Health impacts on living arrangements among the elderly in Mexico, 2001-2003.

Cesar Gonzalez-Gonzalez, *Instituto de Geriatría*
Roberto Ham-Chande, *El Colegio de la Frontera Norte*

Introduction

During the 20th Century Mexico underwent sharp social, economic and political changes that affected demographic dynamics. In those hundred years population multiplied seven-fold, from 13.6 million in 1900 to 95.5 million in 2000. The background demographic transition process was relatively short. In a few decades of intense changes, mortality and fertility came from very high and irregular to very low and stable. A major consequence of demographic trends is a rapid population aging, which is becoming one of the main challenges for the 21st Century in relation to social structures, economic performance and family behavior.

Projections estimate that during this 21st Century rates of growth of the population 65 and over will be highest compared to all other age brackets. Between 2007 and 2050 the percent of people younger than 15 will fall from 30.0 % to 17.4 %, for those between 15 and 64 years old it will increase from 65% in 2007, up to 68% in 2020 and thereafter it will fall to be 62 % in 2050. The sustained trend of increase will come from population 65 and over that will grow from 5 % in 2007 to 21 % in 2050 (CONAPO, 2006).

There is no consensus about the intensity or the direction of causality between health conditions and living arrangements. Nevertheless research has shown that demographic aging will carry major economic and social consequences, from non lethal morbidity and disabilities resulting from chronic and degenerative diseases. It has been reported that health problems interfere with activity and well-being at any age and life cycle, including that deleterious consequences are magnified for the elderly (Grundy, 1991; Wolfe and Behrman 1984; Lynn, 2005). When reaching old age the most demanding requirements are related to health care, thus becoming a matter for worry and uncertainty among aged people, their relatives and for the society in general (Garrido, Ramirez and Gómez, 1999).

Objective

Considering that health is the main source of vulnerability at old age, the objective in this paper is to measure and substantiate how changes in health conditions impact the living arrangements of the elderly. This topic is important because the rapidity of demographic aging in Mexico implies precarious medical services, high female sex ratio, low education levels, lack of social security, pressure to remain in a job mostly in the informal labor market and meager income for the aged population. These characteristics are concomitant to the withdrawal of the State as provider of social services and the privatization and deregulation of public services, all ending up in inequality, poverty, vulnerability, social exclusion and economic insecurity.

Theoretical developments identify numerous relevant factors affecting family relationships, living arrangements and economic risks for the elderly population. Among them there are the increase of domestic and international migration due to economic and labor circumstances; reduction of the number of children and therefore family size; increase in separation and divorce rates; incorporation of women into the work force, and residential preferences of the elderly to live alone (Ariza and Oliveira, 2001; Arber and Ginn, 1996; Bazo, 1992; Bliezner, 1990; Leñero, 1999; Waite, 2004; Ybañez et.a., 2005). Nevertheless, studies on family changes caused by health deterioration due to chronic diseases, disability, depression, cognitive declining, sensorial lost, are scarce in Mexico.

Materials and methods.

The main source of data is the "National Study on Health and Aging in Mexico" (MHAS). It is the first and only longitudinal survey, providing statistical information of the population 50 and over in 2001 and 2003. It has national and urban-rural representation, allowing evaluation of the aging process considering backgrounds and interrelations on demographics, chronic diseases, mental conditions, disabilities, economics, labor, migration, social, and family.

Logistic regression models with dummy variables and panel data techniques are used seeking the effect of health on the economy and the living arrangements of the elderly. This study use information about population aged 50 and over, with complete interview in 2001 and 2003. A total of 11,989 individuals and 23,978 records (for the two rounds in which data are available). The attrition between rounds was 4.6% for death, and 17.6% for incomplete interview in 2001 or 2003. People who are being analyzed are in better health than those who are leaving out of the study. A simple comparison between the two groups indicates younger, better health, higher functional ability, and in general better living conditions for those in the sample.

