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Factors related to living alone in people over 60 years in Bogotá, Colombia

Factores asociados a vivir solo en personas mayores de 60 años en Bogotá, Colombia

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Abstract

Objective: To identify the factors related to living alone and the magnitude of its effect on the adult population over 60 years old living in community in the city of Bogotá. **Methods**: Cross-sectional study with secondary analysis of the Health, Well-being, and Aging Survey (SABE) - Bogota 2012. Measurements of central tendency were calculated, the means were compared with Student's t-test, the final model was adjusted for age, gender, and the odds ratios (OR) and their CI 95% were calculated to estimate the power of the relation. **Results**: Out of the 2,000 people who participated in the SABE survey, 252 (12.6%) lived alone. The average age was 71.32 years; 64.68% were women (n = 163). The average schooling was 6.19 years (SD 0.31). When making the bivariate analysis, a statistically significant relation was found between living alone and being independent for basic and instrumental activities of daily living, absence of dementia, and good self-perception of health condition. In the logistic regression model, not having a partner (OR 4.91 CI 95% [3.61-6.68]), absence of dementia (OR 2.77 CI 95% [1.94-6.16], poor self-perception of nutritional condition (OR 1.7 CI 95% [1.24-2.33] and female gender (OR 1.37 CI 95% [1.03-1.91] were significantly associated with the possibility of living alone in people over 60 years. **Conclusions**: This research found that in people living alone there is not only an association with not having a partner, but also with having a good cognitive state, being a woman, and a poor self-perception of the nutritional condition.

Keyword: family characteristics, aged, health of the elderly.

Resumen

Objetivo: identificar los factores asociados a vivir solo y la magnitud de su efecto en la población adulta mayor de 60 años que residen en comunidad en la ciudad de Bogotá. **Métodos**: Estudio de corte transversal con análisis secundario de la encuesta Salud, Bienestar y Envejecimiento (SABE) - Bogotá 2012. Se calcularon medidas de tendencia central, las medias se compararon con la prueba t de Student, el modelo final se ajustó por edad, sexo y se calcularon las odds ratios (OR) y sus IC95% para estimar la fuerza de la asociación. **Resultados**: De las 2000 personas que participaron en la encuesta SABE, 252 (12,6%) vivían solas. El promedio de edad era de 71,32 años; el 64,68% eran mujeres (n=163). La escolaridad promedio fue de 6,19 años (DE 0,31). Al realizar en análisis bivariado, se encontró asociación estadísticamente significativa entre vivir solo y ser independiente para las actividades básicas e instrumentales de la vida diaria, la ausencia de demencia, tener buena autopercepción del estado de salud. En el modelo de regresión logística no tener pareja (OR 4,91 IC 95% [3,61-6,68]), ausencia de demencia (OR 2,77 IC 95% [1,94-6,16], mala autopercepción del estado nutricional (OR 1,7 IC 95% [1,24-2,33] y el sexo femenino (OR 1,37 IC 95% [1,03-1,91] se asociaron de forma significativa con la posibilidad de vivir solo en personas mayores de 60 años. **Conclusiones**: Este estudio encontró que vivir solo se asoció con no tener pareja, tener un buen estado cognoscitivo, ser mujer y con mala autopercepción del estado nutricional.

Palabras clave: composición familiar, anciano, salud del anciano.

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Introduction

Over time, a very important population change has been observed worldwide, especially in the population over 65 years of age and today, around the world they correspond to 6.9% of the total, which is approximately 7 billion inhabitants. (one). According to population projections, by 2020 most developed countries will have twice the older persons population than today.

The Population aging as a global phenomenon has brought about changes in the family composition (2). In Colombia, family composition has been characterized by extended families that include grandparents, uncles, and cousins, a situation that has progressively changed, increasing the presence of single-parent, incomplete nuclear, or single-person families. (3)

In Latin America and the Caribbean, the number of people aged 60 and over living alone is increasing every day and the figures reported by the United Nations, with varying dates between the different countries, show that 29.6% of the Older Adults (AM) lived alone, compared to Nicaragua where that figure was only 5.2% and in Colombia in 2000 it was 7.1%. (4)

Living only in older adults is a global phenomenon related to demographic changes and population aging. The reasons for living alone in an older adult are diverse and it has not always been related as a risk factor (5, 6). It has been described that these people are more functional and have fewer health problems (7), however it is also mentioned in the literature that they are exposed to great emotional difficulties (8), poor control of chronic diseases (9) and in some cases deterioration in their quality of life (10). To date, it has not been explored in Colombia what are the particular characteristics of older people who live alone and the possible risks to which they are exposed.

