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**Title:**

Disabilities over the elderly Ecuadorian population

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**Abstract**

The year 2010 Ecuador held its last national census; among the questions that appeared in the census form were three designed to measure the prevalence of various type of disabilities affecting the population of that country. The main purpose of this investigation is, using the 2010 census as source of data, analyze and get conclusions about the type of disabilities affecting older people, more than sixty years old; inserting these results as part of the health transition and considering it, as a process that includes the epidemiological transition and the last one, including the demographic transition. For each type of disabilities, rates of incidence are calculated in terms of age, sex and some other social and demographic characteristics such as ethnicity, education, marital status, province of residence, urban or rural place of residence, employment and social security. Besides this, the results of a multivariate logistic model are presented; the model explains the presence of disabilities in terms of the characteristics previously stated.

**Key words:** census, disability, rate of incidence, logistic model.

## **Introduction**

Ecuador is a country located at the northwestern part of South America where 14'483.499 people live, in accordance to the national population census, held on November 2010. From this census is known that 50.4% of them are women and consequently 49.6% are men. At 2011 Life expectancy at birth has been calculated and it is about 76 years for both sexes and higher for women . Total Fertility rate is 2.5 children per woman and the population aged 60 or over has reached the 9.26% of the total, for the period 2005-2010. CEPAL CELADE reports that Ecuador is in the full transition stage its demographic transition, not as advanced as Uruguay or Cuba, but close to Argentina or Chile, and at the same level of Colombia or Venezuela. The aim of this work is to show some aspects of the state of the health of the Ecuadorian people, particularly on what is related to disability of people aged 60 or over, all based on information obtained from the previously mentioned 2010 population census. It was found that the prevalence of disability raises as people get older and the lack of health produced by different types of disabilities do not allow a high percentage of elderly to live an independent life. In these terms, a demographic profile of our objective population((aged 60 or more)) is shown through this work.

## **Data and Methods**

The source of data for this investigation is the national census held in Ecuador in November of 2010; during this event, the data of 14'483.499 people were collected. Among the questions that appeared in the census form were three designed to calculate the prevalence of various type of disabilities affecting the population of that country. The data related to the answers given by 1.341.664 persons, which are the ones having 60 o more years, are processed and analyzed in this investigation. Standardized and crude rates of incidence for every disability are calculated taking into account socio-demographic variables that were included in the census form. The cultural and ethnic self-identification are also considered at the moment of making inferences.

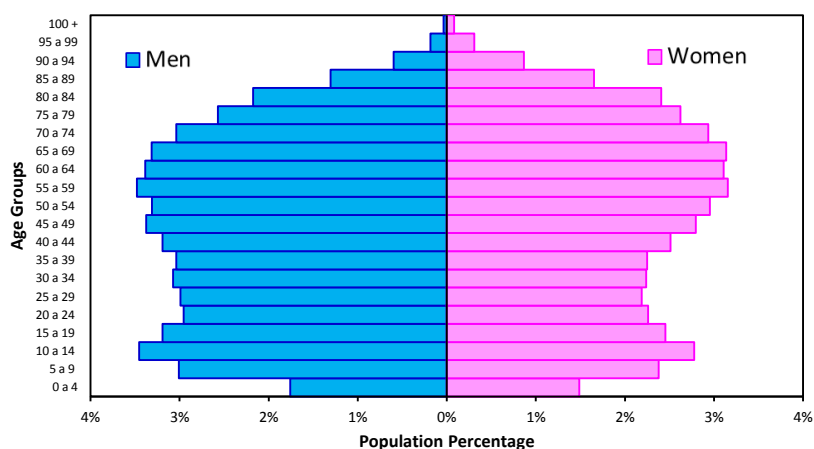
It is also included a treatment of the data using a logistic model, were the dependent variable is "being affected by a disability" and the explanation variables are presented as a set of socio-demographic characteristics. The significance level ,in the model, of each of them is evaluated. For this part of the work, a stratified random sample is taken from the objective population using proportional allocation, the stratification variable is "place of residence".

