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NEW PERSPECTIVES FOR AGE GROUPINGS FOR OLDER PEOPLE

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ABSTRACT

Due to the increase in life expectancy, the number of elderly people in the world has increased 2, causing concern in health systems and social care. The present study aims at the general evaluation of the health status of the elderly in a Brazilian city, for the construction of disease prediction instruments. The present study has a descriptive character with a cross-sectional, observational, qualitative-quantitative approach, with 350 elderly individuals, of both sexes, divided into age groups: 69-69 years, 70-79 years, 80-84 years, 85-89 years, 90 years or older, according to the World Health Organization (WHO), the food frequency questionnaire ABUEL and WHOQOL-BREF were used. The variable works and Medication for heart should follow the pattern of age group according to OMS after proving the analysis of significance values, in which it was demonstrated that there is no standard if the ages are grouped. For the hypertension variable, it is recommended to use the following age range 60 to 69 years and 70 to 84 years, as shown in table 3, considering the value of $p \leq 0.196$, in which the age ranges show the same pattern of association. While the variable income is possible the use of the range of 60 to 79 years and 80 to 84 years, considering the value of $p \leq 0.234$. The grouping of the elderly by age groups according to the variables studied shows that in some dimensions of life, age does not significantly interfere.

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INTRODUCTION

The population over 60 years old is classified as elderly, in some countries (ALVAREZ and SANDRI, 2018), they are also considered the people who use the health system the most, both in developed countries and in developing countries.

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Due to the increase in life expectancy, the number of elderly people in the world has increased (PAPADIMITRIOU *et al.*, 2017), causing concern in health and social care systems (ZENG *et al.*, 2017), since with the increase (WHO, 2017), estimating about 40% of all hospital admissions (GILBERT *et al.*, 2017). According to the World Health Organization (WHO), global health spending amounts to $ 6.5 trillion, and an average annual health expenditure per person is $ 948.

Table 1. Correlation of the variables gender, socioeconomic level, quality of life, food consumption versus age groups