This research aims to identify the factors associated with living alone in the adult population over 60 years of age who reside in the city of Bogotá.

Materials and methods

This study is cross-sectional with secondary analysis of the Health, Well-Being and Aging Survey (SABE) - Bogotá 2012. Said survey has a representative sample made up of 2000 people aged 60 years and over residing in private homes in urban and rural areas of the city. When expanding it, based on the population projections for the year 2012 (11), there are 779,534 people over 60 years of age. The total coverage was 81.9%, which allows it to be defined as clearly representative and with a rejection of less than 20%.

For this survey, the study design was probabilistic sampling, by conglomerate (housing segments) with complete stratification of the blocks, to which a design correction factor was made, to obtain a level of reliability of 95%.

The SABE Survey instrument applied in Bogotá in 2012 was based on the international questionnaire from other SABE surveys conducted in 7 Latin American capitals between 1999 and 2000 (12) and the experience of Ecuador where the survey was carried out. survey in the period 2009-2010 (13). The questionnaire was adapted and adjusted to the characteristics of the city, without losing comparability. For this analysis, the protocol was approved by the joint Research Ethics Committee of the Pontificia Universidad Javeriana and the Hospital Universitario San Ignacio. Each person who participated signed an informed consent. To validate the questionnaire, a pilot test was carried out with people from the city of Bogotá who met the characteristics of the study. In the field work teams, previously trained by the researchers, they were made up of 1 supervisor, 3 or 4 interviewers and an anthropometrist. The collected data were entered and recorded in Excel for Windows. A proxy informant was necessary in 11.7% of the elderly selected in the SABE Bogotá sample to answer the survey.

Variables:
Dependents:
The number of people with whom the person lives, which is used in a dichotomous way to determine the prevalence of people who live alone and those who live with someone.

Independent:
Socio-demographic variables were included such as: age (years), sex (male or female), schooling (measured in years of education 0-26), socioeconomic stratum that in Colombia is categorized into 6 levels (one to six) of social class the lowest to the highest social class, depending on the level of income and the characteristics of the dwelling (14) and the marital status as a dichotomous variable (with a partner, people in common union and married, and without a partner, single, divorced and widowed).

The functional state that refers to the activities of daily living, was measured taking into account the basic activities of daily living (ABVD), which allow the most elementary level of function, being essential for self-care and the last to be lost, Using the Barthel scale (15) includes these activities: feeding, bathing, washing, chair-bed transfer, dressing, ambulation, toilet, steps, stool and urination. Each activity is scored from 0 to 5, 10, or 15 (where 0 is dependent and the others are degrees of transition to independence). The score ranges from 0 to 100, where the highest value means the greatest functional independence; and the instrumental activities of daily living (IADL), allow the person to live autonomously in society, which were measured using the Lawton scale. Lawton's index (adapted from original- (16)) includes these instrumental activities: Can you use the telephone? Can you prepare your own food? Do you manage your own money? Can you go shopping alone? Do you take your own medications? Are you able to walk around the neighborhood and come home alone? Can you do light work at home, like washing dishes? Can you do heavy work around the house, like washing the floor or walls? Zero is dotted when it doesn't and 1 when it does. The total score ranges from 0 to 8, where a higher score means greater functional independence.

Depressive symptoms were evaluated with the Geriatric Depression Scale (score 0-15, where a high value means more depressive symptoms) (17).

In the cognitive sphere, the abbreviated Mini Mental test (MMSE) (score 0-19; a high score is better cognitive state) (18).

Nutritional status was measured with the self-perception of good (excellent / very good / good) or bad (fair / bad) nutritional status; the state of health with the self-perception of the state of health where it was used as a dichotomous variable as good (excellent / very good / good) or bad (fair / bad).

