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RESEARCH ARTICLE

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AGING IN RURAL AND URBAN AREAS: A CASE STUDY ABOUT DIFFERENCES AND SIMILARITIES IN PARANAENSE TOWN

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ABSTRACT

This article aims at reporting the similarities and differences of elderly people living in rural and urban areas in a town from Paraná state. Based on this case study, the sociodemographic aspects and the perception of the elderly were based on eight axes of the World Health Organization – WHO, Elderly Friendly City Global Guide: Open spaces and buildings; Transport; Home; Social participation; Respect and social inclusion; Civic participation and employment; Communication and information and Community support and health services. The results showed that the demands for this sample are related to the axes of respect and social inclusion, and to the axis of housing. The similarities found in the sociodemographic profile of this sample of the elderly population are: gender, age group and living in the house. The differences reported by elderly people in rural areas are: safety and social interaction; and, of urban space are: mobility, and inclusion of the elderly in public management. Thus, a homogeneity was found in the sociodemographic profile of the elderly population residing in rural and urban areas of the studied town. Thus, the identified demands are similar to the WHO studies for environments favorable to the aging of the world population.

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INTRODUCTION

It is necessary to clarify that this research is part of a broader study, started in 2017, by a group of researchers-extensionists from the Federal Technological University of Paraná Campus Pato Branco. The researchers, since that period, have followed and supported technically and scientifically the process of international certification of Brazilian municipalities in the Cities and Communities Friendly to the Elderly Program, of the World Health Organization (WHO), through their insertion in the Global Network of Cities and WHO Age-Friendly Communities. In view of this, of the 18 Brazilian cities included in this Network, 12 are in the State from Paraná, in the southern region of Brazil. For this reason, in 2021, the Federal Technological University of Paraná Campus Pato Branco was recognized as a WHO Collaborating Center by the WHO itself. Thus, the locus of the study is characterized as one of the towns certified by the WHO, in the southern region of Brazil, in 2020. This research originates in attention to the demands of aging regarding to the social, physical and economic structure of cities around the world, portrayed by the United Nations (UN), and the World Health Organization. The world phenomenon of population aging extends in the 21st century to developing countries, such as Brazil, which is experiencing the

inversion of the age pyramid, with the UN projected that in 2050 the number of people over 60 years of age will be about three times greater than the current one. The elderly will represent about a fifth of the projected world population, that is, 1.9 billion individuals (out of a total of 9 billion), which makes urgent the need for studies and investigations that contribute to the improvement and/or maintenance of planning, urban and quality of life for this age group (FELIX, 2013, p.1). In this sense, the main objective of this study is to point out similarities and differences of aging in rural and urban areas through the perception of elderly people. It is considered that the region or location where the individual develops during childhood has been pointed out as a predictor of diseases in adulthood and old age. Since in rural areas, specific and differentiated conditions of the urban environment are mixed for child development, of those who are now elderly people (SANTOS et al, 2016). Therefore, cities need to prepare for the aging of their population. The WHO indicates that the perception by the elderly themselves about the place where they live helps decision-makers, managers and civil society in adapting environments for the healthy and active aging of their population (WHO, 2008). In this regard, the document "Global Guide to Elderly Friendly City", prepared by the WHO in 2008, after a study in 33 cities from 22 countries, points out fundamental issues for political and social actions in favor of an active and healthy aging of the

population. (WHO, 2008). This Global Guide presents eight dimensions for which cities must be prepared for the aging of their population, namely: open spaces and buildings, transport, housing, civic participation and employment, community support and health services, respect and social inclusion, communication and information and social participation (WHO, 2008). The document has been used in worldwide research on the subject, highlighting the role of the elderly population, through listening to this population. In terms of the structure of the article, after this introduction, the following are presented: the methodology, in which it is described which, how, at what time, with whom and in what sequence the study was conducted; the results found by the researched sample; and, as final considerations, making dialogues between the authors and studies on the proposed theme, presenting the main gaps, in order to demonstrate the relevance and encourage new studies and research in the area.

