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Factors considered important for health maintenance by the population

ABSTRACT

OBJECTIVE: To analyze factors that adults and elderly individuals regard as the most important for health maintenance.

METHODS: A cross-sectional study performed with 4,060 adults and 4,003 elderly individuals in areas covered by 240 primary health units in the Brazilian Southern and Northeastern regions, in 2005. A card with pictures and sentences about seven factors associated with the risk of non-communicable diseases and health problems was shown to individuals so they should point out the most relevant factor for health. These factors were as follows: to maintain a healthy diet, to exercise regularly, to avoid excessive drinking, to have regular medical check-ups, not to smoke, to maintain the ideal weight, and to control or avoid stress. Adjusted analysis was carried out by Poisson regression, with calculations of adjusted prevalence ratios, respective 95% confidence intervals and significance values, using Wald tests for heterogeneity and linear trend.

RESULTS: Factors most frequently indicated by adults were the following: to maintain a healthy diet (33.8%), to exercise regularly (21.4%) and not to smoke (13.9%). Among the elderly, factors most frequently reported were: to maintain a healthy diet (36.7%), not to smoke (17.7%) and to have regular medical check-ups (14.2%). Differences among factors mentioned were observed, according to geographical region, and demographic, socioeconomic and health variables.

CONCLUSIONS: The majority of adults and elderly individuals of both regions recognize and indicate the need to maintain a healthy diet and not to smoke as the most important health maintenance measures. Health education strategies should consider these characteristics to promote specific measures to be adopted for each population segment.

DESCRIPTORS: Adult. Aged. Health Knowledge, Attitudes, Practice. Life Style. Risk Factors. Chronic Disease. Cross-Sectional Studies.

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INTRODUCTION

The Alma-Ata declaration,[11] which encourages international action to develop strategies aimed at the improvement of peoples' health-related care, has existed for 30 years now. In the Declaration, health education is included in the item related to primary health care as a key element to seek disease prevention and control and health promotion.[11] In Brazil, the National Primary Care Policy establishes that health practices including responsibility in all management spheres should be sought, thus enabling professional qualification and permanent health education.[6]

In this perspective, primary care is important as it brings to the population counseling aimed at the adoption of healthy life habits. Among these counseling practices, those related to physical activity have been included in several global health strategies. Likewise, nutritional counseling, stopping harmful habits such as smoking and alcohol drinking, obesity-related care and access to health services are emphasized.[2,7]

Although knowledge about health protection and risk factors is well disseminated, little is known about the population perception of the importance of such exposures, as well as the degree of value given to such factors.

The present study aimed to analyze factors that adults and elderly individuals consider more important to maintain health.

METHODS

Cross-sectional study performed with a sample of adults (30 to 64 years of age) and elderly individuals (65 years or older), living in areas covered by *Unidades Básicas de Saúde* (UBS – Primary Health Units) of 41 cities in the Brazilian Southern and Northeastern regions with more than 100,000 inhabitants, thus distributed: 17 in the state of Rio Grande do Sul (Southern region), two in the state of Alagoas, three in Paraíba, ten in Pernambuco and three in Rio Grande do Norte (Northeastern region), including all capitals of the states studied, between March and August 2005. This study was part of the *Estudo de Linha de Base do Projeto de Expansão e Consolidação da Saúde da Família* (PROESF – Baseline Study on Family Health Expansion and Consolidation), whose methodological details are available in other publications.[5,6,13]

Based on the lists from municipal departments of health, 120 UBSs with the following two primary health categories were randomly selected: *Programa Saúde da Família* (PSF – Family Health Program) and the traditional model. PSF units had family health teams, with a general practitioner, nurse, nursing assistants and community agents. The traditional units were characterized by the presence of specialized doctors in their teams (clinician, pediatrician and gynecologist-obstetrician), nurse, nursing assistant and management personnel for technical support, in addition to occasional support from other professional specialties (dentist, nutritionist, physical therapist) and medical specialties. In the selection, a proportionality with the size of the cities' primary care network was established: cities with larger networks contributed with a higher number of units. In the Southern region, a sample with 69 PSFs and 51 traditional UBSs was obtained, while, in the Northeastern region, a sample with 79 PSFs and 41 traditional UBSs was obtained.

Adults and elderly individuals were randomly selected among those living in UBS-covered areas. Based on a previously obtained map with the UBS coverage area, a population estimate was made from the census tracts of the *Instituto Brasileiro de Geografia e Estatística* (IBGE – Brazilian Institute of Geography and Statistics). In the selected households, only one resident was selected to participate in the study. Questionnaires were applied by 15 qualified supervisors.

The dependent variables in the study were constructed based on a card with sentences and pictures about seven factors associated with health maintenance. These factors were the following: to maintain a healthy diet, to exercise regularly, not to drink alcohol excessively, to visit a doctor regularly, not to smoke, to maintain the ideal weight, and to control or avoid stress. Interviewees should indicate the measure they considered most important to maintain their health.

The following independent variables were included in the model of hierarchical analysis: sex, age, ethnicity, socioeconomic consumption pattern[a] and level of education on the first level; marital status, smoking and insufficient physical activity level (<150 minutes per week of physical activity practice) on the second level; medical diagnosis of systemic arterial hypertension, medical diagnosis of diabetes, medical diagnosis of nervous disease, self-perception of health and paid work in the previous month on the third level.

