

Original Article

# Positive self-perceived health of octogenarians participating in community groups

## Autopercepção positiva de saúde de indivíduos octogenários participantes de grupos de convivência

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### Abstract

The aim of this study was to analyze the factors associated with positive self-perceived health of octogenarians participating in community groups in the city of Florianópolis, Southern Brazil. A cross-sectional study was conducted with 343 older adult individuals aged 80 years or older, of both sexes, participating in community groups. A questionnaire was applied through a face-to-face interview, including socio-demographic and economic data, self-reported health status, falls, lifestyle and leisure domain from the International Physical Activity Questionnaire. Poisson regression was used to identify the factors associated with positive self-perceived health, adjusted for socio-demographic, economic, behavioral, health condition and fall variables. The prevalence of positive self-perceived health among octogenarians was 49.0% (95%CI=44.0-54.0). The factors associated with positive self-perceived health were as follows: to receive a monthly income higher than six minimum wages (PR=1.39; 95%CI=1.01-2.11), to smoke currently (PR=1.75; 95%CI=1.25-2.46), to be physically active during leisure time (PR=1.33; 95%CI=1.06-1.67), to have arthritis or rheumatism (PR=0.55; 95%CI=0.37-0.80), diabetes (PR=0.54; 95%CI=0.37-0.79) and cardiovascular disease (PR=0.71; 95%CI=0.53-0.95), apart from using medications (PR=0.74; 95%CI=0.60-0.91). Thus, it could be concluded that some modifiable factors were identified, such as income, smoking, leisure physical activity, and use of medications, which can interfere with the positive self-perceived health of octogenarians participating in community groups.

### Keywords

Aged, 80 and over; Health; Comorbidity; Lifestyle.

### Resumo

O objetivo deste estudo foi analisar os fatores associados à auto-percepção positiva de saúde de octogenários participantes de grupos de convivência de Florianópolis. Estudo transversal com 343 idosos com 80 anos ou mais, de ambos os sexos, participantes de grupos de convivência. Aplicou-se um questionário em forma de entrevista face a face contendo dados sociodemográficos, econômicos, autorrelato do estado de saúde, quedas, estilo de vida e o domínio de lazer do Questionário Internacional de Atividade Física. Para identificar os fatores associados à auto-percepção positiva de saúde, utilizou-se regressão de Poisson, ajustada por variáveis sociodemográficas e econômicas, comportamentais, condições de saúde e quedas. A prevalência de auto-percepção positiva de saúde dos octogenários foi de 49,0% (IC95% = 44,0-54,0). Os fatores associados à auto-percepção positiva de saúde foram receber renda mensal maior que 6 salários mínimos (RP=1,39; IC95%=1,01-2,11), fumar atualmente (RP=1,75; IC95%=1,25-2,46), ser fisicamente ativo no lazer (RP=1,33; IC95%=1,06-1,67), o autorrelato de artrite ou reumatismo (RP=0,55; IC95%=0,37-0,80), de diabetes (RP=0,54; IC95%=0,37-0,79) e de doenças cardiovasculares (RP=0,71; IC95%=0,53-0,95), além de, fazer uso de medicamento (RP=0,74; IC95%=0,60-0,91). Assim, conclui-se que foram detectados alguns fatores modificáveis, tais como renda, tabagismo, atividade física no lazer, uso de medicamento, que podem interferir na auto-percepção positiva de saúde de octogenários participantes de grupos de convivência.

### Palavras-chave

Idoso de 80 anos ou mais; Saúde; Comorbidade; Estilo de vida

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### Introduction

The world is undergoing a demographic transition caused by the advances in the area of health (early diagnoses of diseases and greater effectiveness of drugs and treatments), improvement in public health mea-

tures (vaccination and basic sanitation) and reduction in birth, fertility and mortality rates<sup>1</sup>. This set of factors is increasing the life expectancy of the population<sup>1,2</sup>. The age group of 80 years and older, known as octogenarians, is the one increasing the most<sup>1,3</sup>. It is estimated that this population will total 379 million individuals worldwide<sup>2</sup> and more than 14 million in Brazil<sup>3</sup> by 2050. Approximately 0.3% of these older adult individuals live in the city of Florianópolis, Southern Brazil<sup>3</sup>.