Memory self-perception (excellent / very good / good or fair / bad) and current memory status compared to a year ago (better or worse).

Nutritional status, using the Mini Nutritional Assessment (MNA) screening tool that classifies into three groups: satisfactory nutritional status, risk of malnutrition or malnutrition (19)

Chronic diseases such as Arterial Hypertension (HBP), Diabetes Mellitus (DM), heart attack (coronary heart disease / angina), arthritis, cancer, Chronic Obstructive Pulmonary Disease (COPD), and Stroke Vascular (CVA) registered in those who had them.

Statistical analysis: A descriptive analysis was carried out estimating the general prevalences of

the population living alone versus accompanied, including the independent variables of interest. Subsequently, bivariate analyzes were performed with the dependent variable of interest (living alone) and the independent variables using chi-square. Finally, multivariate analyzes with binary logistic regressions were performed to determine which were the main risk factors for living alone.

Results

Of the 2,000 people who participated in the SABE survey, 252 (12.6%) lived alone. The average age was 71.32 years in the group of people who live alone and 71.15 in the group of those who live with someone. 64.68% (n = 163) of those who live alone were women and their average schooling was 6.19 years with a standard deviation (SD) 0.31 vs 5.42 (SD 0.10) of those who live accompanied.

People over 60 years of age who live alone perform more basic activities of daily life measured with the Barthel scale (97.67 SD 0.52 vs 94.92 SD 0.38), more instrumental activities of daily life (7 , 31 v 6.35), better score on the Minimental scale (16.03 SD 0.17 vs 12.19 SD 0.90) compared to people who live accompanied.

Regarding the presence of depressive symptoms evaluated with the Yesavage geriatric depression scale, people who lived alone had more depressive symptoms (4.15 SD 0.23) than those who lived with someone (3.76 SD 0.07) . (see table 1).

When performing bivariate analysis, a statistically significant association was found between living alone and being independent for the basic activities of daily life (having a higher score on the Barthel scale), being independent in instrumental activities of daily living (measured with the scale of Lawton), the absence of dementia (measured with the Minimental scale), with a good self-perception of the state of health and the presence of heart disease.

When performing the analysis stratified by age and education, no statistically significant association was found. Just as no difference was found between the female sex, the presence of depression, having a good self-perception of the state of health, the presence of HT, type 2 DM, diseases of the digestive tract, stroke, joint diseases and pulmonary diseases (See table one).

In the logistic regression model not having a partner (OR 4.91 95% CI [3.61-6.68]), absence of dementia measured with a score greater than 12 on the MMSE scale (OR 2.77 CI 95 % [1.94-6.16], poor self-perception of nutritional status (OR 1.7 95% CI [1.24-2.33] and female sex (OR 1.40 95% CI [1.03-1.91] are significantly associated with the possibility of living only in people older than 60 years (see table 2).

Discussion

The aging of the population, cultural changes, as well as the new dynamics and conformation of families have led to an increasing number of elderly people living alone. The prevalence of people older than 60 years who lived alone in the city of Bogotá in this study was 12.6%, higher than that reported in Latin America, according to United Nations data, for the year 2000 7.1% of those older than 60 years lived alone (4) and similar to that reported worldwide of 13% (20).

Not having a partner was found associated with living alone, when single, divorced or widowed, if it is by personal decision, has been related as a positive vision of aging (21), as well as an opportunity to experience the freedom of being able to do so (22, 23).

In relation to functionality, it was found that older people who live alone have a high score on the Barthel scale (97.67 SD 0.52), which indicates that they carry out self-care activities and a high score on the scale of Lawton Lawton (7.31 SD 0.73) which indicates that they have the ability to perform instrumental activities that allow a basic social role, a situation similar to that found in most studies, which constitutes one of the characteristics generally described for that an older adult lives alone (24-26).

From the point of view of differences by sex, women survive longer (24, 27) so they are the most frequent group, similar to how it was found in this study. Additionally, it is associated with having more depressive symptoms as is usually reported in the literature (6, 8, 28, 29) and is a point to intervene.

An important characteristic in the population studied was the high prevalence of self-report of poor nutritional status both in the group that lived alone and in the group that lived with someone (71.26% vs 79.32%), an aspect that is reported in other studies and it is associated with people who live alone (30, 31).