Descriptive analyses included the calculation of proportions and respective 95% confidence intervals. Prevalence of outcomes was calculated for the group of independent variables. Possible differences in outcome

in relation to the region (Southern and Northeastern) were also found. Adjusted analysis was performed by Poisson regression, with the calculation of adjusted prevalence ratios, 95% confidence intervals and significance levels using Wald tests for heterogeneity and linear trend.[1] All analyses considered the sample design and a hierarchical model of outcome determination.[1] Variables with p ≤ 0.20 were maintained in the analysis model as a strategy to control possible confounding effects.[9] Analyses were made using Stata 9.2. software.

A total of 4,060 adults and 4,003 elderly individuals were interviewed. Rate of loss was 3.4% among adults and 4.7% among elderly individuals.

The study was approved by the Ethics Committee of *Faculdade de Medicina da Universidade Federal de Pelotas* (Pelotas Federal University School of Medicine). Informed consent was obtained from all participants.

RESULTS

Tables 1 and 2 describe the sample of adults and elderly individuals separately in relation to the independent variables of the study. The percentage of women was higher in the elderly individuals (61.2%) than in adults (55.1%). White individuals predominated in both age groups. In the elderly, both socioeconomic consumption pattern and level of education were lower than in adults. Among adults, the majority were married or lived with a partner (73.3%), whereas in the elderly there was a higher prevalence of widowed individuals (45.0%). Smoking was reported by 27.7% of adults and 15.2% of elderly individuals. As regards physical activity level, 31.8% of adults did not achieve the minimum scores recommended (at least 150 minutes per week of moderate physical activity), whereas this prevalence was 58.0% in the elderly. In terms of the reported diagnosis of hypertension, prevalence in the elderly (63.5%) was more than two times that of adults (28.0%). The same relation was observed in the case of diabetes, although with a smaller magnitude: 6.7% in adults and 19.5% in elderly (Table 1).

Prevalences of the most important measures to maintain a good health, indicated by adults, were the following: to maintain a healthy diet (33.8%; 95% CI: 32.3;35.2); to exercise regularly (21.4%; 95% CI: 20.2;22.7); not to smoke (13.9%; 95% CI: 12.9;15.0); to visit a doctor regularly (13.6%; 95% CI: 12.5;14.7); not to drink alcohol excessively (6.4%; 95% CI: 5.6;7.1); to avoid stress (6.2%; 95% CI: 5.5;7.0); and to maintain the ideal weight (4.6%; 95% CI: 4.0;5.3).

In the Southern region, prevalences for the same outcomes were 34.9% for maintaining a healthy diet, 20.6% for exercising regularly, 15.0% for not smoking, and 11.7% for visiting a doctor regularly, maintaining

the same trend of the general sample up to this point. The next most reported item in the Southern region was avoiding stress (6.8%), followed by avoiding alcohol (5.9%) and maintaining the ideal weight (5.1%). In the Northeastern region, 32.8% of individuals indicated maintaining a good diet primarily; 22.2%, exercising regularly; 15.3%, visiting the doctor regularly; 13.0%, not smoking; 6.8%, not drinking alcohol excessively; 5.7%, avoiding stress; and 4.2%, maintaining the ideal weight.

Tables 3 and 4 show the prevalences and the adjusted analysis of outcome in adults living in UBS-covered areas. "Maintaining a healthy diet" was associated with the female sex; A, B and C socioeconomic consumption patterns; and not smoking. "Exercising regularly" was associated with the male sex, age ranging between 30 and 40 years, higher education level, and no diagnosis of nervous disease. The only variable which was associated with "not drinking alcohol excessively" was being in the E socioeconomic level. "Visiting a doctor regularly" was found to be associated with the female sex, non-white ethnicity, and not having paid work in the previous month. "Not smoking" was associated with lower level of education, smoking, being physically active, and no medical diagnosis of diabetes. "Maintaining the ideal weight" was associated with the female sex and diagnosis of hypertension. Finally, "avoiding stress" was most frequent in women, of white ethnicity, not diabetic, and with nervous disease.

In the elderly, the measures most frequently reported as important to maintain good health were as follows: to maintain a healthy diet (36.7%; 95% CI: 35.2;38.3); not to smoke (17.7%; 95% CI: 16.5;18.9); to visit a doctor regularly (14.2%; 95% CI: 13.0;15.2); to exercise regularly (13.2%; 95% CI: 12.1;14.2); not to drink alcohol excessively (8.1%; 95% CI: 7.3;9.0); to avoid stress (6.2%; 95% CI: 5.5;7.0); and to maintain the ideal weight (6.1%; 95% CI: 5.3;6.9).

In the Southern region, prevalences for the same outcomes were 38.5% for maintaining a healthy diet, 17.5% for not smoking, 13.3% for visiting a doctor regularly and 13.1% for regular physical activity. The next most reported item in this region was avoiding alcohol drinking (8.0%), followed by avoiding stress (6.1%), and, finally, maintaining the ideal weight (3.5%). In the Northeastern region, 35.1% of individuals primarily indicated maintaining a healthy diet; 17.9%, not smoking; 14.9%, visiting a doctor regularly; 13.1%, exercising regularly; 8.3%, not drinking alcohol excessively; 6.1%, avoiding stress; and 4.5%, maintaining the ideal weight.

Tables 5 and 6 show the prevalences and adjusted analyses for the variables studied in relation to the outcome in elderly individuals. "Maintaining a healthy diet" was associated with the female sex, not smoking

Table 1. Sociodemographic characteristics of the sample of adults and elderly individuals living in UBS-covered areas. Southern and Northeastern regions, Brazil, 2005.