Octogenarians have different characteristics when compared to other age groups, such as worse social conditions and a higher prevalence of disabilities, restrictions and diseases, especially chronic ones<sup>2,3</sup>. The most frequent diseases in this group are arterial hypertension, stroke, cancer, cardiovascular diseases, hypercholesterolemia and arthritis<sup>3</sup>. In this sense, health care in this age group is one of the greatest challenges of public health<sup>3</sup>.

The aging process, apart from causing several health and social problems, is also associated with a negative perception of health<sup>4,5</sup>. This fact can be explained by self-perceived health being associated with good physical, cognitive and emotional aspects, in addition to a feeling of well-being and satisfaction with life<sup>4,5</sup>.

In Brazil, older adult community groups are an alternative to social promotion and health care. These groups primarily aim to increase social participation and interaction among older adults<sup>6</sup>. Older adult individuals participating in community groups usually have better health and social interaction and a more active lifestyle<sup>7</sup>.

Considering the fact that the majority of studies focus on a negative perception of health<sup>4</sup>, that few investigate this theme in octogenarians participating in community groups, and that the identification of the factors associated with this can help to improve preventive and rehabilitating health actions for the population of older adults aged 80 years and more, the present study aimed to analyze the factors associated with positive self-perception of health among octogenarians participating in community groups in the city of Florianópolis.

## Methods

### Study design

A cross-sectional study was performed in the city of Florianópolis, state of Santa Catarina, Southern Brazil, with a population of older adult individuals of both sexes, aged 80 years and more (octogenarians)<sup>3</sup>, participating in older adult community groups registered with the Florianópolis City Hall.

Older adult community groups are based on educational practices developed in groups, aimed at participatory education, according to the perspective that everyone is active in the group work<sup>6</sup>. Manual activities such as knitting, crochet, sewing, recreational activities such as bingo, card games and dominoes; educational activities such as lectures and courses; and leisure activities such as tourist trips, balls and physical activities and snacks are developed in these older adult community groups. These groups usually meet once a week<sup>6</sup>.

### Population and sample

The population of the present study was comprised of older adult individuals aged 80 years and more, of both sexes, registered with older adult community groups of the Florianópolis City Hall in 2010. A total of 497 octogenarians registered with such groups were found. However, those who accepted to participate in this research project voluntarily on the data collection days were included in it (n=343). Only one visit was made to each of the 102 older adult community groups of Florianópolis. The present study was performed from August 2010 to

April 2011. A total of 19 individuals refused to participate, eight were excluded due to missing data and 127 were absent on the data collection days.

### Instruments and data collection

Instruments were applied by previously trained researchers through face-to-face interviews, which were filled out in forms and subsequently tabulated in the Microsoft Excel software.

Self-perceived health was assessed through the following question: "In general, would you say your health is: very good, good, fair, poor, or very poor?"<sup>8</sup>. For the analysis, the outcome was divided into positive ("very good" and "good") and negative ("fair", "poor", "very poor")<sup>9</sup>.

The following covariables were analyzed: age (in years), sex (male/female), marital status (married/cohabiting, single, divorced/separated, widowed), family arrangement (living alone/with others), level of education (illiterate, incomplete primary education, complete primary education, complete secondary education, higher education), ethnicity (white, black/mixed/Asian descendant), current employment (working/not working), income in minimum wages (< 1 wage, 1 to 3 wages, 3 to 6 wages, > 6 wages), self-reported spine disease (yes, no), arthritis and/or rheumatism (yes, no), cancer (yes, no), bronchitis and/or asthma (yes, no), stroke (yes, no), stomach ulcer (yes, no), urinary incontinence (yes, no), use of medication (yes, no), falls in the previous year (yes, no) and tobacco use (non-smoker, smoked and stopped, current smoker).