## Preliminary results

In accordance to the 2010 census, 50.4% of the total population are women while for those having 60 or more years this percentage is slightly higher, 52.12%. Ecuador still has a young population, its median age is 25 years, while those who have sixty or more years have a median age of 67; and this value is 73 years for those having two characteristics: their age is 60 or more and at the same time have at least one disability

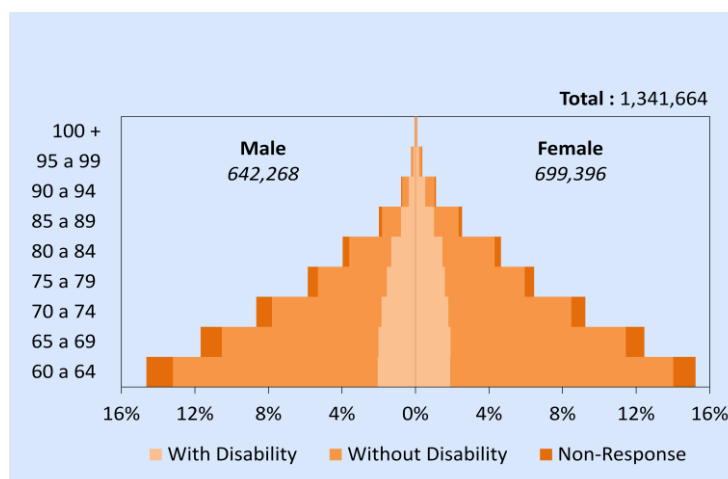
. Figure 1 allows us to see the distribution of disability for the total population, taking into account its age-sex structure .

**Figure 1. Population pyramid for people at least one disability Ecuador 2010**



When considered only those who responded that they suffered at least one permanent disability, 91.6% said they had exactly one; 6.5% two; 1.1% three; 0.3% four and 0.5% five. 275.263 people, that are sixty or older declared to have at least one type of disability, which means that from every 1000 person in this group, 205 have at least one disability, but only 260.698 specify what kind of disability they endure.

**Figure 2. Population pyramid Older adults population pyramid who claim permanent disability for over a year**



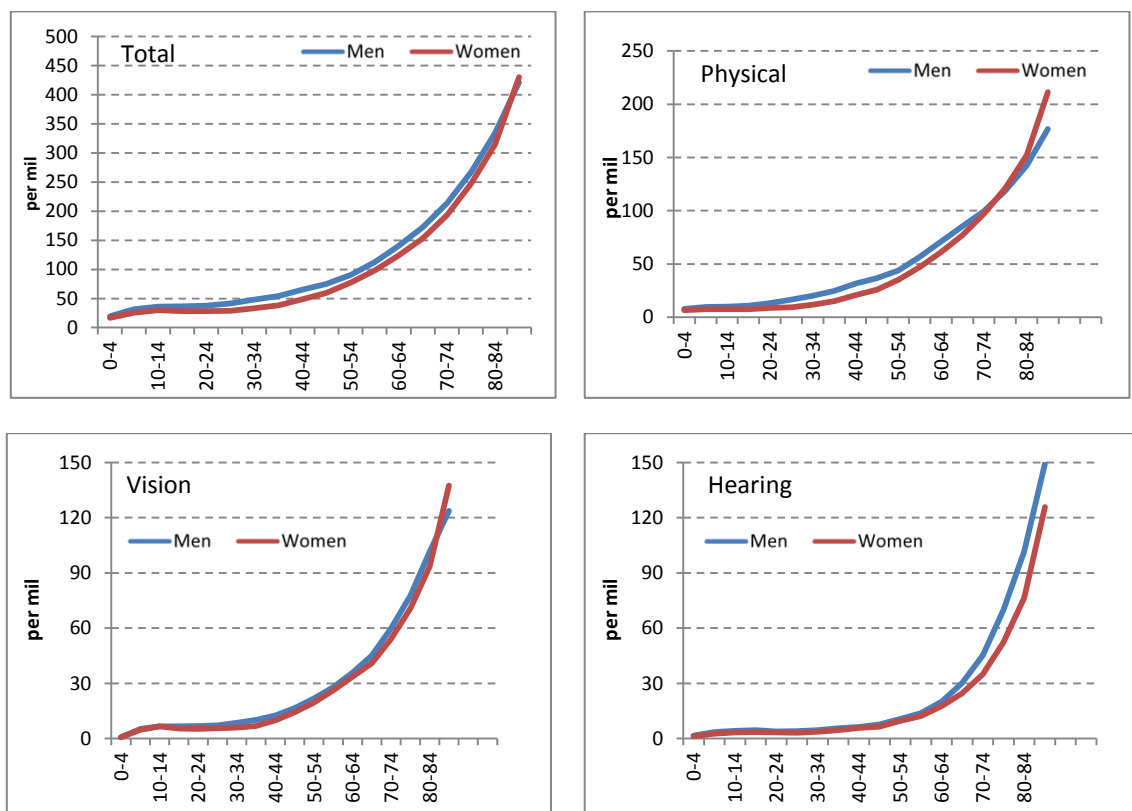
In Table 1 some disabilities rates are shown , crude and standardized, for the total population and for people whose ages are sixty years or more; the last group partitioned in two periods , one from 60 to 79 and the rest from 80 years or more.