In relation to cognitive ability, it was found that most of the people who lived alone had a good cognitive ability measured with the MMSE scale (score greater than 12) compared to people who did not live alone (93.6% vs. 86.5%), remaining as one of the factors positively associated with living alone. Having good cognitive ability allows living alone since it favors the maintenance of self-care (32-34). This study has limitations since, being cross-sectional, the causal and temporal determination between living alone and the cognitive state and the other associated factors was not possible, however, it is the first study in Latin America that seeks to address the study of this demographic phenomenon about living only in older people.

Table 1. Characterization of the population and bivariate analysis with living alone

Variable	They live alone n = 252 n (%) or mean (SD)	Accompanied n = 1748 n (%) or mean (SD)	OR	p
Age (60-100 years)	71,32 (0,46)	71,15 (0,19)	1,01 (0,98-1,01)	0,750
Female gender	163 (64,68)	1105 (63,22)	1,06 (0,80-1,40)	0,651
High socioeconomic stratum (3,4,5,6)	133 (52,78)	829 (47,43)	1,23 (0,95-1,61)	0,112
Marital status without a partner (Single, Divorced and widowed)	175 (69,44)	633 (36,21)	4,00 (3,00-5,32)	0,000
Health or nutritional status				
HT	133 (52,78)	1032 (59,07)	0,77 (0,59-1,009)	0,059
DM	36 (14,29)	313 (17,92)	0,76 (0,52-1,10)	0,157
Digestive tract diseases	82 (32,54)	602 (34,44)	0,91 (0,69-1,21)	0,552
CVA	11 (4,37)	87 (4,98)	0,87 (0,45-1,65)	0,674
Joint diseases	86 (34,13)	547 (31,29)	1,13 (0,86-1,50)	0,368
Heart diseases	23 (9,13)	255 (14,59)	0,58 (0,37-0,92)	0,020
Lung diseases	58 (23,02)	343 (19,62)	1,22 (0,89-1,68)	0,209
Poor self-perception of nutritional status	176(71,26)	1369(79,32)	1,17 (0,90-1,53)	0,228
Good self-perception of health status	124(49,21)	931(53,26)	1,17 (0,90-1,53)	0,228
Functional status				
ABVD measured with Barthel scale (0-100)	97,67 (0,52)	94,92 (0,38)	1,57 (0,90-2,71)	0,106
AIVD measured with the Lawton scale (1-8)	7,31 (0,73)	6,75 (0,04)	1,317 (1,003-1,72)	0,0047
Depressive symptoms (Yesavage 6-15)	77 (30,56)	437 (25)	1,22 (0,994-1,51)	0,056
MMSE 0 <=12, 1 >=13	236 (93,65)	1512 (86,50)	2,30 (1,36-3,89	0,002

ABVD: basic activities of daily living, AIVD: instrumental activities of daily living; MMSE: Minimental scale; HT: arterial hypertension; DM: Diabetes mellitus; CVA: cerebrovascular attack.

Table 2 Adjusted analysis using multivariate logistic regression (living alone)

	OR tight	p
Not having a partner (Single, Divorced and widowed)	4,91 (3,61-6,68)	0,00
MMSE >12	3,46 (1,94-6,16)	0,00
Poor self-perception of nutritional status	1,70 (1,24-2,33)	0,001
Female gender	1,40 (1,03-1,91)	0,028
Age (0 <=70, 1 >70)	1,10 (0,83-1,468)	0,491

MMSE: Escala de Minimental

Conclusions

The aging of the population, cultural changes, as well as the new dynamics and conformation of families have led to a greater number of elderly people living alone. To live alone, it is expected to have material, functional and cognitive

prerequisites that allow the independence of the individual, however, in some contexts it has been related to aspects that put the individual at risk to feelings of loneliness, isolation, malnutrition and poor control of chronic diseases. This study found a high association between living alone and not having a partner, having a good cognitive state, being a woman, and a poor self-perception of nutritional status. Longitudinal studies and an interdisciplinary approach are required in order to better understand this phenomenon and provide comprehensive solutions from public policy.

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Contribution of the authors

All authors participated in the entire research process.

Interest conflict

We declare no conflict of interest

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