Variable	Adults (%)	n	Elderly (%)	n
Sex		4060		4003
Male	44.9	1822	38.8	1554
Female	55.1	2238	61.2	2449
Age (years)		4059		4003
30 to 40	36.2	1470	-	
41 to 50	31.1	1264	-	
51 to 64	32.7	1325	-	
65 to 70	-		38.5	1542
71 to 75	-		25.7	1030
76 to 79	-		18.5	739
80 or older	-		17.3	692
Ethnicity		4039		3985
White	65.3	2636	70.0	2789
Non white	34.7	1403	30.0	1196
Socioeconomic consumption pattern		3908		3650
A, B or C	37.4	1463	21.0	766
D	32.4	1267	33.7	1231
E	30.2	1178	45.3	1653
Level of education[a]		4047		3923
None	16.7	675	49.4	1938
Incomplete primary school	47.6	1927	43.2	1694
Complete primary school	11.5	464	4.0	155
Incomplete secondary school	4.9	200	-	
Complete secondary school	14.9	602	-	
Higher education	4.4	179	3.4	136
Marital status		4060		3970
Married or cohabitating	73.3	2975	42.7	1694
Widowed	7.1	287	45.0	1785
Separated/divorced	9.8	400	7.8	310
Single	9.8	398	4.5	181
Trabalho remunerado no último mês		4056		3957
No	51.3	2081	94.7	3747
Yes	48.7	1975	5.3	210

[a] For elderly individuals, the last category refers to the group of complete secondary school and higher education.

and absence of nervous diseases. "Exercising regularly" was associated with being aged between 65 and 70 years and being physically active. "Not drinking alcohol excessively" was associated with the male sex, being physically active, having nervous disease and having paid work in the previous month. "Visiting a doctor regularly" was associated with lack of physical activity exclusively, whereas "not smoking" was associated with the male sex, lack of education and smoking. Finally, "maintaining the ideal weight" was associated with the female sex, and "avoiding stress" with smoking and medical diagnosis of nervous disease.

Among adults and elderly individuals, sex was an important variable to indicate several measures, being associated with five of the seven measures in adults (maintaining a healthy diet [female, p<0.001], exercising regularly [male, p<0.001], visiting a doctor regularly [female, p<0.001], maintaining the ideal weight [female, p<0.001] and avoiding stress [female, p=0.04]) and with four in elderly individuals (maintaining a healthy diet [female, p<0.001], not drinking alcohol excessively [male, p=0.01], not smoking [male, p=0.002] and maintaining the ideal weight [female, p=0.01]). Age was a determinant for "regular physical

Table 2. Behavioral and health characteristics of the sample of adults and elderly individuals living in UBS-covered areas. Southern and Northeastern regions, Brazil, 2005.

Variable	Adults (%)	n	Elderly (%)	n
Smoking		4060		4000
No	72.3	1864	84.8	3393
Yes	27.7	2196	15.2	607
Physical inactivity		4023		3944
No	68.2	2744	42.0	1658
Yes	31.8	1279	58.0	2286
Medical diagnosis of hypertension		3960		3963
No	72.0	2850	36.5	1447
Yes	28.0	1110	63.5	2156
Medical diagnosis of diabetes mellitus		3897		3909
No	93.3	3634	80.5	3147
Yes	6.7	263	19.5	762
Medical diagnosis of nervous disease		4033		3956
No	74.0	2985	71.0	2808
Yes	26.0	1048	29.0	1148
Self-perception of health		4048		3951
Excellent	6.7	272	2.6	104
Very good	6.3	254	3.2	125
Good	38.3	1550	29.7	1174
Fair	38.2	1548	43.8	1732
Poor	10.5	424	20.7	816

activity" exclusively, in the groups studied, (adults aged between 30 and 40 years, p=0.003, and elderly individuals aged between 65 and 70 years, p=0.02). Ethnicity was associated with two measures in adults ("visiting a doctor regularly" [non-white, p=0.006] and "avoiding stress" [white, p=0.03]) and none in elderly individuals. Level of education was associated with "not smoking" in both groups studied (adults, p<0.001, and elderly individuals, p=0.000) and was a determinant for "regular physical activity" in adults (higher education level, p=0.002). Among both adults and elderly individuals, non-smokers indicated "maintaining a healthy diet" as important (adults, p=0.02, and elderly individuals, p=0.004), while smokers indicated "not smoking" (adults, p<0.001, and elderly individuals, p=0.000). Only in the elderly group did smokers indicate the need to avoid stress (p=0.009).

The insufficient level of physical activity (<150 min/week) was a variable with strong association with the identification of health measures in the elderly, of which those sufficiently active indicated "exercising regularly" (p=0.02) and "not drinking alcohol excessively" (p=0.02). Moreover, among the elderly, those insufficiently active indicated "visiting a doctor regularly" (p=0.02). Among adults, only "not smoking" (p=0.03) was more frequently reported by those physically active. As regards the diagnosis of chronic diseases

such as diabetes and hypertension, only in the group of adults there were associations with, respectively, "maintaining the ideal weight" (p=0.002) and "not smoking" (p=0.03). Those who did not have diabetes reported "avoiding stress" (p=0.05).

Among adults, for those with diagnosis of nervous disease there was association with "exercising regularly" (p<0.001) and "avoiding stress" (p<0.001). In the elderly, there was association with "maintaining a healthy diet" (p=0.008) for those who did not have a diagnosis, and with "not drinking alcohol excessively" (p=0.04) and "avoiding stress" (p=0.000) for those who had a diagnosis. As regards the "self-perception of health" variable, only in the elderly was there an association with "maintaining a healthy diet" (p=0.05) for those who perceived their health as very good. "Visiting a doctor regularly" was associated (p<0.001) with adults who had not performed paid work in the previous month, while "not drinking alcohol excessively" was associated (p=0.04) with elderly individuals who had performed paid work in the previous month.

