

# Multidimensional profile of elderly participants of an influenza vaccination campaign



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## Abstract

**Objective:** To describe the multidimensional profile of the living conditions of a group of elderly participants of an influenza vaccination campaign. **Method:** A cross-sectional study was performed, with data collection carried out between April and May 2010. A convenience sample of 225 elderly persons from 13 municipal health centers in Uruguaiana in the state of Rio Grande do Sul and vaccinated in the national influenza vaccination campaign was used. Subjects were interviewed using a structured script and statistical analysis of the data was performed. **Results:** Most elderly persons were female (62.2%), aged between 60 and 70 years (64.8%), married (40.4%), had a monthly income below the level of poverty (55.5%), used the Unified Health System (79.1%) and reported having good health (63.5%). Watching TV was one of the most common leisure activities. All the elderly women participants and 94.1% of the total sample were religious, with the catholic and evangelical faiths reported most frequently. Participants in the study described proper nutrition and a healthy lifestyle as being most likely to result in longevity. Family and health were among the most important factors in the life of the elderly individuals. Alcoholism, drugs, crime, violence, and political corruption were cited as the main problems for Brazil. All seniors were independent in basic and instrumental activities of daily living. **Conclusion:** Understanding the living conditions of the elderly assists healthcare professionals and supports the implementation and development of appropriate public policies for this population group.

**Key words:** Elderly; Social Conditions; Health of the Elderly.

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## INTRODUCTION

The population of Brazil finds itself in a process of changing life expectancy, evidenced by increased numbers of elderly persons.<sup>1</sup> In Rio Grande do Sul, the percentage of elderly people was 14.7% in 2011, the second highest elderly population in Brazil, behind only Rio de Janeiro (14.8%), with both states having the highest aging rates in the country: 70.9 and 72.7 respectively.<sup>1</sup> This large quantity of elderly people can be explained by the fact that Rio Grande do Sul is considered to be a state with good social economic, cultural and health conditions,<sup>2</sup> increasing life expectancy still further.

In the context of this populational reality, the need to prevent diseases that affect the elderly, among which influenza stands out, due to it resulting in serious complications that can lead to death, is highlighted. Influenza is caused by globally distributed viruses. According to the World Health Organization (WHO), it is estimated that 5% to 15% of the population are affected and that, overall, influenza results in three million to five million severe cases and 250,000 to 500,000 deaths every year.<sup>3</sup>

The main intervention against this disease is vaccination. An annual campaign, carried out in Brazil every year since 1999 between the months of April and May, has contributed to the prevention of influenza among vaccinated groups, and has had an impact in reducing hospital admissions, drug costs in treating secondary infections, and preventable deaths.<sup>4</sup>

Most deaths from influenza occur among the elderly and, proportionally, complications occur much more frequently among people with comorbidities and a history of hospitalizations. However, there has been a reduction in the number of deaths from influenza among the elderly, which indicates that wide vaccination coverage is able to reduce the impact of mortality.<sup>5</sup>

These findings reinforce the need to understand the living conditions of the condition of elderly persons in order to plan and act preventively to address the needs of such people, creating the possibility of obtaining improved results in living conditions and health. In this context, living conditions are understood to be the unique position of each individual, arising from a large number of dimensions, involving economic, social, environmental, cultural and spatial, the results of an interactive process, which effects the individual and collective experience, and the momentary individuality of each environment.<sup>6</sup>

In this context, the aim of this study was to describe the multidimensional profile of the living conditions of a group of elderly participants of the vaccination campaign against influenza in the city of Uruguaiana, Rio Grande do Sul.

## METHOD

A quantitative cross sectional study was performed, with data collection carried out between April and May 2010, during the national influenza vaccination campaign for the elderly. The study location was the city of Uruguaiana, Rio Grande do Sul, which has an elderly population of 13,694 people (10.9%)<sup>7</sup> and 13 Health Centers (HS).

Non-institutionalized elderly persons of both genders who lived in Uruguaiana, Rio Grande do Sul and used the city's health centers were invited to participate in the study. A convenience sample was used, based on probability sampling, and included a total of 225 elderly participants of the campaign against influenza in the 13 municipal health centers. The data collection instrument was applied when the elderly came to the HS to receive their influenza vaccination, with a 40 minute interval between respondents.