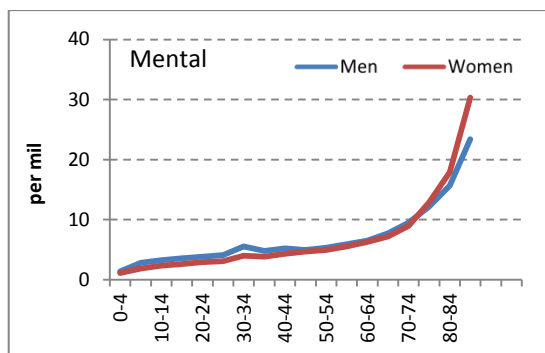
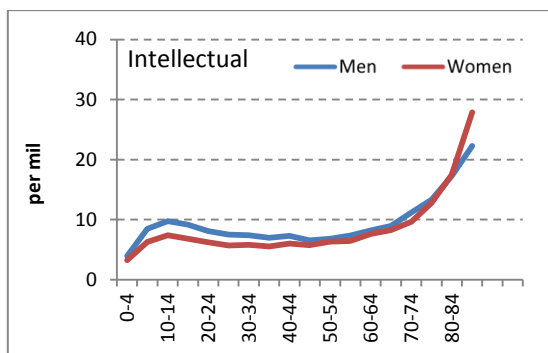
**Table 1: Crude and standardized disability rates per 1000 inhabitants by gender. Ecuador 2010**

Age	Type	Crude rate		Standardized rate	
		Male	Female	Male	Female
60+	Total	211,06	199,75	213,85	197,00
	Intellectual	11,19	11,24	11,32	11,05
	Physical	98,20	98,73	99,24	97,38
	Vision	59,71	57,12	60,77	56,17
	Hearing	48,12	40,40	49,42	39,43
	Mental	9,86	10,72	10,03	10,51
80+	Total	372,22	368,89	374,45	366,54
	Intellectual	19,44	22,37	19,55	22,16
	Physical	157,39	179,89	158,28	178,64
	Vision	118,35	114,17	119,52	113,19
	Hearing	122,45	99,57	123,76	98,55
	Mental	19,05	23,73	19,22	23,50

Source: Author's calculations based on Census Ecuador 2010

**Figure 3. Disability rates per 1000 inhabitants by age, gender and type of disability. Ecuador 2010**





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