DISCUSSION

The present study was the first to investigate factors considered more important to maintain health by

Table 3. Percentage of adults according to measure reported as most important to maintain health, adjusted prevalence ratios and sociodemographic characteristics. Southern and Northeastern regions, Brazil, 2005.

Variable	Maintaining a healthy diet		Exercising regularly		No alcohol drinking		Visiting a doctor regularly		No smoking		Maintaining the ideal weight		Avoiding stress	
	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)
Sex		p=0.00		p=0.00		p=0.10		p=0.00		1 p=0.28		p=0.00		p=0.04
Male	29.8	1	24.7	1	6.9	1	10.7	1	14.5	1	3.2	1	5.4	1
Female	37.0	1.26 (1.15;1.38)	18.8	0.76 (0.68;0.86)	6.0	0.82 (0.64;1.04)	18.6	0.77 (0.66;0.90)	13.5	0.92 (0.79;1.07)	5.8	1.81 (1.34;2.46)	6.9	1.29 (1.01;1.65)
Age (years)		p=0.11		p=0.00		p=0.36		p=0.60		p=0.35		p=0.17		p=0.92
30 to 40	32.2	1	24.0	1	5.7	1	12.9	1	13.0	1	4.3	1	6.9	1
41 to 50	35.2	1.09 (0.98;1.22)	21.7	0.92 (0.80;1.06)	6.9	1.18 (0.88;1.58)	14.1	0.96 (0.80;1.17)	13.3	1.01 (0.83;0.23)	4.3	1.00 (0.70;1.42)	5.3	0.78 (0.57;1.06)
51 or more	34.2	1.09 (0.98;1.21)	18.4	0.81 (0.69;0.93)	6.6	1.15 (0.85;1.54)	18.4	0.95 (0.79;1.15)	15.6	1.10 (0.90;1.33)	5.3	1.26 (0.90;1.76)	6.5	1.00 (0.7;1.37)
Ethnicity		p=0.18		p=0.00		p=0.06		p=0.01		p=0.45		p=0.77		p=0.03
White	34.8	1	22.2	1	5.6	1	13.9	1	13.5	1	4.6	1	6.9	1
Non-white	31.7	0.93 (0.85;1.03)	20.3	0.95 (0.84;1.08)	8.0	1.26 (0.99;1.61)	17.2	1.22 (1.04;1.43)	14.9	1.06 (0.90;1.25)	4.8	1.05 (0.78;1.40)	5.1	0.74 (0.5;0.97)
Consumption pattern		p=0.00		p=0.42		p=0.00		p=0.29		p=0.32		p=0.84		p=0.89
A,B,C	36.9	1	23.5	1	4.1	1	12.2	1	87.8	1	4.4	1	6.6	1
D	32.6	0.88 (0.80;0.98)	22.5	1.05 (0.91;1.23)	6.7	1.56 (1.13;2.16)	16.7	1.16 (0.95;1.41)	86.6	0.98 (0.80;1.20)	4.7	0.94 (0.65;1.36)	6.0	0.96 (0.70;1.31)
E	31.4	0.86 (0.77;0.96)	18.0	0.88 (0.74;1.06)	8.8	2.02 (1.49;2.77)	16.6	1.09 (0.88;1.34)	83.2	1.14 (0.92;1.42)	5.1	0.97 (0.64;1.47)	6.1	1.05 (0.74;1.49)