A maximum absolute variance proportion of 0.25 was established, resulting from  $p(1-p)$  for  $p=0.50$ , with a level of confidence of 95.44%

( $z=2$ ). The approximate error of the inference of proportion did not exceed 1.87% in the study sample.

Data was collected by 29 students from the Nursing course of the Universidade Federal do Pampa (UNIPAMPA), who were previously trained. A structured questionnaire was applied, composed of closed questions on general data, housing, income, occupation, health, socio-cultural aspects, spiritual aspects, aging and functional capacity. This questionnaire had been validated in a previous survey, conducted in the city of Curitiba-PR.<sup>8</sup> The instrument used in this study covered the functional capacity of the elderly in activities of daily living and social participation. The initial questions were related to instrumental activities of daily living (IADL), more complex activities that require a greater degree of independence, or in other words, the ability to take care of one's own life.<sup>9</sup> The questionnaire also asked about Basic Activities of Daily Living (BADLs), the performance of much simpler, personal and daily tasks.<sup>9</sup>

The sample of 225 elderly individuals was exceeded, and 296 individuals were interviewed, resulting in a degree of confidence in the results of the study. Ultimately, however, the *BioEstat* 5.0 program was used to select and retain a convenience sample of 225 respondents.

Data was entered, tabulated and processed. It was then compiled, and a database with graphs and tables was created, providing simple statistical analysis of quantitative data.

The study was approved by the Ethics Research Committee of the Universidade Federal do Pampa, under registration nº 006/10. All the participants signed a Free and Informed Consent Form and had their confidentiality guaranteed.

## RESULTS

Of the 225 elderly persons interviewed, 140 (62.2%) were women and 85 (37.8%) were men. Elderly widows aged between 60 and 70 years old, with up to five children and who lived in brick houses with their children predominated, according to the data in table 1.

The variable *income* was grouped into fractions of the 2010 minimum wage, with a benchmark value of R\$510.00<sup>10</sup>. An individual and family income of up to one monthly minimum wage for elderly women and between one and two minimum wages for elderly men predominated. The results are displayed in Table 2. In addition to this data, it was found that income came mostly ( $n = 182$ ; 80.9%) from retirement payments and pensions.

**Table 1.** Distribution of elderly persons according to gender, age range, marital status, living arrangements and type of housing. Uruguaiana, RS, 2010.

Aspects evaluated	Gender			
	Female		Male	
	n	%	n	%
Quantitative	140	62.2	85	37.8
Age range				
60 to 70 years	89	63.6	57	67.0
71 to 80 years	40	28.6	20	23.5
Older than 81 years	11	7.8	8	9.4
Marital status				
Single	15	10.7	13	15.3
Married	44	31.4	47	55.3
Separated	13	9.3	4	4.7
Widowed	65	46.4	16	18.8
Others	3	2.1	5	5.9
Children				
Up to five children	73	52.1	51	60.0
More than five children	21	15.0	16	18.8
Deceased children	34	24.3	7	8.2
Does not have children	9	6.4	8	9.4
Living arrangements*				
Alone	30	21.4	15	17.6
With partner	43	30.7	58	68.2
With children	62	44.3	29	34.1
With friends	2	1.4	0	0.0
With relatives	23	16.4	11	12.9
Type of housing				
Brick house	96	66.7	51	61.4
Wooden house	48	33.3	32	38.5
Possesses basic sanitation	102	78.5	47	61.8
Does not possess basic sanitation	28	21.5	29	38.1

\*Question with multiple responses.

**Table 2.** Distribution of elderly persons according to income. Uruguaiiana, RS, 2010.

What is your income?	Individual income				Family income			
	Gender		Gender		Gender		Gender	
	Feminine	Masculine	Feminine	Masculine	Feminine	Masculine	Feminine	Masculine
	n	%	n	%	n	%	n	%
Up to 1 minimum wage	85	60.7	40	47.0	54	38.6	22	25.9
Between 1 and 2 minimum wages	19	13.6	25	29.4	36	25.7	25	29.4
Between 2 and 3 minimum wages	7	5.0	8	9.4	17	12.1	11	12.9
More than 3 minimum wages	8	5.7	8	9.4	14	10.0	12	14.1
No income	18	12.8	0	0.0	1	0.7	0	0.0
Did not know	0	0.0	0	0.0	9	6.4	14	16.5
Did not answer	3	2.1	4	4.7	9	6.4	1	1.2
Total	140	100.0	85	100.0	140	100.0	85	100.0

In terms of current occupation, 80 (57.1%) elderly women said they worked domestically in the home, while the majority of men did not work (n=30; 35.3%).