		60-69 Years	70-79 Years	80-84 Years		60-84 Years	
Variables		n(%)	n(%)	n(%)	p*	n(%)	p**
Gender	Male	52 (28,3)	38 (32,5)	15 (45,5)	0,140	105 (31,4)	0,269
	Female	132 (71,7)	79 (67,5)	18 (54,5)		229 (68,5)	
Works	Yes	43 (23,4)	5 (4,3)	1 (3)	0,000	49 (14,7)	0,000
	No	141 (76,6)	112 (95,7)	32 (97)		285 (85,3)	
Education	Incomplete Higher Education	1 (0,7)	2 (2,3)	0 (0)	0,050	3 (1,1)	0,277
	Complete Higher Education	11 (7,3)	1 (1,2)	0 (0)		12 (4,6)	
	Incomplete High School	7 (4,6)	6 (7)	0 (0)		13 (5)	
	Complete High School	22 (14,6)	10 (11,6)	2 (10)		34 (13,2)	
	Incomplete Elementary School	89 (58,9)	45 (52,3)	9 (45)		143 (55,5)	
	Complete Elementary School	6 (4,0)	9 (10,5)	3 (15)		18 (7)	
	No schooling	15 (9,9)	13 (15,1)	6 (30)		34 (13,2)	
Income	Does not contribute	33 (20,4)	6 (5,9)	3 (10,7)	0,011	45 (15,4)	0,070
	Contribute with less than 50%	66 (40,7)	45 (44,1)	18 (64,3)		129 (44,2)	
	Contribute with 50%	1 (0,6)	0 (0)	0 (0)		1 (0,3)	
	Contributes with more than 50%	3 (1,9)	6 (5,9)	0 (0)		9 (3,1)	
	Contributes with 100 %	59 (36,4)	45 (44,1)	7 (25)		111 (38)	
WHOQOL	Needs Improvement	22 (13,8)	10 (10)	5 (18,5)	0,770	37 (12,9)	0,936
	Regular	128 (80,5)	85 (85)	21 (77,8)		234 (81,8)	
	Good	9 (5,7)	5 (5)	1 (3,7)		15 (5,2)	
Food Consumption							
		60-69 Years	70-79 Years	80-84 Years		60-84 Years	
		n(%)	n(%)	n(%)	p	n(%)	p
CHO**	Deficient	7 (4,8)	2 (2,2)	1 (3,8)	0,907	10 (3,8)	0,985
	Normal	47 (32)	30 (33,7)	9 (34,6)		86 (32,8)	
	Excessive	93 (63,3)	57 (64)	16 (61,5)		166 (63,4)	
LIP**	Deficient	60 (40,8)	37 (41,6)	7 (26,9)	0,238	104 (39,7)	0,479
	Normal	69 (46,9)	45 (50,6)	18 (69,2)		132 (50,4)	
	Excessive	18 (12,2)	7 (7,9)	1 (3,8)		26 (9,9)	
PTN**	Deficient	103 (79,9)	59 (66,3)	20 (76,9)	0,569	182 (69,5)	0,770
	Normal	44 (21,1)	30 (33,7)	6 (23,1)		80 (30,5)	
	Excessive	0 (0)	0 (0)	0 (0)		0 (0)	
Iron	Deficient	105 (71,4)	64 (71,9)	17 (65,4)	0,391	186 (71)	0,661
	Normal	40 (27,2)	21 (23,6)	9 (34,6)		70 (26,7)	
	Excessive	2 (1,4)	4 (4,5)	0 (0)		6 (2,3)	
Sodium	Deficient	50 (34)	29 (32,6)	12 (46,2)	0,560	91 (34,7)	0,811
	Normal	51 (34,7)	29 (32,6)	5 (19,2)		85 (32,4)	
	Excessive	46 (31,3)	31 (34,8)	9 (34,6)		86 (32,8)	
Potassium	Deficient	89 (60,5)	57 (64)	17 (65,4)	0,659	163 (62,2)	0,877
	Normal	49 (33,3)	29 (32,6)	9 (34,6)		87 (33,2)	
	Excessive	9 (6,1)	3 (3,4)	0 (0)		12 (4,6)	
Calcium	Deficient	128 (87,1)	77 (86,5)	23 (88,5)	0,946	228 (87)	0,994
	Normal	17 (11,6)	10 (11,2)	3 (11,5)		30 (11,5)	
	Excessive	2 ,1,4)	2 (2,2)	0 (0)		4 (1,5)	

Source: NEPEdc Research 2018.
*It was not possible to perform analysis due to low sample size.
**CHO: Carbohydrate; PTN: Protein; LIP: Lipids.

Also showing that the country with the highest spending on health per person is the United States and the country with the lowest spending is Kiribati (WHO, 2018). What has required consistency in increasing funding for public health in order to get more healthy people in the future, with a 10% increase in local public health spending was associated with reductions in mortality from 1.1% to 6.9% (MCCULLOUGH, LEIDER, 2016). With the advancing years of life, the global burden of chronic diseases and metabolic disorders (hypertension, diabetes mellitus, high cholesterol and heart disease), disability and frailty (Srinonprasert; Chalermsri; Aekplakorn, 2018), malnutrition due to poor food intake (HUANG; Wahlqvist; Lee, 2014; Macdonell *et al*., 2018), which can cause anemia and malnutrition in the elderly. These changes are associated with biological / physiological and also pathological aging, which may accentuate the decline of vitality and increase health care costs (HUANG *et al*., 2018). Understanding that aging provides physiological, functional, nutritional deficits and increases the risk for the development of chronic diseases (ANFOSSI *et al*., 2018; SHIN, JEON, KIM, 2018; WARNER, 2018), improve risk prediction for development of nutritional deficiencies and diseases, may be crucial for the worsening and progression of diseases to be reduced, for treatment and palliative care to be effective, improving the quality of life of the elderly (Aullman, Baudhman, Lewick and Kozlov, 2018), which may impact on a reduction of public health expenditures or better application, as well as a reduction in hospitalization and death rates. In view of the above, the present study aims at the general evaluation of the health status of the elderly in a Brazilian city, for the construction of disease prediction instruments, as it is perceived the need to improve care using risk rates, with the creation of possibilities that anticipate, in the waiting room, the collection of information for a better care with the elderly and better care.

