the number of diseases among the elderly who practice or not physical and mental activities. Pará de Minas, MG, Brazil, 2015.

Activities	Practices		Does not practice		t	Effect size
	n	Mean (SD)	n	Mean (SD)		
Watches TV	278	3.55(1.95)	25	3.76(1.85)	0.52	0.11
Cooks	238	3.57(1.86)	65	3.55(2.21)	-0.06	-0.01
Listens to/plays music	211	3.60(1.98)	92	3.50(1.84)	-0.40	-0.05
Walks/go jogging	161	3.37(1.82)	142	3.79(2.04)	1.87	0.22
Does gardening activities	137	3.72(1.91)	166	3.44(1.95)	-1.27	-0.14
Reads books	130	3.55(1.96)	173	3.58(1.93)	0.11	0.01
Makes gymnastics	96	3.63(1.82)	207	3.54(1.99)	-0.35	-0.05
Reads newspapers	92	3.07(1.74)	211	3.79(1.98)	3.02*	0.38
Visits friends/relatives	81	3.42(1.91)	222	3.62(1.95)	0.80	0.10
Sews/knits	70	3.76(1.77)	233	3.51(1.98)	-0.93	-0.13
Plays cards	39	3.00(1.93)	264	3.65(1.93)	1.97*	0.34
Plays crossword puzzles	39	2.67(1.78)	264	2.55(1.96)	-0.34	-0.06

*p<0.05

A comparison was made between the elderly who practiced activities at least once a week and those who practiced at a lower frequency to verify if the groups differed in relation to the number of self-reported diseases and self-perceived health (Table 4). There was a statistical difference in the

number of diseases among the elderly who read newspapers and/or those who played cards weekly, and self-perception of health was better among those who walked, read newspapers and/or played crossword puzzles at weekly basis, with a small effect size.

Table 4. Statistical analysis of self-perception of health among the elderly who practice or not physical and mental activities. Pará de Minas, MG, Brazil, 2015.

Activities	Practices		Does not practice		t	Size effect
	n	Mean (SD)	n	Mean (SD)		
Watches TV	278	2.29(0.85)	25	2.52(1.00)	1.25	0.27
Cooks	238	2.32(0.87)	65	2.31(0.85)	-0.06	-0.01
Listens to/plays music	211	2.28(0.85)	92	2.39(0.90)	1.03	0.13
Walks/go jogging	161	2.17(0.78)	142	2.48(0.92)	3.17*	0.36
Does gardening activities	137	2.36(0.85)	166	2.28(0.87)	-0.81	-0.09
Reads books	130	2.23(0.83)	173	2.38(0.88)	1.45	0.17
Makes gymnastics	96	2.23(0.75)	207	2.35(0.91)	1.16	0.14
Reads newspapers	92	2.08(0.83)	211	2.42(0.86)	3.21*	0.40
Visits friends/relatives	81	2.23(0.79)	222	2.34(0.89)	0.96	0.13
Sews/knits	70	2.33(0.91)	233	2.31(0.85)	-0.17	-0.02
Plays cards	39	2.26(0.75)	264	2.32(0.88)	0.44	0.07
Plays crossword puzzles	39	2.05(0.72)	264	2.35(0.88)	2.04*	0.35

*p<0.05

DISCUSSION

It was found that 98.3% (n = 298) of the sample had at least one adverse health condition. However, 95.3% of the respondents (n = 289) stated that their health was excellent, good or regular, showing that despite the physical deterioration caused by

aging, the participants perceive their health in a positive way.

It is noteworthy that this result is more optimistic than that found in another study¹⁷ where it was verified at the national level that only 84% of the elderly evaluated their own health between excellent and regular.

In agreement with another study¹⁸, it is observed that the presence of diseases in the old age does not necessarily mean incapacity and/or dependence. When treated, disease symptoms can be controlled, leading individuals to positively assess their own health status. This finding reinforces the idea that the inclusion of subjective measures on health conditions is important to evaluate the elderly and is consistent with the current concept of health of the WHO¹⁹ that defines it as a state of physical, psychic and social well-being. It is also emphasized that the positive self-evaluation of health may be an indicative of high resilience in the sample studied.

Regarding the most frequent health conditions, it was observed that 79.2% of the participants had vision problems, 55.1% had high blood pressure and 38.9% had high cholesterol. The most prevalent chronic non-communicable diseases (CNCDs) were diabetes (20.8%), heart disease (19.8%), bronchitis/asthma (14.2%) and cancer (3%). At the national level, a study¹⁷ found that 19% of the Brazilian elderly population had heart disease, 10% diabetes and 1% reported cancer.

The aging process generates some physiological changes in the body. However, others changes may occur due to poor eating habits, as well as alcohol and tobacco consumption, and sedentary lifestyle². These behaviors may increase the probability of occurrence of chronic non-communicable diseases in the elderly²⁰.

A higher prevalence of CNCDs was observed in the studied population when compared to national data¹⁷. Although the most of the participants evaluated their health as positive, that may be related to uninvestigated factors such as a greater social support network and resilience. More public investments in the municipality are fundamental to prevent the presented pathologies and to contribute for more elderly people to enjoy the old age with a higher quality of life.