In the area of health, the elderly persons were asked what health service they used the most. It was found that the majority (n=178; 79.1%) of both men and women used the Sistema Único de Saúde (“the Unified Health System”) (SUS). In terms of owning health insurance, 23 (16.4%) elderly women and 11 (12.9%) elderly men answered affirmatively. Nine (6.4%) elderly women and six (7.0%) elderly men said they used the private health services, although some elderly persons used SUS but had private health insurance.

In terms of evaluating the health care they received, most (89 (63.6%) of elderly women and 44 (51.7%) of elderly men) considered it to be good. Thirty-five (25.0%) elderly women described it as very good, five (3.6%) said it was poor and four (2.8%) said it was very poor. As for the elderly men, 20 (23.5%) considered it very good, eight (9.4%) said it was poor and four (4.7%) said it was very poor.

In terms of perception of health, 84 (60.0%) elderly women and 57 (67.0%) elderly men described their health as good. Of the women, 23 (16.4%)

said their health was poor and 16 (11.4%) said it was very poor. As for the elderly men interviewed, seven (8.2%) said their health as poor and one (1.2%) said it was very bad.

In terms of cultural aspects, when asked about their leisure time, both male and female elderly persons gave more than one answer, with the majority 114 (50.6%) saying they watched TV, as well as going to the gym and walking (23.5%). Another important finding was that the majority (67.1%) of respondents reported they were not part of any social club, while 48 (21.3%) took part in religious gatherings.

As for spirituality, all the elderly women (100%) interviewed said they were religious, while of 85 elderly men interviewed four (4.7%) said they were not religious. The vast majority said they believed in God, although different religions were mentioned. For this question, respondents provided more than one option, as there were elderly persons who mentioned believing in God and also in the Church. Most (n=122; 54.2%) of respondents were catholic, and 69 (30.6%) were evangelical protestants.

As for the practicing of religion, the majority of respondents (85.7%) said they were practicing. The percentage of elderly women who did not

practice their religion was 14 (10.0%), as opposed to 19 (22.3%) elderly men. Most (n=124; 55.1%) elderly men and women said they had become more religious as they grew older and 15 (6.6%) said they believed less in religion.

In the present study, the elderly persons were also asked about aging and characteristics that promote longevity. The most commonly chosen alternatives were: eating properly, chosen by 121 (28.7%) elderly persons, and healthy habits, mentioned by 83 (19.7%). The least chosen alternative was destiny, which was only mentioned by 12 (2.8%) respondents.

Regarding aging and other important aspects of life, the vast majority of elderly persons cited

more than one option, with family (n=144; 30.1%) and health (n=92; 19.2%) standing out. Among the least mentioned were: money (n=25; 5.2%) and leisure (n=13; 2.7%).

The elderly people also talked about the main problems they would like to see resolved in Brazil. The elderly women chose alcoholism and drugs (n=71; 26.5%) and crime, violence and corruption (n=44; 16.4%). Among the elderly men, 33 (19.6%) also described alcoholism and drugs as the biggest problem, while another issue mentioned was political corruption (n=25; 14.9%).

It was found that all the participants of the study were independent for BADLs and IADLs, as shown in table 3.

**Table 3.** Responses of elderly persons of both genders, to questions related to instrumental activities of daily living (IADLs) and basic activities of daily living (BADLs). Uruguaiana, RS, 2010.