Alcohol use (no, moderate/high) was assessed with three questions from the Alcohol Use Disorders Identification Test (AUDIT)<sup>10</sup>. Older adult individuals who do not consume alcohol were considered as "no"; those who consume a dose or less with any frequency, "moderate"; and those who usually consumed five or more doses or two or more doses when drinking, "high". Current employment (yes, no) was assessed through the following question: "Do you have a paid job at the moment?". Physical activity level during leisure time was evaluated with the International Physical Activity Questionnaire (IPAQ), version 8, long form and normal week, adapted to older adults<sup>11</sup>(<150 minutes per week, ≥150 minutes per week).

For the instruments to be applied, the Florianópolis City Hall was initially contacted, so as to obtain access to the number of registered older adult community groups, their addresses, and data to contact group coordinators. Subsequently, community group coordinators were contacted to request permission for the research project to be performed. Next, octogenarians were contacted in the community groups of which they were members and invited to participate in this project. Finally, the date and time of interviews were scheduled and the research instrument was applied.

### Data analysis

Descriptive analysis was performed to identify the sample characteristics. The normality of continuous data was tested and a  $p\text{-value} \leq 0.05$  was considered to be significant.

For the identification of factors associated with positive self-perceived health, crude and adjusted analysis was performed with Poisson regression. Variables showing a  $p\text{-value}$  higher than 5% were included in the model in steps; first, the socio-demographic and economic variables; second, the behavioral variables; third, health conditions; and, finally, falls in the previous year. All variables were included in their specific step in the adjusted analysis. In the first step, variables show-

ing an association with the outcome ( $p\text{-value}\leq 0.05$ ) adjusted the second step. The third step was adjusted by the significant variables from the first step and those with a  $p\text{-value}\leq 0.05$  from the second step. A  $p\text{-value}\leq 0.05$  was considered to be significant. STATA SE software, version 11.0 (Stata Corporation, College Station, United States), was used in all analyses.

## Ethical aspects

All ethical principles for research were met, in accordance with the current resolution from the National Health Council. The present study was approved by the Human Research Ethics Committee (protocol 149/2010). All participants had to sign an informed consent form. Authors declared no conflicts of interest.

## Result

The study sample was comprised of 343 octogenarians with a mean age of  $84.1\pm 3.9$  years. The prevalence of positive self-perceived health was 49.0% (95%CI= 44.0-54.0) (Table 1).

The majority of octogenarians were females (91.8%) and widowed (77.6%), lived with someone (66.2%), did not complete primary education (55.7%), were white (94.2%), did not have a paid and/or volunteer job (97.7%) and received less than three minimum wages (60.4%). Regarding health conditions, the majority had arterial hypertension (59.8%) and used at least one medication daily (88.9%). In terms of life habits, most had never smoked (89.8%) did not consume alcohol (100%), had not fallen in the previous year (68.2%) and were physically inactive during leisure time (80.8%) (Table 1).

After the adjusted analysis, Table 2 showed that the factors associated with positive self-perceived health were as follows: to receive a monthly income higher than six minimum wages (PR=1.39; 95%CI=0.91-2.11), to be smoking currently (PR=1.75; 95%CI=1.25-2.46), to be physically active during leisure time (PR=1.33; 95%CI=1.06-1.67), to report arthritis or rheumatism (PR=0.55; 95%CI=0.37-0.80), diabetes (PR=0.54; 95%CI=0.37-0.79) and cardiovascular diseases (PR=0.71; 95%CI=0.53-0.95), and to use medications (PR=0.74; 95%CI=0.60-0.91).

**TABLE 1** – Socio-demographic, health and behavioral characteristics of octogenarians participating in community groups of the city of Florianópolis, Southern Brazil, 2011 (n=343).

Variables	n (%)
Self-perceived health	
Positive	168 (49.0)
Negative	175 (51.0)
Sex	
Female	315 (91.8)
Male	28 (8.2)
Marital Status	
Married/Cohabiting	47 (13.7)
Single	19 (5.5)
Divorced/separated	11 (3.2)
Widowed	266 (77.6)
Family arrangement	
Lives alone	116 (33.8)
Lives with other people	227 (66.2)