METHODOLOGY

The methodology used in this article was a case study, with analysis of a quantitative and qualitative approach. Elderly people living in rural and urban areas in Itapejarad'Oeste town, located in the Southwest region of Paraná state, southern Brazil, were evaluated. This selection was chosen because Itapejarad'Oeste is the only town in Brazil mentioned in the Pan American Health Organization's (PAHO/WHO) "Panorama on Elderly Friendly Cities and Communities in the Americas During the COVID-19 Pandemic" (PHAM, 2021). Therefore, the sample was selected randomly and by voluntary adhesion, following the inclusion and exclusion criteria, namely: elderly people aged 60 years or over, not incarcerated, citizens of Itapejarad'Oeste. The data collection used in this study follows the Vancouver Protocol, used in global surveys of WHO's Age-Friendly Cities and Communities (WORLD HEALTH ORGANIZATION, 2008). The Vancouver Protocol is the most used methodology in the Age-Friendly Cities and Communities survey by WHO. It is a qualitative approach by focus groups based on the eight axes of the Global Guide for Age-Friendly City: (WHO, 2008; OLIVEIRA et al, 2018). In addition, the quantitative methodology traced the sociodemographic profile of the urban and rural elderly population in the municipality of Itapejara do Oeste through an individual interview. The sample size was calculated considering the Cronbach's Alpha construct greater than 0.8, Figure 1, ideal in research and diagnoses, so the sample surveyed was 315 people.

$n = \frac{N}{1 + \frac{N \times d^2}{Z^2 \times p \times q}}$	<p>n: is the number of elements in the sample (sample size); N: is the number of elements in the population (population size); Z: is the value of the abscissa of the normal curve associated with the confidence level; d: is the tolerable error of the sample (sample precision) in percentage; p and q: proportion of choosing a given company at random.</p>
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Source: Triola (1999, p. 410)

Figure 1. Calculation formula for sample

Thus, to calculate the sample, in order to obtain a confidence level of 95%, the Critical Value $Z = 1.96$ was used; sampling error (d) of 4%; p and q = 0.5. The data collection instruments were sociodemographic questionnaires to characterize the sample, containing the following variables: sex, age, marital status, education, race, current occupation, salary income, family arrangement, housing, habits, addictions, medications in use, diseases, as well as issues related to physical exercise and leisure. Subsequently, another self-explanatory structured questionnaire was applied, related to the perception of the elderly regarding eight axes of the Global Guide for the Elderly Friendly City, namely: open spaces and buildings, transport, housing, civic participation and employment, community support and health services, health, respect and social inclusion, communication and information and social participation. The elderly people surveyed indicated an alternative for each variable within each axis presented, on a scale of five importance, very bad (1), regular (2), good (3), excellent (4), not applicable or unable to answer (0). The results were tabulated and treated with descriptive statistics, using the Koobocolect software from Harvard University (PHAM, 2018) followed by the realization of sociodemographic correlations among

the main demands and positive points pointed out by the elderly in the urban and rural areas of the town.

RESULTS AND DISCUSSION

Itapejara D'Oeste is located in the southwestern region of the state of Paraná, southern Brazil. According to the 2010 census, it has 10,531 inhabitants. In the last two decades, the urbanization rate grew by 53.52%. The urban population of the town in the 2010 census was 3,909 inhabitants (43.22%) and in 2010 it was 6987 inhabitants (66.35%). In 1991, in the rural area, it had 5,136 inhabitants (56.78%) and, in 2010, it had 3,544 inhabitants (33.65%) of the total population (IBGE, 2010). Of these, 592 (41.25%) are elderly people, belong to the rural area and 843 (58.75%) elderly people belong to the urban area. According to the Paraná Institute of Economic and Social Development, IPARDES, in 2019. Of this total population, 697 (48.57%) are elderly males over 60 years of age and 738 (51.43%) are male female, forming a total of 1,435 elderly people. The town has a longevity IDHM of 0.828 (IPARDES, 2019). The characteristics of the elderly in terms of color: 9 (0.06%) consider themselves yellow, 840 (58.54%) white, 169 (11.78%) brown and 40 (0.28%) black. As for literacy: of men over 60 years old, 576 (82.64% of all men) are literate and of women 530 (71.82% of all women) are literate (IBGE, 2010). The researched sample, random by membership, reached the number of people corresponding to 90 people in the rural area (28.57%) and 225 people in the urban area (71.43%), with a total of 315 people. For this extract of the population, the sociodemographic data showed that in the rural area, table 1, most of the interviewees 65.56% are between 61 and 70 years old and that 23.33% are between 71 and 80 years old and 11.11% are from 81 to 90 years. These data are similar to that of the urban environment where the researched sample is concentrated in greater numbers between 61 to 70 years old, representing 54.67% of the total sample, 35.56% from 71 to 80 years old, 8.44% from 81 to 80 years old, 90 years old, 91 to 100 years old and 26 to 40 years old were interviewed 2.66% of the sample. In the gender data, table 2, there is a larger sample both in urban and rural areas for females, 61.78% in urban areas and 56.57% in rural areas. As for housing, table 2, 81.58% of the sample in the rural area and 80% in the urban area live with a spouse, 18% in the urban area and 14.47% in the rural area live with their children and grandchildren and 13% in the urban and 9.21% in rural areas live alone.