The activities performed by most of the elderly were watching television, cooking and listening to/playing music. The practice of these activities may be related to the positive

self-assessment of health, because leisure promotes a greater well-being to the elderly. On the other hand, these activities require little cognitive investment. Singing, drawing, reading books, going to class, and playing crossword puzzles are more challenging activities and therefore contribute more to the maintenance of cognitive abilities²¹.

Although there may be a relation with the low level of education of a percentage of the sample investigated, it was found that few elders had the habit of reading newspapers and playing jigsaw puzzles/crossword puzzles. It is recommended that individuals be educated about the importance of remaining cognitively active and having opportunities for it in educational activities, memory workshops and other courses that consider their needs and specificities.

In the process of cognitive rehabilitation, games can bring various benefits such as provision of moments of pleasure and renewal of energies for the continuation of daily tasks. Moreover, memory games, jigsaw puzzles, checkers and computer games, and activities that stimulate the memory and other cognitive abilities lead the individuals to better understand their cognitive limitations and allow new neural connections to be established after new learning, besides working as stimulators of creative potential and interactions with other people²².

Concerning the practice of physical activities, 53.2% of the participants stated that they go for a walk on a weekly basis. This is a relatively low number compared to the number of elderly practicing other activities investigated that do not demand much physical effort as, for example, watching TV and cooking. The regular practice of physical activity promotes better quality of life, since it is an effective measure to minimize the effects of the physiological changes resulting from the aging process, optimizing functional capacity, autonomy and, consequently, general health⁸.

The social activities and social participation are tools of health promotion²³. We believe that the index of self-reported diseases in the research could be lower and

the perception of health could be better if the elderly were encouraged to engage in activities.

Regarding food, it was found that 68% of the elderly eat fruits and vegetables daily and 25.4% three times a week, indicating that, in the sample studied, a large part of the individuals ingest important nutrients for health maintenance. Regarding alcohol and tobacco consumption, the results were also positive: 99.3% consumed alcohol moderately or had not consumed alcohol in the last week, and 93.4% had never smoked or had stopped smoking.

No smoking and restricted consumption of alcoholic beverages can directly influence the diet of the elderly. Excessive alcohol consumption interferes in several ways in nutrition, for it competes with nutrients since ingestion to absorption and utilization²⁴.

Tobacco use associated with poor diet increases the risk of various diseases of the gastrointestinal tract, such as esophagus, liver, stomach and pancreas cancer, gastric ulcer, and others diseases²⁴. In this way, knowing the health behaviors of the elderly in their cultural specificities constitutes a relevant strategy for the creation of public policies that encourage the practice of healthy habits and contribute to a better quality of life in old age.

Elderly who have the habit of reading newspapers on a weekly basis reported having fewer diseases and assessing their health more positively. This result confirms the importance of cognitively stimulating activities for health in old age. In addition, and according to another investigation²², the importance of games for the elderly was notable; elderly people who played cards weekly had fewer illnesses, and those who made crosswords weekly had a more positive perception of health.

The elderly who went for a walk/went jogging on a weekly basis had a more positive assessment of their own health. Regular practice of physical activity plays a protective role against the emergence of health problems, among them depression, a frequent pathology in old age²⁵.

Although the participation in the investigated activities was small, and considering that the body becomes more susceptible in old age⁹, the results are important and indicate the need to create more opportunities for the practice of activities by the elderly. Primary and secondary care may have a positive impact on reducing mortality among the elderly²⁶.

The creation of public policies that encourage good nutrition, increase social contact, strengthen affective bonds and greater self-care and, especially, the practice of activities, becomes fundamental in view of the demands of the large number of elderly people in Brazil today.

CONCLUSION

In short, the results showed that the investigated elderly had more CNCs than the Brazilian population, but they evaluated their health mostly in a positive way. In addition, they have habits considered important for maintaining health in old age, such as frequent intake of fruits and vegetables, abstinence from alcohol and tobacco.

On the other hand, a large part of the elderly did not practice physical activities frequently, and few did activities that directly stimulate cognitive abilities. The incentive to practice activities is therefore a challenge for this population and for the public power, which is one of the main responsible for offering spaces and activities that guarantee the stimulation of essential physical and cognitive abilities for maintaining the health of the elderly.

Although the present research brings contributions to the understanding of the phenomenon of aging, it is necessary to note some limitations of this study. In this investigation, healthy aging was evaluated through two measures: number of self-reported diseases and self-perception of health. Currently, the models of healthy aging point to the importance of including not only physiological aspects, but also psychic, social and emotional variables. We suggest, therefore, that other researches use broader models and include other indicators of the

construct, such as social support and resilience.

Finally, the study had a sample that was recruited in situations involving activities, which may represent a bias in the study. Research that includes more heterogeneous samples may bring further insights into healthy behaviors in old age.

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CONTRIBUTIONS

Natália Nunes Scoralick-Lempke was responsible for the conception and design of the study, collection and analysis of data, writing and revision of the article. **Elizabeth do Nascimento** was responsible for the design of the study, analysis of data and revision of the article. **Beatriz Conceição Silva Ribeiro, Caroline Moreira, Maria Eduarda Lima Oliveira, Paloma Caroline Souza** and **Táisa Joice Teixeira** collaborated in the collection and analysis of data, and writing of the article.

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