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Level of education	
Illiterate	44 (12.8)
Incomplete primary education	191 (55.7)
Complete primary education	52 (15.2)
Complete secondary education	42 (12.2)
Higher education	14 (4.1)
Ethnicity	
White	323 (94.2)
Black/mixed/Asian descendant	20 (5.8)
Employment status	
Not working	335 (97.7)
Working	8 (2.3)
Income	
< 1 minimum wage	40 (11.7)
1 to 3 minimum wages	167 (48.7)
3 to 6 minimum wages	30 (8.7)
> 6 minimum wages	106 (30.9)
Spine disease	
No	332 (96.8)
Yes	11 (3.2)
Arthritis/rheumatism	
No	240 (70.0)
Yes	103 (30.0)
Diabetes	
No	269 (78.4)
Yes	74 (21.6)
Bronchitis/Asthma	
No	329 (95.9)
Yes	14 (4.1)
Hypertension	
No	138 (40.2)
Yes	205 (59.8)
Cardiovascular diseases	
No	252 (73.5)
Yes	91 (26.5)
Depression	
No	332 (96.8)
Yes	11 (3.2)
Stroke	
No	339 (98.8)
Yes	4 (1.2)
Stomach ulcer	
No	337 (98.2)
Yes	6 (1.8)
Urinary incontinence	
No	333 (97.1)
Yes	10 (2.9)
Use of medication	

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No	38 (11.1)
Yes	305 (88.9)
Tobacco use	
No	308 (89.8)
Smoked and stopped	33 (9.6)
Smokes currently	2 (0.6)
Alcohol use	
No	343 (100.0)
Moderate/high	0 (0.0)
Physical activity level during leisure time	
< 150 minutes per week	277 (80.8)
≥150 minutes per week	66 (19.2)
Falls in the previous year	
No	234 (68.2)
Yes	109 (31.8)

n= absolute frequency; %= relative frequency; Value used to convert the crude family income variable: R\$ 510.00.

**TABLE 2** – Crude and adjusted analysis of the factors associated with positive self-perceived health of octogenarians participating in community groups of the City of Florianópolis, Southern Brazil, 2011 (n=343).

Variables	Positive self-perceived health (%)	Crude analysis		Adjusted analysis	
		PR (95%CI)	p-value	PR (95%CI)	p-value
Age	--	1.00 (0.97-1.03)	0.948	1.00 (0.97-1.03)	0.980
Sex			0.597		0.668
Female	45.9	1		1	
Male	46.3	1.10 (0.77-1.59)		1.10 (0.72-1.67)	
Marital status			0.671		0.507
Married/cohabiting	46.4	1		1	
Single	53.6	1.07 (0.64-1.80)		1.19 (0.71-1.99)	
Separated/divorced	50.0	0.56 (0.20-1.53)		0.55 (0.21-1.46)	
Widowed	45.2	1.01 (0.74-1.40)		1.06 (0.77-1.46)	
Family arrangement			0.681		0.573
Lives alone	47.2	1		1	
Lives with other people	45.6	1.05 (0.83-1.32)		1.07 (0.84-1.36)	
Level of education			0.241		0.195
Illiterate	35.2	1		1	
Incomplete primary education	45.1	1.21 (0.83-1.78)		1.20 (0.82-1.75)	
Complete primary education	47.5	1.22 (0.78-1.91)		1.20 (0.77-1.87)	
Complete primary education	56.5	1.10 (0.68-1.80)		1.12 (0.69-1.81)	
Higher education	52.9	1.75 (1.07-2.84)		1.74 (1.10-2.77)	
Ethnicity			0.724		0.770
White	47.2	1		1	
Black/mixed/Asian descendant	33.3	0.91 (0.56-1.50)		0.93 (0.57-1.52)	
Income			0.046*		0.046*
< 1 minimum wage	38.1	1			
1 to 3 minimum wages	45.2	1.15 (0.76-1.74)		1.15 (0.76-1.74)	
3 to 6 minimum wages	46.5	1.33 (0.80-2.21)		1.33 (0.80-2.21)	
> 6 minimum wages	47.7	1.39 (1.01-2.11)		1.39 (1.01-2.11)	