In relation to current work, table 3, 95.5% of respondents in urban areas and 78.89% of respondents in rural areas are retired, 21.11% work in rural areas and 1.3% work in agriculture. in the urban area. Only in the urban area was the current work of the sample found, such as: businessmen and commerce workers, workers with a formal contract, civil servants and informal workers. The questionnaire applied to the eight dimensions of the Global Guide City Friendly to the Elderly (WHO, 2008), raised the main demands of the population in rural and urban areas, through questions that aimed at measuring the profile and perception of the population aged 60 years of age or older in the town. Thus, for the rural population, table 4, the issue of interaction between young and old, in the axis of respect and social inclusion, and the issue of safety, pointed out in the housing axis, were considered by most of the sample as the main existing demands. As for the urban population surveyed, the main demands found, were: traffic lights in the transport axis and the issue of interaction between young and old, in the axis of respect and social inclusion, which is presented as the main demand of the rural area as the main demands raised, as shown in table 5. As for the positive aspects of the sample surveyed, it was pointed out that, for both the rural and urban populations of the town housing financing policies and the creation of a department for the elderly, table 6, obtained the greatest relevance, according to the scale used. The results show that for this sample, the urban and rural areas point to the same positive aspects, which are the creation of the department for the elderly and the release of financing policies for the elderly. Regarding to the demands in the dimensions surveyed, the demand for interaction between young people and the elderly is presented by the elderly in rural and urban areas, but in the urban area the demand for traffic lights is pointed out and in the rural

Table 1. Age group

Area	Age group (%)						
	26 to 40 years	41 to 50 years	51 to 60 years	61 to 70 years	71 to 80 years	81 to 90 years	91 to 100 years
Urban	1,333	0,444	98,223	54,667	35,556	8,444	1,333
Rural	0,000	0,000	0,508	65,556	23,333	11,111	0,000
Total	0,952	0,317	98,731	57,779	32,063	9,206	0,952

Source: Authors (2021)

Table 2. Gender and Housing

Area	Gender			Live with				
	Female	Male	NS/NR	Partner	children/grandchildren	With other elderly person	Alone	NS/NR
Urban	61,778	37,778	0,444	80,000	18,000	2,000	13,000	1,000
Rural	56,667	43,333	0,000	81,579	14,474	3,947	9,211	0,000
Total	60,317	39,365	0,317	80,435	17,029	2,536	11,957	0,725

Source: Authors (2021)

Table 3. Current work

Area	Currentwork									
	Farmer	Retired	Businessman/commercial worker	with a formal contract	Civil servant	Pensioner	Self-employed	Pensioner Informalwork	Other	NS/NR
Urban	1,333	95,556	2,222	0,889	2,667	0,889	3,556	0,889	91,110	0,889
Rural	21,111	78,889	0,000	0,000	0,000	97,778	1,111	0,000	1,111	0,000
Total	6,984	90,794	1,587	0,635	1,905	0,952	2,857	0,635	93,016	0,635

Source: Authors (2021)

Table 4. Demand in rural areas – Housing Axis and Respect and Social Inclusion Axis

Are	Home alarmandsecurity					
	Excellent	Good	Regular	VeryPoor	Notapplicable	NS/NR
Urban	0,889	16,444	69,334	13,333	39,111	1,778
Rural	3,333	22,222	56,667	17,778	23,333	2,222
Total	1,587	18,095	65,715	14,603	34,603	1,905
Young/elderlyinteraction						
Urban	1,333	12,889	66,222	19,556	29,333	2,222
Rural	3,333	34,444	43,334	18,889	2,222	0,000
Total	1,905	19,048	59,682	19,365	21,587	1,587

Source: Authors (2021)

Table 5. Demand Urban Area – Transport Axis and Respect and Social Inclusion Axis

Area	Trafficlights					
	Excellent	Good	Regular	VeryPoor	Notapplicable	NS/NR
Urban	0,000	3,556	7,556	88,888	77,778	2,222
Rural	0,000	13,333	80,000	6,667	55,556	7,778
Total	0,000	6,349	85,397	8,254	71,429	3,810
Young/elderlyinteraction						
Urban	1,333	12,889	66,222	19,556	29,333	2,222
Rural	3,333	34,444	43,334	18,889	2,222	0,000
Total	1,905	19,048	59,682	19,365	21,587	1,587

Source: Authors (2021)

Table 8. Positive aspects urban and rural areas – Housing Axis and Social Participation Axis