	Without help		With some help		Incapable		Did not respond	
	F	M	F	M	F	M	F	M
<b>IADL</b>								
Are you capable of going shopping?	112	72	19	5	3	3	6	5
Are you capable of using the telephone?	109	61	16	3	6	9	9	12
Are you capable of washing and ironing your own clothes?	123	64	7	6	7	7	3	8
Are you capable of going out alone to distant places using some form of transport (without the need for special planning)?	113	75	20	5	3	3	4	2
<b>BADL</b>								
Can you take a shower?	133	78	0	1	0	0	7	6
Can you dress yourself?	135	81	0	1	1	0	4	3
Can you go to the bathroom?	136	81	0	1	1	0	3	3
Can you go from the bed to the chair?	134	80	2	1	0	0	4	4
Can you control your feces and urine?	125	79	12	3	0	0	3	3
Can you feed yourself?	137	82	0	0	0	0	3	3

F= female; M= male.



## DISCUSSION

The multidimensional profile of the elderly persons in this study corroborates data from other studies about the health of older people, which also highlighted the predominance of women.<sup>11-19</sup> Elderly women attend health services more often, which was confirmed in a study conducted in the city of Recife in the state of Pernambuco, which suggests that the widowed status of most of the elderly female respondents (71.7%) is due the fact that women have a longer life expectancy than men because they take better care of their health.<sup>20</sup> Another study in Santa Catarina found that as well as women taking better care of their health, men are more reluctant to seek treatment from health services to prevent disease, and therefore die sooner.<sup>21</sup>

In this study, the predominant age group (60-70 years) proves that the statistical life expectancy of people from this region reaches approximately 75 years. It is believed that this data is associated with the improved health, socioeconomic and social conditions of the state of Rio Grande do Sul.<sup>2</sup> In terms of age group, it is worth mentioning that the percentage of men older than 81 years in this study was 1.2 times greater than the percentage of women, suggesting that men live longer. This data contradicts several studies<sup>20,21</sup> which show that women have greater longevity.

In terms of the marital status of the elderly persons studied, women found it more difficult to remarry after widowhood, unlike older men. A study carried out in Fortaleza found that widowhood predominates among women, whereas older men tend to remain married.<sup>22</sup>

The results regarding number of children reveal the historical decrease in the size of families. In terms of family structure there was a high rate of elderly persons living with their children, which can stimulate sociability. It is worth noting that the results of this study confirmed that men, who have a higher rate of remarriage, live mostly with their partners.<sup>22</sup>

It was found that the types of housing described in this study reflect the positive socio-economic and health conditions of the state of Rio Grande do Sul. A study conducted in another state in the south of Brazil revealed similarly good sanitary and housing conditions.<sup>21</sup>

Data relating to the income of the elderly persons investigated corroborated the results of a survey performed in Santa Catarina, in which, of 94 elderly individuals aged 80 or older, the majority (93.25%) received up to two minimum wages per month.<sup>21</sup> Another study in Foz do Iguaçu, Paraná also highlighted the low purchasing power of the elderly,<sup>15</sup> describing both the poor financial condition of elderly people in Brazil, and their vulnerability. According to a study conducted across seven locations in Brazil, elderly persons with an income below the minimum wage suffer from more chronic diseases and those with an income of between one and three minimum wages are less satisfied with their memory and ability to solve everyday problems.<sup>14</sup>

Moreover, the low income of elderly women may be influenced by historical features that have remained from childhood and adolescence, in which the women helped with household chores and were raised to be housewives, mothers and wives.<sup>23,24</sup> In terms of family income, the minimum salary was prevalent and a small percentage of the elderly had no income, which differs from a study conducted in seven Brazilian cities, where the average family income of the elderly was identified as 3.9 ( $\pm 4.9$ ) minimum wages.<sup>14</sup>

These findings highlight the importance of social security benefits, pensions and retirement plans for the survival of the elderly. However, this situation may have consequences on the structure of society, such as an increase in the number of elderly persons who provide for their families, as in many cases adult children return to the homes of their elderly parents when experiencing economic instability, which often arises from unemployment.<sup>22</sup>

In terms of occupation, the importance of the relationship between quality of life and the ability to perform domestic chores and feeling useful stands out as a facet of possessing physical control over one's own body.<sup>20</sup>

With regard to health care, a study of 109 elderly persons conducted in João Pessoa found that the majority (82.6%) used SUS, and that the higher the income of the person, the lower the degree of intense usage of the service.<sup>16</sup> The elderly persons in the present study were satisfied with the health care they received, a finding which differs from the aforementioned study,<sup>16</sup> where it was found that there is lack of resources for the suitable care of persons aged over 60 years.