To be continued

Table 3 continuation

Variable	Maintaining a healthy diet %	PR (95% CI)	Exercising regularly %	PR (95% CI)	No alcohol drinking %	PR (95% CI)	Visiting a doctor regularly %	PR (95% CI)	No smoking %	PR (95% CI)	Maintaining the ideal weight %	PR (95% CI)	Avoiding stress %	PR (95% CI)
Level of education		p=0.64		p=0.00		p=0.55		p=0.80		p=0.00		p=0.10		p=0.30
None	31.6	1	16.8	1	8.3	1	17.9	1	18.6	1	4.4	1	4.7	1
IPS[a]	33.2	0.99 (0.87;1.13)	20.9	1.22 (1.01;1.48)	6.4	0.91 (0.66;1.27)	15.8	0.92 (0.73;1.15)	14.4	0.78 (0.64;0.94)	5.2	1.22 (0.81;1.85)	6.5	1.30 (0.88;1.90)
CPS[b]	34.6	1.00 (0.32;1.20)	22.0	1.26 (0.98;1.60)	8.4	1.49 (0.95;2.33)	13.2	0.95 (0.68;1.33)	10.6	0.57 (0.42;0.77)	5.0	1.19 (0.69;2.06)	5.8	1.15 (0.69;1.90)
ISS[c]	36.0	1.06 (0.84;1.34)	26.5	1.45 (1.09;1.94)	4.0	0.74 (0.34;1.58)	11.0	0.79 (0.50;1.25)	9.5	0.51 (0.32;0.81)	4.5	1.14 (0.53;2.45)	8.5	1.72 (0.98;3.03)
CSS[d]	36.9	1.04 (0.87;1.24)	25.3	1.41 (1.13;1.76)	4.0	0.80 (0.45;1.40)	13.5	0.96 (0.69;1.33)	10.8	0.58 (0.44;0.77)	3.5	0.86 (0.49;1.52)	6.5	1.29 (0.82;2.04)
Higher Education	35.2	0.97 (0.76;1.25)	25.7	1.49 (1.10;2.01)	3.6	0.9 (190.39;2.15)	11.7	0.91 (0.56;1.47)	12.9	0.69 (0.46;1.04)	2.3	0.53 (0.19;1.49)	7.3	1.39 (0.74;2.61)
Marital status		p=0.24		p=0.07		p=0.29		p=0.82		p=0.27		p=0.64		p=0.16
Married	33.3	1	22.4	1	6.0	1	15.2	1	13.5	1	4.7	1	6.5	1
Widowed	34.8	1.01 (0.85;1.19)	17.4	0.96 (0.73;1.26)	8.0	1.36 (0.88;2.10)	18.5	0.93 (0.67;1.31)	16.4	1.12 (0.85;1.48)	4.5	0.73 (0.41;1.29)	6.6	0.96 (0.60;1.52)
Separated	35.9	1.10 (0.95;1.27)	19.4	0.93 (0.75;1.14)	6.3	0.96 (0.63;1.46)	14.0	1.07 (0.82;1.40)	14.3	1.01 (0.78;1.30)	3.8	0.71 (0.42;1.21)	6.3	0.95 (0.63;1.42)
Single	34.4	1.06 (0.91;1.23)	19.1	0.83 (0.67;1.03)	8.0	1.27 (0.88;1.85)	12.6	1.00 (0.72;1.31)	15.3	1.17 (0.91;1.50)	5.0	1.07 (0.68;1.69)	4.3	0.68 (0.42;1.10)
Paid work in the previous month		p=0.22		p=0.78		p=0.11		p=0.00		p=0.19		p=0.27		p=0.07
No	33.7	1	19.7	1	5.8	1	19.5	1	14.8	1	4.9	1	4.9	1
Yes	33.7	1.06 (0.97;1.16)	23.3	1.02 (0.90;1.16)	7.0	1.23 (0.95;1.59)	10.4	0.70 (0.60;0.83)	13.1	0.90 (0.76;1.05)	4.4	1.19 (0.88;1.61)	4.4	1.28 (0.90;1.66)

[a] IPS: Incomplete primary school
[b] CPS: Complete primary school
[c] ISS: Incomplete secondary school
[d] CSS: Complete secondary school

Table 4. Percentage of adults according to measure reported as most important to maintain health, adjusted prevalence ratios and behavioral or health characteristics. Southern and Northeastern regions, Brazil, 2005.

Variable	Maintaining a healthy diet		Exercising regularly		No alcohol drinking		Visiting a doctor regularly		No smoking		Maintaining the ideal weight		Avoiding stress	
	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)
Smoking habit		p=0.03		p=0.28		p=0.37		p=0.13		p=0.00		p=0.33		p=0.61
No	36.2	1	22.5	1	5.8	1	14.1	1	9.7	1	5.1	1	6.7	1
Yes	31.7	0.91 (0.83;0.99)	20.5	0.94 (0.83;1.06)	6.7	1.12 (0.87;1.46)	13.2	0.88 (0.76;1.04)	17.6	1.76 (1.49;2.08)	4.2	0.87 (0.66;1.15)	5.9	0.94 (0.74;1.20)
Physically inactive		p=0.31		p=0.65		p=0.20		p=0.14		p=0.03		p=0.67		p=0.86
No	33.7	1	21.0	1	6.6	1	13.9	1	14.7	1	4.8	1	6.3	1
Yes	34.4	1.05 (0.96;1.15)	22.1	1.03 (0.91;1.17)	5.9	0.84 (0.64;1.10)	15.0	1.13 (0.96;1.33)	12.3	0.83 (0.70;0.98)	4.3	0.93 (0.69;1.27)	6.1	0.98 (0.75;1.28)
Hypertension		p=0.61		p=0.37		p=0.76		p=0.41		p=0.37		p=0.00		p=0.20
No	33.9	1	22.7	1	6.3	1	13.0	1	14.2	1	3.8	1	5.7	1
Yes	34.2	0.97 (0.87;1.08)	18.1	0.93 (0.80;1.09)	6.6	0.96 (0.73;1.26)	21.6	1.08 (0.90;1.29)	13.2	0.92 (0.76;1.11)	6.7	1.66 (1.21;2.29)	7.1	1.20 (0.91;1.59)
Diabetes		p=0.22		p=0.30		p=0.51		p=0.95		p=0.03		p=0.17		p=0.05
No	33.7	1	21.6	1	6.4	1	14.5	1	14.0	1	4.8	1	6.3	1
Yes	37.9	1.11 (0.94;1.31)	21.1	1.14 (0.89;1.46)	5.0	0.82 (0.46;1.47)	23.6	1.01 (0.73;1.39)	13.0	0.65 (0.44;0.96)	7.3	1.40 (0.87;2.25)	3.8	0.52 (0.27;1.00)
Nevours disease		p=0.30		p=0.00		p=0.45		p=0.25		p=0.08		p=0.72		p=0.00
No	33.2	1	23.8	1	6.0	1	12.7	1	13.1	1	4.4	1	5.2	1
Yes	35.6	1.05 (0.95;1.17)	14.5	0.67 (0.57;0.79)	7.0	1.12 (0.84;1.48)	21.8	0.89 (0.74;1.08)	16.3	1.17 (0.98;1.39)	5.3	0.94 (0.67;1.31)	9.2	1.64 (1.25;2.15)
Self-perception of health		p=0.99		p=0.15		p=0.30		p=0.74		p=0.10		p=0.45		p=0.40
Excellent	36.3	1	21.1	1	7.8	1	11.8	1	12.2	1	1.9	1	5.2	1
Very good	35.8	0.96 (0.77;1.22)	26.0	1.23 (0.90;1.67)	3.9	0.60 (0.29;1.27)	11.0	0.90 (0.59;1.36)	13.4	1.09 (0.69;1.72)	3.9	2.04 (0.71;5.88)	3.9	0.78 (0.35;1.75)
Good	32.7	0.90 (0.75;1.07)	22.0	1.14 (0.89;1.46)	6.9	0.91 (0.57;1.44)	11.2	0.86 (0.63;1.16)	14.8	1.08 (0.77;1.53)	4.5	2.09 (0.85;5.13)	5.9	1.04 (0.59;1.84)
Fair	33.4	0.92 (0.77;1.10)	20.7	1.21 (0.94;1.56)	6.0	0.71 (0.44;1.15)	17.8	0.87 (0.64;1.18)	13.9	0.98 (0.69;1.40)	5.3	2.04 (0.82;5.05)	7.1	1.16 (0.66;2.08)
Poor	36.0	1.01 (0.82;1.25)	18.3	1.27 (0.92;1.74)	6.4	0.79 (0.44;1.42)	24.1	0.93 (0.64;1.34)	12.9	0.74 (0.47;1.15)	5.0	1.83 (0.68;4.89)	6.4	1.07 (0.55;2.09)