MATERIALS AND METHODS

The present study has a descriptive character with a cross-sectional, observational, qualitative-quantitative approach, performed in a municipality in the interior of Bahia (latitude: 14o51'58 "S; longitude: 40o 50'22" W), with 350 individuals elderly, of both sexes, divided into age groups, being: 69-69 years, 70-79 years, 80-84 years, 85-89 years, 90 years or older, according to the World Health Organization (WHO), presenting new grouping proposals for certain variables.

Table 2. Correlation of diagnosis of diseases, use of drugs versus age groups

		60-69 Years	70-79 Years	80-84 Years		60-84 Years	
Diseases		n(%)	n(%)	n(%)	p	n(%)	p
Anemia	Yes	15 (10,1)	9 (9,1)	2 (7,7)	0,905	26 (9,5)	0,984
	No	133 (89,9)	90 (90,9)	24 (92,3)		247 (90,5)	
Diabetes	Yes	29 (19,2)	18 (18,4)	2 (7,7)	0,361	49 (17,8)	0,564
	No	122 (80,8)	80 (81,6)	24 (92,3)		226 (82,2)	
Obesity	Yes	7 (4,7)	1 (1)	0 (0)	0,156	8 (2,9)	0,294
	No	142 (95,3)	98 (99)	26 (100)		266 (97,1)	
Hypertension	Yes	99 (63,5)	62 (62)	25 (96,2)	0,003	186 (66)	0,009
	No	57 (36,5)	38 (38)	1 (3,8)		96 (34)	
Cardiopathy	Yes	14 (9,4)	6 (7,1)	0 (0)	0,469	20 (7,4)	0,736
	No	135 (89,5)	91 (92,9)	26 (100)		252 (92,6)	
Arthritis	Yes	23 (15,2)	17 (17)	7 (26,9)	0,341	47 (17)	0,541
	No	128 (84,8)	83 (83)	19 (73,1)		230 (83)	
Pain Beck	Yes	43 (28,3)	24 (24,2)	4 (15,4)	0,351	71 (25,6)	0,553
	No	109 (71,7)	75 (75,8)	22 (84,6)		206 (74,4)	
Pain Neck	Yes	22 (14,7)	13 (13,1)	1 (3,8)	0,320	36 (13,1)	0,516
	No	128 (85,3)	86 (86,9)	25 (96,2)		239 (86,9)	
Stress	No	59 (39,9)	35 (37,6)	8 (32)	0,744	102 (38,3)	0,899
	With	89 (60,1)	58 (62,4)	17 (68)		164 (61,7)	
Depression	No	131 (83,4)	82 (82,8)	21 (80,8)	0,944	234 (83)	0,990
	With	26 (16,6)	17 (17,2)	5 (19,2)		48 (17)	
Anxiety	No	108 (73,5)	71 (78,9)	16 (64)	0,295	195 (74,4)	0,486
	With	39 (26,5)	19 (21,1)	9 (36)		67 (25,6)	
Drug Use							
		60-69 Years	70-79 Years	80-84 Years		60-84 Years	
		n(%)	n(%)	n(%)	p	n(%)	p
Pain	Yes	86 (54,8)	53 (53)	16 (61,5)	0,738	155 (54,8)	0,895
	No	71 (45,2)	47 (47)	10 (38,5)		128 (45,2)	
Sleep	Yes	15 (9,6)	13 (13,1)	4 (15,4)	0,539	32 (11,3)	0,744
	No	142 (90,4)	86 (86,9)	22 (84,6)		250 (88,7)	
Depression	Yes	7 (4,5)	6 (6)	1 (3,8)	0,830	14 (5)	0,946
	No	149 (95,5)	94 (94)	25 (96,2)		268 (95)	
Anxiety	Yes	10 (6,4)	5 (5)	2 (7,7)	0,841	17 (6)	0,951
	No	147 (93,6)	95 (95)	24 (92,3)		266 (94)	
Allergy	Yes	7 (4,5)	7 (7)	0 (0)	0,315	14 (5)	0,510
	No	149 (95,5)	93 (97)	26 (100)		268 (95)	
Asthma	Yes	3 (1,9)	3 (3)	0 (0)	0,618	6 (2,1)	0,810
	No	153 (98,1)	97 (97)	26 (100)		276 (97,9)	
Heart	Yes	43 (27)	33 (33,7)	14 (53,8)	0,022	90 (31,8)	0,054
	No	116 (73)	65 (66,3)	12 (46,2)		193 (68,2)	
Diabetes	Yes	32 (20,5)	17 (17)	2 (7,7)	0,273	51 (18,1)	0,458
	No	124 (79,5)	83 (83)	24 (92,3)		231 (81,9)	
Stomach	Yes	13 (19,7)	4 (9,5)	1 (11,1)	0,337	18 (15,4)	0,536
	No	53 (80,3)	38 (90,5)	8 (88,9)		99 (84,6)	
Pressure	Yes	9 (13,6)	8 (19)	0 (0)	0,323	17 (14,5)	0,520
	No	57 (86,4)	34 (81)	9 (100)		100 (85,5)	
Diuretics	Yes	17 (27)	11 (26,8)	1 (11,1)	0,581	29 (25,7)	0,780
	No	46 (73)	30 (73,2)	8 (88,9)		84 (74,3)	