With regard to health status, the majority (62.6%) of elderly persons reported having good health, supporting a study carried out in Santa Catarina, where older people also said they had good health, with 36.78% stating that they suffered from a chronic disease. In addition, 81.61% said they were very satisfied with their lives, data that may be explained by the fact that the study dealt with elderly individuals who had better access to basic sanitation, infrastructure and health services.<sup>21</sup>

In terms of leisure, it is worrying to see how few of the elderly people surveyed practiced physical activities, in comparison with those who preferred to watch TV. The habit of exercising, within reasonable limits, is an important factor for the stimulation of various organs, reducing morbidity during life and bringing many other benefits such as greater flexibility, as well as making elderly persons more resistant to the changes that come with old age.<sup>20</sup> Another study that considered leisure activities found that most elderly persons took part in recreational activities such as parties, bars and mothers' unions.<sup>21</sup>

In terms of faith, a study carried out in Foz do Iguaçu-PR found that religiosity among the elderly is usually more pronounced than among younger people, suggesting that "with increasing age, spirituality is an important source of emotional support, benefiting physical and mental health".<sup>15</sup> In the present study, the majority of older people

became more religious over the years, which can be explained by the fact that aging leads to biological changes, diseases and changes in emotional state.

In terms of religion, a study<sup>25</sup> carried out in São Paulo also identified that the majority of elderly persons are catholic (71.1%) or evangelical protestants (19.2%). In addition, older women were more dedicated to the practicing of religion than man, as the number of older men surveyed in this study that said they were not religious was three times greater than the number of elderly women.

The most important aspects in the lives of the elderly persons surveyed highlighted the importance of family, because of emotional contact, care and family relationships themselves, corroborating findings in literature.<sup>15,22,26</sup>

In terms of IADLs, the elderly persons surveyed in the present study displayed Independence, an important finding, considering that mobility is essential for the execution of physical activities of daily life.<sup>20</sup> Another aspect that can be inferred from this item is that elderly women, when aging, suffer greater biological debilitation than men.<sup>15</sup> A study<sup>17</sup> carried out in the city of Pelotas, Rio Grande do Sul, found that the majority of elderly individuals were dependent in terms of movement, both for using some form of transport (82.4%), and for shopping (83.9%).

The elderly persons in the present study were also independent for BADLs, agreeing with another study where walking, getting up from a chair, getting in and out of bed, bathing, eating, and dressing oneself were classified as easy by the elderly persons surveyed.<sup>19</sup> Regarding difficulties in carrying out some activities, the elderly persons had more difficulty performing activities such as "running", "heavy lifting" and "bending down/kneeling".<sup>19</sup> The findings in relation to activities of daily living are related to cultural aspects, where the woman historically takes care of the housework and the man does the heavier work.<sup>18</sup>

In terms of the ability of the elderly persons to control their sphincters, in the present study elderly women had more difficulty than elderly men, with 8.6% (12) of women displaying partial



dependence for this ability, compared to 3.5% (3) of men. Physiologically, there was no difference between men and women in the structural and functional changes in the genitourinary system, other than there was a higher prevalence of increased urination and incontinence among women.<sup>27</sup> In contrast, bowel functions were little affected during aging due to a high functional reserve, but in most frail elderly persons there are problems such as impaction and fecal incontinence of a multifactorial nature.<sup>28</sup>

The information presented here represents a profile of a group of elderly persons who took part in an influenza vaccination campaign, which was the aim of this study. However, as the study deals with an ascribed population, care must be taken when generalizing the findings.

Cross-sectional studies present limitations when evaluating the temporal nature of the factors studied. Nonetheless, the present study represents

a multi-dimensional profile of elderly persons who participated in an influenza vaccination campaign at a given time.

## CONCLUSION

Knowledge about the living conditions of the elderly persons studied, participants in a vaccination campaign, enables health care teams and managers to develop subsidies for the implementation and the development of appropriate public policies for this population group, aimed at improving their quality of life.

The new demographic and epidemiological reality evidenced by the quantitative increase of the elderly implies the need for changes in public health care policy for this population. The multidimensional profile identified in this study of elderly participants inform a campaign against influenza contributes to health planning.

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