Table 5. Percentage of elderly individuals according to measure reported as most important to maintain health, adjusted prevalence ratios and socio-demographic characteristics. Southern and Northeastern regions, Brazil, 2005.

Variable	Maintaining a healthy diet		Exercising regularly		No alcohol drinking		Visiting a doctor regularly		No smoking		Maintaining the ideal weight		Avoiding stress	
	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)	%	RP (95% CI)
Sex		p=0.001		p=0.06		p=0.01		p=0.80		p=0.002		p=0.01		p=0.16
Male	33.2	1	14.6	1	9.6	1	14.1	1	20.1	1	2.9	1	5.4	1
Female	40.0	1.17 (1.07;1.28)	12.2	0.85 (0.72;1.01)	7.2	0.75 (0.61;0.94)	14.1	1.02 (0.86;1.22)	16.2	0.80 (0.69;0.92)	4.7	1.59 (1.11;2.30)	6.5	1.21 (0.93;1.58)
Age (years)		p=0.44		p=0.02		p=0.10		p=0.17		p=0.59		p=0.48		p=0.17
65 to 70	38.3	1	13.9	1	7.3	1	13.2	1	17.3	1	3.5	1	6.6	1
71 to 75	34.7	0.90 (0.81;1.00)	15.5	1.17 (0.96;1.42)	8.4	1.15 (0.88;1.52)	14.2	1.07 (0.88;1.31)	17.5	1.01 (0.85;1.20)	4.0	1.15 (0.73;1.75)	5.7	0.87 (0.63;1.20)
76 to 80	34.9	0.91 (0.80;1.03)	12.1	0.95 (0.75;1.21)	8.6	1.18 (0.87;1.60)	15.2	1.15 (0.92;1.43)	16.6	0.90 (0.73;1.11)	5.3	1.40 (0.91;2.16)	7.3	1.11 (0.80;1.54)
80 or older	38.4	0.99 (0.87;1.12)	8.7	0.67 (0.49;0.90)	9.4	1.28 (0.94;1.76)	15.1	1.14 (0.90;1.44)	20.5	1.13 (0.92;1.37)	3.8	1.02 (0.61;1.70)	4.2	0.63 (0.41;0.98)
Ethnicity		p=0.12		p=0.34		p=0.90		p=0.69		p=0.97		p=0.60		p=0.27
White	37.6	1	13.0	1	8.2	1	14.4	1	17.4	1	3.8	1	5.8	1
Non-white	34.9	0.93 (0.84;1.02)	13.6	1.09 (0.91;1.31)	8.0	0.98 (0.76;1.27)	13.6	0.96 (0.79;1.17)	18.6	1.00 (0.86;1.17)	4.5	1.10 (0.77;1.59)	6.8	1.16 (0.89;1.52)
Consumption pattern		p=0.99		p=0.42		p=0.59		p=0.43		p=0.88		p=0.16		p=0.85
A,B,C	37.7	1	14.5	1	8.1	1	14.6	1	16.8	1	2.6	1	5.8	1
D	36.1	0.98 (0.86;1.11)	13.7	1.00 (0.79;1.26)	8.0	1.01 (0.74;1.38)	14.6	1.02 (0.81;1.29)	16.5	0.90 (0.72;1.11)	4.9	1.85 (1.11;3.08)	6.3	1.06 (0.72;1.56)
E	36.7	1.00 (0.88;1.13)	12.6	0.92 (0.72;1.17)	8.5	1.08 (0.80;1.45)	13.4	0.92 (0.73;1.17)	18.9	0.98 (0.80;1.21)	4.3	1.58 (0.95;2.63)	6.1	1.05 (0.71;1.54)
Level of education		p=0.25		p=0.06		p=0.90		p=0.23		p=0.000		p=0.39		p=0.43
None	34.9	1	12.6	1	8.3	1	13.6	1	20.9	1	3.8	1	5.8	1
Incomplete primary school	38.8	1.11 (1.01;1.22)	12.5	0.96 (0.80;1.15)	8.0	1.00 (0.78;1.28)	14.5	1.07 (0.91;1.27)	15.2	0.72 (0.62;0.83)	4.5	1.31 (0.93;1.85)	6.6	1.18 (0.90;1.54)
Incomplete secondary school	36.7	1.07 (0.86;1.33)	18.7	1.37 (0.96;1.96)	7.3	0.95 (0.51;1.75)	16.7	1.25 (0.86;1.83)	12.7	0.58 (0.38;0.90)	3.3	1.21 (0.47;3.14)	4.7	0.84 (0.40;1.79)
Complete secondary school or higher education	33.1	0.97 (0.76;1.25)	21.1	1.54 (1.08;2.20)	8.3	1.10 (0.59;2.06)	15.0	1.13 (0.74;1.73)	12.8	0.59 (0.37;0.92)	3.0	0.86 (2.69;2.74)	6.8	1.24 (0.63;2.42)
Marital status		p=0.19		p=0.14		p=0.11		p=0.40		p=0.76		p=0.54		p=0.71
Married	36.4	1	14.1	1	8.4	1	13.8	1	18.3	1	3.6	1	5.5	1
Widowed	37.1	0.92 (0.88;1.02)	12.9	1.01 (0.86;1.32)	7.5	1.04 (0.79;1.37)	14.6	1.04 (0.88;1.24)	17.1	1.03 (0.86;1.22)	4.1	0.84 (0.57;1.22)	6.7	1.18 (0.26;1.62)
Separated	36.8	0.93 (0.79;1.11)	11.9	0.91 (0.64;1.28)	9.1	1.23 (0.81;1.87)	10.2	0.77 (0.53;1.11)	20.0	1.17 (0.90;1.52)	4.9	0.93 (0.49;1.75)	7.0	1.20 (0.74;1.93)
Single	35.5	0.90 (0.73;1.12)	7.6	0.60 (0.35;1.04)	10.5	1.45 (0.91;2.33)	19.8	1.44 (1.04;1.99)	15.1	0.90 (0.62;1.30)	6.4	1.48 (0.79;2.76)	5.2	0.91 (0.45;1.80)

