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ANALYSIS OF THE PREVALENCE OF AND FACTORS ASSOCIATED WITH URINARY INCONTINENCE AMONG ELDERLY PEOPLE – SABE STUDY (HEALTH, WELLBEING AND AGING)

Hypothesis / aims of study

Over the period from 1980 to 2025, the population aged 60 years and over in Latin America and the Caribbean is expected to at least double in size and, in more than half of these countries, to triple in size, before reaching the year 2025. This rapid and accentuated aging of the population will have a significant impact on social, economic and health demands. Prominent among the health demands will be those relating to chronic diseases and their incapacitating sequelae and other complaints such as urinary incontinence (UI), which are all included among the so-called "giants of geriatrics", given their negative consequences on quality of life (QOL) among elderly people. The aims of this study are to investigate the prevalence of complaints of UI among elderly and their associated and risk factors for UI.

Study design, materials and methods

The Pan-American Health Organization and World Health Organization (PAHO/WHO) coordinated a multicenter study named Health, Wellbeing and Aging (the SABE study), to outline the living conditions and health of elderly people living in seven countries of Latin America and the Caribbean. The study population was composed of elderly people (over 60 years old), living in an specific municipality of Latin America in the year 2000. The total sample of 2,143 elderly people was made up of two segments. Data were collected simultaneously, by means of home interviews using an standardized instrument consisting of eleven thematic sections: personal data, cognitive assessment, health status, functional status, medications, use of and access to services, family and social support networks, work history and sources of incom, characteristics of the home and flexibility and mobility tests. A detailed description of the methodology used is available at PAHO website. To develop the present study, sections A (personal data), C (health status) and K (anthropometry) were used.

The presence of UI was taken to be a dependent dichotomous variable, and this was ascertained as the response "yes" to the question *"Have you unintentionally wet yourself on any occasion during the last 12 months?"*. To study the possible influence of these variables on UI, the categories "Does not know" and "No response" were disregarded and were then considered to be missing values. All the variables were transformed into binomials (two categories), except for body mass index (BMI), for which four variables of dummy type were created. Body Mass Index 1 (BMI1) had the values of: 0 = did not belong to the low BMI category, and 1 = belonged to the low BMI category). The other three dummy variables were defined in the same way. The "normal" BMI category was taken to be the reference for comparisons with the others. The effect of independent variables was evaluated by means of odds ratios, which were adjusted using binomial logistic regression, with UI as the binary response. Odds ratios with $p < 0.05$ were taken to be significant. It must be noted that the probability os type I error may be increased due to multiple comparisons adopted in the multivariate analysis. The procedures were weighted according to the sample fractions that resulted from the design effect. The statistical method used was multivariate logistic regression by means of a backward stepwise procedure. The p-value for a variable to remain in the process was adopted as 0.05. Data from the sample, expanded to the population base using the statistical packages SPSS and STATA, were used to describe the frequencies of the variables of interest.

Table: Final model from univariate and multivariate analysis for the presence of urinary incontinence, according to sociodemographic, clinical and functional characteristics of the elderly people in the Latin America municipality, in 2000.

	Urinary incontinence				
	OR	**SD**	**p**	**Confidence interval**	
.**Characteristics**				Lower limit	Upper limit
Sex					
Female	2.42	0.43	0.000	1.70	3.43
Age					
75 years and over	2.35	0.33	0.000	1.78	3.10
Presence of self-reported diseases/conditions					
Depression	2.49	0.43	0.000	1.77	3.50
Stroke	1.69	0.45	0.049	1.01	2.85
Obesity	1.63	0.27	0.003	1.17	2.26
Diabetes mellitus	1.56	0.29	0.019	1.08	2.25
Functional status					
Difficulty in doing basic ADLs	2.01	0.35	0.000	1.44	2.83

* Adjusted OR (95% confidence interval) = odds ratio (95% confidence interval) adjusted using the logistic regression method, one by one for all variables and in the final model only for the significant variables. Log pseudo-likelihood = -680,10 Pseudo R2 = 0.115 N=161 4

Wald test (7 gl) = 127.04 P < 0.000 ADLs: Activities of daily living *Source:* SABE study

Results

Greater prevalence of UI was observed at more advanced ages, among women, among individuals who said their ethnicity was non-white and among those with lower schooling. With regard to reported health condition, there was greater prevalence of elderly people who said their health was regular or poor. Among the diseases reported, the greatest prevalences related to the presence of stroke, depression, diabetes and extreme of BMI (obesity). With regard to functional capability, it was seen that the greater the dependence that the elderly people presented, the greater the prevalence of UI was. When the relative-frequency data were put into the multivariate logistic regression model, the analysis showed that these data were significant and thus presented high odds ratios for the occurrence of UI (Table).

Interpretation of results

This is the first study in this specific populaton that points out that diseases like depression, stroke and diabetes mellitus and also conditions like obesity and functional limitations significantly increase the chance that UI may occur in elderly people. In this population, the presence of UI was an important factor leading to social isolation. In association with these other factors described above, the health status and QOL among elderly people may become even worse, thereby becoming a public health question

Concluding message

UI is a highly prevalent symptom among the elderly population of this Latin America municipality, especially among women. The adoption of preventive measures, the early diagnosis and the adequate treatment can reduce the negative effects of the UI.

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Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**CONEP - National Committee for Ethical Research**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**