Area	Políticas de financiamento de moradia					
	Excellent	Good	Regular	VeryPoor	Notapplicable	NS/NR
Urban	25,778	54,222	16,000	4,000	5,333	2,222
Rural	22,222	50,001	23,333	4,444	1,111	0,000
Total	24,762	53,016	18,095	4,127	4,127	1,587
Department for theelderly						
Urban	21,333	58,667	18,667	1,333	8,000	4,444
Rural	36,666	35,556	25,556	2,222	1,111	0,000
Total	25,397	52,381	20,635	1,587	6,032	3,175

Source: Authors (2021)

area the demand refers to safety and accessibility in housing. The research pointed out the socio-demographic profile and the main demands and similarities of the elderly in rural and urban areas of Itapejarad'Oeste town, among the eight axes indicated by the WHO. The profile of the elderly in rural and urban areas is similar in terms of occupation: retirees (78.89% rural and 95.56% urban); housing: living with spouses (80% rural and 81.58% urban); female gender (56.67% rural and 61.78% urban) and age group surveyed: between 60 and 71 years. In this profile, the participation of the female portion of the population is highlighted, which is also found, as a demographic change pointed out by IBGE data, in the last 2010 census. In the study by Luchmann et al (2016), male dominance is found in at all scales in directions or heads, it is accentuated at the federal level, mainly in the representation of civil society, whereas the participation of women is more in local heads and in the social assistance area. The discussion about the results found reports the perceptions of the elderly and shows the scenario in which these people would like to be inserted. In this sense, the differences in the demands highlight the issues of safety, valuing the elderly by the government, interactions between young people and the elderly, urban mobility and housing. In this study, the concern of the elderly population with issues such as isolation is present. This demand is related to aspects found in the elderly, who form a differentiated set of population, with specific care and attention for each individual, and even for each group identified by location. In this sense, the use of public spaces suitable for coexistence is fundamental for the quality of life of users (OLIVEIRA et al, 2018). One of the demands pointed out in this study, security and urban mobility, dialogues with the studies by Gohn (2002), of expanded citizenship, formulated by social movements that, from the late 1970s and throughout the 1980s, organized themselves in the Brazil around demands for access to urban facilities such as housing, water, electricity, transport, education and health, which may, in this decade, be pointed out as favorable factors for a sixty-year-old population. In this way, as a common point among scholars about the urban in the 1990s, and, about the new role of cities in the process of social change, among the numerous legal instruments elaborated in that same decade by movements and organizations articulated to guarantee the population, the City Statute, the National Fund for Popular Housing and the National Council for Popular Housing stand out (YOUNG, 2006). Thus, it is considered that, in rural areas, the quality of life of the elderly reflects on health and leisure, in addition to contributing to their own well-being, it contributes in various social situations, such as the preservation of the environment, conservation of springs of water, trees, soil and even community organization. Elderly people who grow old in rural areas are faced with some difficulties in health and transport services, while elderly people in urban areas, despite having greater ease in health services, are at greater risk of loneliness (OLIVEIRA et al. al, 2019).

Final Considerations

Itapejara D' Oeste is the 15th town certified in the Network of City and Communities Friendly with the Elderly in Brazil. It stands out for being the only town to report to PAHO/WHO, good practices for the elderly during the COVID-19 Pandemic in the Americas. In addition, the quantitative and qualitative methodology used in the research carried out is significant as a model for other cities that seek to become part of the Network of Cities and Communities Friendly to the Elderly. Thus, the main objective of this study pointed out that the similarities and differences of aging in rural and urban areas through the perception of the elderly, reported similarities regarding to the sociodemographic aspects of the urban and rural population, these similarities resemble the national profile of in the same population, the female portion of the population is higher, the percentage of elderly people is higher in the age group between 60 and 70 years old, the urban area is where the largest portion of the elderly population is concentrated, and economically they depend on retirement as their main income. The demands reported through the elderly people's perception of environments prepared for aging are similar in terms of housing, respect and social inclusion. In this way, safety and mobility in their homes are identified as one of the priorities for aging, together with the fight against isolation, pointed out as a guideline by WHO, in

the demand for respect and social inclusion. On the other hand, the differences pointed out by the elderly population in urban and rural areas indicate that the elderly who live in the urban area refer to participation in public management, a fact that favors the active participation of the elderly population in decision-making. In rural areas, security is identified as a demand, highlighting the issue of isolation and the difficulty of mobility in rural areas. Under these aspects, it is concluded that with the results found in the locus and time period of the researched sample, they are in line with the guidelines indicated by the UN and WHO for the active and healthy aging of the population. In this way, it is expected that this article will support public planning, considering both urban and rural areas for the benefit of an active aging of the elderly population.

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