Table 6. Percentage of elderly individuals according to measure reported as most important to maintain health, prevalence ratios and behavioral and health characteristics. Southern and Northeastern regions, Brazil, 2005.

Variable	Maintaining a healthy diet		Exercising regularly		No alcohol drinking		Visiting a doctor regularly		No smoking		Maintaining the ideal weight		Avoiding stress	
	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)	%	PR (95% CI)
Smoking habit		p=0.004		p=0.16		p=0.29		p=0.43		p=0.000		p=0.94		p=0.009
No	37.9	1	13.4	1	7.9	1	14.7	1	16.4	1	4.1	1	5.7	1
Yes	30.3	0.82 (0.71;0.94)	12.1	0.84 (0.65;1.08)	9.5	1.70 (0.88;1.56)	10.9	1.04 (0.94;1.15)	25.1	1.40 (1.18;1.66)	3.7	1.02 (0.64;1.63)	8.4	1.51 (1.11;2.07)
Physically inactive		p=0.13		p=0.02		p=0.02		p=0.02		p=0.97		p=0.77		p=0.74
No	35.7	1	15.1	1	9.0	1	12.4	1	17.4	1	4.0	1	6.4	1
Yes	37.9	1.07 (0.98;1.17)	11.5	0.81 (0.68;0.96)	7.4	0.77 (0.61;0.96)	15.6	1.23 (1.04;1.45)	17.9	1.00 (0.86;1.15)	3.9	1.05 (0.75;1.47)	5.8	0.96 (0.74;1.24)
Hypertension		p=0.17		p=0.20		p=0.59		p=0.17		p=0.93		p=0.78		p=0.91
No	37.6	1	12.0	1	8.9	1	12.9	1	18.7	1	3.9	1	6.1	1
Yes	36.3	0.94 (0.86;1.03)	14.0	1.14 (0.94;1.38)	7.6	0.94 (0.74;1.18)	14.9	1.13 (0.95;1.34)	17.1	0.99 (0.85;1.16)	4.1	0.95 (0.67;1.34)	6.1	0.98 (0.75;1.29)
Diabetes		p=0.85		p=0.20		p=0.22		p=0.79		p=0.21		p=0.55		p=0.94
No	36.8	1	12.9	1	8.4	1	14.1	1	18.2	1	3.9	1	6.2	1
Yes	37.6	1.01 (0.91;1.13)	14.9	1.15 (0.93;1.42)	7.0	0.83 (0.61;1.12)	15.1	1.02 (0.84;1.25)	15.3	0.88 (0.73;1.07)	4.3	1.14 (0.75;1.73)	5.9	0.97 (0.71;1.34)