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Variables	Positive self-perceived health (%)	Crude analysis		Adjusted analysis	
		PR (95%CI)	p-value	PR (95%CI)	p-value
Arthritis/rheumatism			<0.001*		<0.001*
No	51.9	1		1	
Yes	34.4	0.55 (0.40-0.75)		0.55 (0.37-0.80)	
Diabetes			<0.001*		0.002*
No	51.4	1		1	
Yes	26.4	0.49 (0.33-0.73)		0.54 (0.37-0.79)	
Hypertension			0.230		0.798
No	48.0	1		1	
Yes	44.8	0.88 (0.71-1.09)		1.03 (0.80-1.34)	
Cardiovascular diseases			0.010*		0.021*
No	50.6	1		1	
Yes	35.8	0.68 (0.50-0.91)		0.71 (0.53-0.95)	
Use of medication			<0.001*		0.005*
No	74.5	1		1	
Yes	43.3	0.57 (0.47-0.70)		0.74 (0.60-0.91)	
Tobacco use			<0.001*		<0.002
No	46.6	1		1	
Smoked and stopped	41.7	0.79 (0.51-1.23)		0.79 (0.51-1.24)	
Smokes currently	70.0	2.01 (1.80-2.25)		1.75 (1.25-2.46)	
Physical activity level during leisure time			0.003*		0.013*
< 150 minutes per week	42.8	1		1	
≥150 minutes per week	61.0	1.40 (1.12-1.75)		1.33 (1.06-1.67)	
Falls in the previous year			0.039*		0.237
No	47.8	1		1	
Yes	41.8	0.76 (0.59-0.99)		0.86 (0.68-1.10)	

PR= prevalence ratio; 95%CI= 95% confidence interval; \*= level of significance lower than 5%.

## Discussion

In the present study, the prevalence of positive self-perceived health of octogenarians participating in community groups of the city of Florianópolis was 49.0% (95%CI = 44.0-54.0). A population-based cross-sectional study performed by Confortin et al.<sup>9</sup> with 1705 older adult residents in Florianópolis aged 60 years and more observed a prevalence of 51.2% of positive self-perceived health. A German study conducted by Moschny et al.<sup>12</sup>, which followed 1,937 older adult Germans aged between 72 and 93 years for seven years, showed that individuals aged 80 years and more perceived their health to be poorer, compared to younger individuals.

The use of medication and self-report of certain chronic diseases (arthritis or rheumatism, diabetes and cardiovascular diseases) were associated with the prevalence of positive self-perceived health. On the other hand, older adult individuals who received a monthly income higher than six minimum wages, smoked and were physically active during leisure time had a more positive self-perceived health.

Certain chronic diseases were inversely associated with positive self-perceived health. Octogenarians who self-reported the presence of arthritis/rheumatism showed a lower prevalence of positive self-perceived health when compared to older adults without such conditions. Similar results were found by Loyola Filho et al.<sup>13</sup> in a study performed with older adult individuals from Bambuí, in the state of



Minas Gerais. Rheumatism is a disease that affects the joints, causes pain and joint stiffness, in addition to being pointed out as one of the chronic conditions that most frequently restrict one from performing activities, especially those related to self-care and mobility<sup>14</sup>, which can explain the association found in this study.

Octogenarians who self-reported diabetes had a lower prevalence of positive self-perceived health when compared to older adult individuals without such condition. A fact that can be influenced in this association is that older adult individuals at a more advanced age end up becoming more resistant to degenerative processes as they have more functional limitations and morbidities than younger older adult individuals, thus comprising a “biological elite” because, at this age, they succeeded in overcoming child mortality, infectious diseases and chronic degenerative diseases<sup>15</sup>. Thus, even when having any type of disease, octogenarians perceive their health positively due to psychological factors. Studies show that the level of satisfaction with health is usually high among older adult Brazilians, especially in this age group<sup>16,17</sup>.

With regards to the negative association between positive self-report of cardiovascular diseases and positive self-perceived health, this finding corroborates those from other authors that the presence of chronic diseases such as cardiovascular ones can result in difficulties or even restrictions to routine activities of daily living, which influences self-perceived health among older adult individuals<sup>12,13</sup>.