Since we are searching the effects of health on living arrangements of elderly population, a model was constructed. For living arrangements the dependent variable is about living in an extended household (0 if it is not an extended household and 1 if it is). In this case extended household is defined as a household consisting of the selected person and other relatives and nonrelatives different from the spouse and children, whether or not a spouse and/or children lives with them.

To establish health status, chronic diseases asked in the survey are used: hypertension, diabetes, cancer, pulmonary disease, heart disease, cerebral stroke and arthritis (0 without diagnosis and 1 with); ability to perform ADL: walking across a room, bathing or showering, eating, getting into or out of bed and using the toilet (0 without difficult in anyone of the activities and 1 if have difficult in one or more ADL); functionality in IADL: fixing a hot meal, shopping, taking medications and managing its own money (0 without difficult in anyone of the activities and 1 if have difficult in one or more IADL); intensity of difficulty on ADL and IADL is measure through help in this activities, two dummy variables were create (0 if nobody helps and 1 if receiving help); the body mass index with four variables underweight, normal, overweight and obesity ; falls in the last two years (0 without falls and 1 with falls); depression (0 without depression and 1 with

depression); nights hospitalized in the preceding year of the interview, three dichotomous variables were created, the first one for without nights hospitalized, the second from 1 to 9 nights, and the third if there were 10 or more nights in a hospital.

Socio-demographic variables like sex, age, education, place of residence, health services, marital status, self-perception of economic situation and retirement were also included. Preliminary descriptions emphasize that social inequality, individual behaviors and socio-demographic characteristics have effects in health change of individuals, and that changes do not occur at the same time or with the same intensity, which therefore were inputs in the regression models. Regressions were computed using Stata 9.0. Random effects models were used in order to catch heterogeneity among individuals, as well as the effect of certain characteristics that do not vary over time.

Results.

Household strategies to avert problems caused by health deterioration are diverse. Like family support through a larger household, since it reduces housing costs, distribute economic and no economic support among the members, and provides better use of resources. Interestingly, about diseases only diabetes and arthritis have a significative impact on the likelihood to belong to an extended household. Those who need help to perform the ADL or IADL have higher probabilities of living in an extended household, the OR for this two indicators are 1.58 and 1.35. Other diseases, as well as difficulties in ADL, IADL, BMI, depression, falls, nights of hospitalization, and self-perception of health status have no effect on the likelihood of belong to an extended household.

It is expected that people without a spouse have to live with their sons or daughters and/or other relatives or non-relatives. Those who are single have an OR of 1.85 of living in an extended household. For widowhood the OR is 1.33. Women have more probabilities than men to live in this kind of households. Education has important effect on the chances of living in an extended household. When we consider higher degrees of schooling the OR diminish substantially from 0.78 to 0.20. Again the place of residence has a significative effect, this time over the extended household. Those residing in an urban locality have 30% more probabilities of living in this kind of arrangement.

Discussion.

This paper shows that health is a main determinant of economic conditions and living arrangements for the elderly and their family. Findings agree with those obtained by Waite and Hughes (1999) who have reported that bad health and impairments in ADL imply higher probability of living with second degree kinship or with people without kinship links at all. Speare at al. (1991) found that a way the elderly have to cope with impairments to perform ADL it is to seek aid of other people living in the same household, or by modifying living arrangements either by moving to other place or by bringing in new residents. Research suggest that when economic conditions and health of the elderly allow, a preference of independent living prevails (Saad, 2003). Sickles and Taubman (1986) find that keeping an income from a job is strongly affected by

health individual status and that it is differently affected by job kind, sex, marital status and education.

MHAS presents some research limitations. One is that time between surveys rounds is quite short and does not allow to fully estimate how changes in health reflect on economic conditions and living arrangements. Having just two rounds is also a limiting fact. But there are more good characteristics than shortcomings. For example the number of useful registers is high; the sections on health, economic characteristics and household roaster are sound; and it allows to a longitudinal study of the aged population.

Although research on which this paper is based is quite advanced, although there still work to be done. It is mainly in the organization of statistical results, some further analysis and report writing. By September 2009 research and report will be reasonable finished. References mentioned are those used in this summary but already consulted and used is quite extent.

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