To be continued

Tabela 6 continuation

Variable	Maintaining a healthy diet %	PR (95% CI)	Exercising regularly %	PR (95% CI)	No alcohol drinking %	PR (95% CI)	Visiting a doctor regularly %	PR (95% CI)	No smoking %	PR (95% CI)	Maintaining the ideal weight %	PR (95% CI)	Avoiding stress %	PR (95% CI)
Nervous disease		p=0.008		p=0.09		p=0.04		p=0.71		p=0.13		p=0.17		p=0.000
No	38.1	1	12.8	1	7.8	1	14.4	1	18.3	1	3.7	1	5.1	1
Yes	33.7	0.87 (0.79;0.96)	14.1	1.18 (0.98;1.42)	9.4	1.28 (1.01;1.62)	13.8	0.97 (0.81;1.15)	15.7	0.88 (0.75;1.04)	4.7	1.28 (0.90;1.83)	8.5	1.61 (1.24;2.09)
Self-perception of health		p=0.87		p=0.38		p=0.67		p=0.69		p=0.76		p=0.20		p=0.38
Excellent	38.6	1	15.8	1	6.9	1	16.8	1	12.9	1	4.0	1	4.9	1
Very good	42.6	1.14 (0.83;1.57)	11.5	0.81 (0.42;1.58)	5.7	0.70 (0.24;1.99)	7.4	0.44 (0.21;0.94)	18.9	1.36 (0.72;2.56)	5.7	0.99 (0.27;3.61)	8.2	1.63 (0.58;4.57)
Good	36.8	0.97 (0.75;1.25)	13.1	0.87 (0.53;1.41)	8.7	1.30 (0.62;2.74)	13.7	0.76 (0.48;1.20)	19.2	1.34 (0.79;2.26)	3.7	0.85 (10.31;2.32)	4.8	0.90 (0.37;2.19)
Fair	34.7	0.90 (0.70;1.16)	14.3	0.90 (0.56;1.46)	8.4	1.28 (0.61;2.69)	14.9	0.79 (0.51;1.25)	16.8	1.22 (0.72;2.05)	4.5	0.90 (0.33;2.42)	6.7	1.26 (0.53;3.00)
Poor	40.3	1.07 (0.82;1.39)	10.7	0.75 (0.45;1.25)	7.4	1.17 (0.54;2.55)	13.7	0.70 (0.44;1.13)	18.2	1.25 (0.73;2.13)	3.0	0.60 (0.20;1.72)	6.7	1.20 (0.49;2.94)
Paid work in the previous month		p=0.84		p=0.42		p=0.04		p=0.25		p=0.77		p=0.90		p=0.20
No	36.7	1	13.3	1	7.9	1	14.4	1	17.2	1	4.0	1	6.0	1
Yes	35.8	1.02 (0.84;1.25)	12.3	0.85 (0.57;1.27)	12.3	1.50 (1.01;2.22)	10.3	0.78 (0.52;1.19)	18.1	0.95 (0.70;1.30)	3.4	0.95 (0.41;2.17)	7.8	1.40 (0.84;2.33)

adults and elderly individuals, in terms of methodology, outcomes investigated, and coverage in both regions. This study reveals that the majority of adults and elderly individuals recognize and indicate the diet as a key measure to maintain a healthy life. This choice was consistent in both regions and age groups investigated. According to Dittrich et al (1995), health care structures must be organized in the sense of a collaboration between the medical practice and the nutritional counseling for patients.[4] In the United States, a study performed with medical students shows that nutritional counseling can improve the behavior of patients towards the diet.[14] The result found probably manifests the already existing concern, among adults and the elderly, about the need to maintain a good diet as a strategy to continue to live a healthy life.

Another consistent result between the Southern and Northeastern regions was the reporting of "not smoking". The increase in the promotion of and counseling for problems caused by smoking shows some positive result, as identified by the results of the present study. Monteiro et al[10] (2007) believe the substantial decrease in the habit of smoking in adults of about 35%, between 1989 and 2003, results from the increase in dissemination of anti-smoking messages and from programs to prevent the onset of smoking in adolescents.

Likewise, "visiting a doctor regularly" came in third place among the priority prevalences of individuals in the sample. One explanation may be the fact that the sample from this study is comprised by individuals who live in UBS-covered areas, with the possibility of patients being more frequently counseled by health unit professionals to visit a doctor regularly. In addition, the population studied, by residing in an UBS-covered area, is poorer than the general population, thus requiring more health care.[8]

A study performed by Dias da Costa[3] (2008) shows that individuals with overweight and obesity consult a doctor more frequently, which could explain the reporting of the need to maintain the ideal weight by the elderly, due to greater exposure of this group to counseling during consultations. The same study also showed that adults give great importance to visiting a doctor, as exemplified by adults aged 50 years or older

consulting a doctor with a frequency three times higher than that of younger individuals.

Physical activity was the fourth most prevalent priority. In Brazil, counseling one to exercise as a health education strategy in primary care is still scarce; thus, it is expected that such measure is not well remembered as a health priority.[2,7] A study performed by Siqueira et al[13] (2008) showed that, among adults, only 23.9% received guidance on the practice of physical activity in the UBS in the previous year, whereas the same value was 30.3% among the elderly. Studies recommend physical activity as a strategy for a healthy life and against several morbidities, emphasizing the need to increase counseling for and recommendation of physical activity.[12]

Prevalences of priority measures, stratified by age, show some differences in findings for the total sample. Among adults, the most prevalent measure was always "maintaining a healthy diet" and the second, differently from the total sample of the study, was "exercising regularly". The third measure prioritized by adults is the same as that of the total sample and the Southern region: "not smoking"; while, in the Northeastern region, the third measure was "visiting a doctor regularly". The difference between the prioritization of "exercising regularly" in adults and "visiting a doctor regularly" in the elderly is believed to be associated with the fact that most advertisements are aimed at exercising regularly in some places, whereas, in other places, most are still aimed at visiting doctors regularly.[3]

Among the elderly, the same result found for the total sample was found in the Southern and Northeastern regions. The main difference in measures prioritized by adults was the choice for "regular medical visits" to the detriment of "exercising regularly". As the study sample is comprised by a poorer population, it is possible that these factors influence this difference. The PSF has a longer history in the Northeastern region, relying on the presence of community health agents, which could have influenced the UBS-covered population.

Health guidance must be improved in the sense of promoting behavioral changes in individuals. Actions coordinated between managers and different health professionals, who provide services in a UBS, are necessary, in addition to the qualification of professionals to improve guidance in areas not well remembered.

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