Additionally, it was evidenced that the association between positive self-perceived health and older adult individuals who do not use medication is also indicated by other studies. A study performed with older adult individuals from the state of Minas Gerais found an association between use of medication and reports of poorer self-perceived health<sup>18</sup>, a fact that was also reported among older adult Finnish<sup>19</sup>. According to Loyola Filho et al.<sup>18</sup>, this association can be explained by the relationship between health problems and use of medication, as individuals seek health services when they are or perceive themselves to be ill, aiming to alleviate or solve their problem and receiving drug prescriptions as treatment.

Regarding the results of the association between receiving a monthly income higher than six minimum wages and positive self-perceived health found in this study, other studies that have investigated this theme in older adult Brazilians also found such association<sup>4,20,21</sup>. According to some studies<sup>22,23</sup>, this association can be attributed to the fact that individuals with a higher income have healthier behavior, as they seek health services more frequently and show better adherence to treatments, thus having a direct impact on older adult individuals' health perception.

Regarding behavioral factors associated with the outcome investigated, positive self-perceived health was associated with current smoking. Previous studies<sup>5,24</sup> found an association between smoking and poorer health perception, in contrast with the findings from the present study. This can be explained by the fact that older adult individuals who are experiencing the disease process tend to stop their smoking habit<sup>25,26</sup>. Thus, older adult individuals who currently smoke tend to have a better self-perceived health.

With regards to behavior associated with physical activity practice during leisure time, it was positively associated with positive self-perceived health. This finding is in agreement with the literature, which shows that more active individuals perceive their health to be more positive, when compared to those who are less active<sup>20,27</sup>. Moreover, this finding may also have been due to the fact that older adult individuals in this group participate in community groups, as it has been proved



that those participating in such groups are more physically active in all domains<sup>7</sup>.

Thus, the regular practice of physical activities can help to prevent several diseases and chronic conditions, improve one's ability to perform activities of daily living, and bring psychological and social benefits, factors that can have an influence on a more positive self-assessment of health<sup>28,29</sup>.

It should be emphasized that the present study has some limitations, among which are the use of a cross-sectional design, which does not allow cause-effect relationships between independent variables and the outcome to be inferred. Additionally, health variables were self-reported and, consequently, a certain existing disease could have been forgotten or some information could have been misreported. Moreover, the bias of survival, inherent in cross-sectional studies, cannot be ignored as an explanation for the results found, as only older adult individuals with a more adequate lifestyle reach this age as a rule.

The main positive aspect of the present study was the sample size (n=343) as a large sample was included, sufficient for the proposed statistical analyses. Additionally, studies with octogenarians are still scarce in Brazil, due to the difficulty to contact these individuals.

Longitudinal studies can contribute to a better understanding of the direction of the associations found. Furthermore, home studies could also find important data on this theme.

Self-perception of health can be considered as a good indicator of the health condition of older adults. In this sense, to show the variables that interfere with a positive self-perceived health of octogenarians participating in community groups is essential for the overall health surveillance of this age group and it helps to improve health actions. Moreover, this knowledge can also help to strengthen strategies for a more frequent use of health services that offer opportunities of social interaction and health promotion among older adults, considering the positive associations found between positive self-perceived health, the practice of physical activities during leisure time and having a job (paid or not). This increases the reduction in costs of hospitalizations and health treatments, which are very frequent in this older population.

In conclusion, working, smoking, and being physically active during leisure time were positively associated with self-perceived health in octogenarians participating in community groups in the city of Florianópolis. In contrast, having arthritis/rheumatism, diabetes and cardiovascular diseases and using medication were inversely associated with positive self-perceived health.

### Author contributions

R. R. Krug contributed to data collection, writing, project planning, data interpretation, draft preparation, critical review of the content and approval of the final version. I. J. C. Schneider contributed to the writing, project planning, data interpretation, draft preparation, critical review of the content and approval of the final version. S. C. Confortin, D. L. Antes and M. W. C. Giehl contributed to the writing, draft preparation, critical review of the content and approval of the final version. M. A. Lopes and G. Z. Mazo contributed to data collection, writing, critical review of the content and approval of the final version. A. J. Xavier and E. d'Orsi contributed to the project planning, data interpretation, critical review of the content and approval of the final version.

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