Source: Search NEPEdc 2018.

The same is a fragment of a research called "Epidemiological Profile of Chronic Diseases of Victory of Conquest / BA", the data were collected, from July 2016 to September 2017. The results were obtained through questionnaires: (1) a food frequency questionnaire, which expresses how the general diet of the individuals studied is, (2) WHOQOL-Bref, was used to evaluate the quality of life of the individual's, (3) Pre-existing Diseases of ABUEL, which proposes to present an assessment of the health status of the person analyzed, in which questions were asked about "diagnosis of hypertension, diabetes, obesity, anemia, heart disease, rheumatoid arthritis, neck, "and" use of medications ", (4) for evaluation of the mental disorder score, we used the BECK to evaluate Depression and Anxiety and the Lipp to Stress (5) data according to IBGE parameters, (6) as well as questions such as: Schooling, Works. The participants were informed about the methods to be used for the collection, according to Resolution 466/12 (National Health Council), which consists of international research documents that involve human beings. It should be noted that this study was approved by the ethics and research committee, approval report No. 128818/2016.

The analyzes were carried out using the statistical software SPSS®, Version 25.0, and descriptive analysis were carried out to characterize the sample, in which the teststatistic used was the chi-square of Fisher.

RESULTS

Sample consisted of 350 elderly people, of whom 108 were male and 242 were female. It was verified that the elderly with 60 to 69 and 70 to 79 years of age had similar characteristic profiles with the predominance of the feminine gender, the majority do not work, contribute with 50% of the income and they have low schooling, the quality of life classified as regular, carbohydrate consumption was excessive, protein deficient and normal lipid, consumption of iron, potassium and calcium are deficient and normal sodium. In this population, a higher prevalence of hypertension and depression, vision and stress disorders, as well as a high consumption of pain medications and a low adherence to the treatment of hypertension and depression were observed, suggesting that the treatment is not being effective. hospitalization rates. As described in Tables 1 and 2.

Table 3. Explanation of difference between p values

		60 - 79 Years	80 - 84 Years		60 - 69 Years	70 - 84 Years	
Variables		n (%)	n (%)	p	n (%)	n (%)	p
Works	Yes	48 (98)	1 (2)	0.029	43 (87.8)	4 (12.2)	0.000
	No	253 (88.8)	32 (11.2)		141 (49.5)	144 (50.5)	
Income	Does not Contribute	39 (92.9)	3 (7.1)	0.234	33 (78.6)	9 (21.4)	0.012
	Contributes less than 50%	111 (86)	18 (14)		66 (51.2)	63 (48.8)	
	Contributes with 50%	1 (100)	0 (0)		1 (100)	0 (0)	
	Contributes more than 50%	9 100)	0 (0)		3 (33.3)	6 (66.7)	
	Contributes 100%	104 (93.7)	7 (6.3)		59 (53.2)	52 (46.8)	
Medication Heart	Yes	76 (84.4)	14 (15.6)	0.012	43 (47.8)	47 (52.2)	0.035
	No	181 (93.8)	12 (6.2)		116 (60.1)	77 (39.9)	
Hypertension	Yes	161 (86.6)	25 (13.4)	0.000	99 (53.2)	87 (46.8)	0.196
	No	95 (99)	1 (1)		57 (59.4)	39 (40.6)	

Source: Search NEPEdc 2018.

By this equality between the ages, a cluster analysis was performed in which it was shown that grouping the ages of 60 to 84 years has no significance on possible changes, proving that this grouping can be performed as a suggestion of improvement prediction of risk. The variable works (Table 1) and Medication for heart (Table 2) should follow the pattern of age group according WHO, being 60 to 69 years; 70 to 79 years; 80 to 84 years; 85 to 89 years; 90 to 94 years; 95 to 99 years and 100 years onwards, after proving the analysis of the significance values, in which it was demonstrated that there is no standard if the ages are grouped. For the variable Hypertension, it is recommended to use the following age range 60 to 69 years and 70 to 84 years, as shown in table 3, considering the value of $p \leq 0.196$, in which the age ranges show the same pattern of association. While the variable income is possible the use of the range of 60 to 79 years and 80 to 84 years, considering the value of $p \leq 0.234$ (Table 3).

DISCUSSION

Our findings confirm that the grouping of elderly people with different age groups is a new evolutionary path of research with the elderly. We verified that in all variables can be grouped according to age, as there is no statistical significance between the age groups and the grouping of 60 to 84 years, except the variables labor, income, heart medicine and hypertension, who suffer aging changes in accordance with the Tables 1, 2 and 3. it was found that in many studies, is not made for the age group of the elderly population being studied as a single classification as individuals ≥ 60 or 65 (In this study it was verified that for some variables it is not possible to group because the difference was significant (Fig. (BUCKINX *et al*., 2015), which may explain the lower labor activity, income, and higher disease burden, such as hypertension and use of drugs (FAN *et al*., 2015; WARWICK *et al*., 2015). Some factors may explain why the elderly are not grouped from 60 to 84 years old and the significant difference in the variables works and the contribution with the family income with the advancing age. With biological aging, many older people are beginning to distance themselves from work, mainly due to physical, functional, physiological, psychological and social declines (Tomioka, Kurumatani, HOSOI, 2017a, 2017b), as well as the increased burden of chronic diseases characteristic of this population (MOORE, HARTLEY, ROMERO-ORTUNO, 2018). The variable hypertension also had a statistically significant difference in relation to the grouping of the elderly in relation to age, as well as the use of medications for the heart. For physiological aging changes the physiological properties fundamental to the proper functioning of blood vessels and their regulatory systems, increasing the risk for the development of cardiovascular diseases, (DePalma *et al*., 2018;) increasing drug consumption as well as for controlling blood pressure which includes heart medications (POULTER; PRABHAKARAN; CAULFIELD, 2015), which can raise the elderly's spending and lower their financial contribution at home.

Final Considerations

Our findings open up possibilities for a new way of interpreting and using age groupings according to the studied variables, proving that in some dimensions of life, age does not significantly interfere when groups of different ages are compared, however in other points it was significant this difference, mainly, the losses of the functions of the daily life and the increase of chronic diseases, consequently the increase of the use of medicines. The findings are important because they open paths and possibilities for the creation of risk stratification profiles, as well as the elaboration of specific questionnaires that best fit the groupings. Its purpose is to improve the primary care and treatment of diseases, as well as the identification of risks for the development of pathologies more prevalent in the elderly, the longer they are, the greater the possibilities of increasing the burden of disease.

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