

POPULATION ASSOCIATION OF AMERICA MEETING
15-17 APRIL DALLAS, TEXAS

LIVING ARRANGEMENTS AND AGING:
Changes and determinants in households of older persons in regions
of Mexico, 1992-2006

Verónica Montes de Oca¹ and Sagrario Garay²

Abstract

Our objective is to analyze the main trends and changes in living arrangements with older people. We are also interested in showing the influence of diverse socio/demographic variables on living arrangements for elderly people. Methods: We used the National Survey of Demographic Dynamic for 1992, 1997 and 2006 as our source of data. We took into account two levels of analysis: household and individual. At the first level we show trends, changes and compositions of households in Mexico with special emphasis on households with elderly people and we calculated a multinomial logistic model for determining the influence of diverse variables on living arrangements. Findings: there is an important increase in the percentage of households with alone elderly people; men have greater probabilities of living in nuclear and extended families than women; elderly people who belong to low socioeconomic levels have more probabilities of living alone than others.

Key words: aging, household, living arrangements, regions, socioeconomic level

Introduction

The demographic transition in our country has led to a process of aging in the population. The reduction in the birth rate and the increase in life expectancy have transformed

¹ Tenured researcher at the Instituto de Investigaciones Sociales, Universidad Nacional Autónoma de Mexico, e-mail: monteso@servidor.unam.mx

² Professor/Researcher in the area of Graduate studies in the School of Social Work and Human Development, Universidad Autónoma de Nuevo Leon, e-mail: sgarayv@colmex.mx

households, thus becoming an important aspect when planning public policies. The main objective of this lecture is to present some of these transformations, as well as visualizing the differential impact on socioeconomic levels especially on different regions of Mexico.

The greater numbers of adults reaching old age have ever growing health needs as well as diminishing incomes. In this way, it is essential to analyze the demographic, economic and social characteristics of households. In this article we will attempt to analyze the most important changes in Mexican homes from 1992 to 2006, giving emphasis to homes with persons who are 60 years and older based on the National Dynamic Demographic Surveys of 1992, 1997 and 2006. At the same time we will analyze the elements which influence the situation of the elderly population as to why they live in a certain type of household.

One aspect that we wish to point out is the composition of the households depending on the socioeconomic status in which they are found and their regional distribution within the country. Literature has made clear that families in Mexico unite in order to optimize resources, but it is unknown whether in Mexico this is the case in households which include elderly. In this sense, the idea is to show trends of these households over the last century and part of the present, as well as their greater presence in different regions in Mexico.

The work is divided into four parts. In the first part, we deal with general aspects of the concepts of households and families. Later, the objective and methodology of the study is presented. Next, we show the changes in distribution of various living arrangements in the years 1992, 1997 and 2006, differentiating among the total number of households, those in which elderly are present and those where there are children under 5 years of age. Then we analyze the composition of the same households divided by socioeconomic strata and regions of the country over the same time period. Finally, we present some of the characteristics of the population who live in households with other people 60 years and older. At the same time we indicate the influence of various individual, family and contextual characteristics for the aging population residing in a determined living arrangement.

1. Families and households: theoretical approach

In Mexican culture families are the most important groups in the social organization, representing the fundamental institutions for understanding the behavior of the population. One of the ways to get to know Mexican families has been the study of households or domestic units. This is due to the fact that “the household is considered to be the social sphere in which people, related or not, share a residence and organize their daily lives” (Oliveira, 1988: 22). In theory, the family and household are different concepts but the use of household as a unit of analysis in sources of secondary information has been a very useful tool for approaching the study of the family. From this focal point, the analysis of individuals as aggregates living in the same house and sharing common expenses is what identifies and distinguishes the household or domestic unit (García, Muñoz and Oliveira, 1988; Tuirán, 1996). This has allowed visualization of the transformations and tendencies in households and their compositions at different times throughout history as well as different points in the cycle of family life. Visualizing these changes is pertinent in the framework of broader demographic transformations such as those which are a result of longer life expectancy, as well as the rise in the number of people 60 years and older in the process known as demographic aging.

2. Methods, Sources of Data and Units of Analysis

In this paper we use the National Dynamic Demographic Survey (ENADID) for the years 1992, 1997 and 2006 as a data source which allows us to have a representative reference of the tendencies of the composition of households at the national and regional levels.

There are two perspectives that can be used to analyze the data from this type of survey: the household or the individuals who reside in the household. In our case we take both units of analysis into consideration. This is due to the fact that in the first instance we are interested in pointing out changes in the households over the last decade, and thus the data presented will refer to households. This type of analysis requires the construction of data bases from which a traditional typology of households may be formed: nuclear, extended,

compound, one-person and co-residence (INEGI, 2000). Within this typology the diversity of arrangements which exist within the household are taken into consideration.

In the second instance, and due to our interest in the elderly population, the study focuses on the individuals who live in these households. The change in the unit of analysis is due to the fact that when only the households are studied, it is not possible to explore the individual characteristics of its residents. In order to achieve this we will use the logistic multinomial model, which is very useful since in the dependent variable it is possible to include more than two categories, that is to say that with this model it is possible to distinguish between the various types of living arrangements in which the elderly may be included. Furthermore, with these models it is possible to explain the weight of an explicative factor while maintaining the other factors constant (Borooah, 2002).

3. Households in Mexico 1992-2006: trends in aging

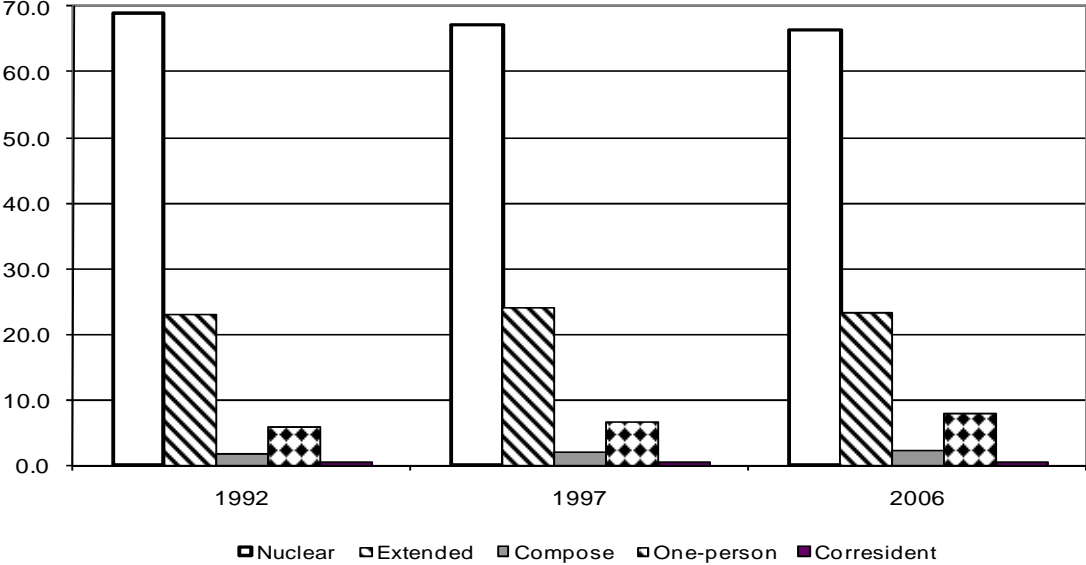
The demographic changes which have taken place in Mexico such as longer life expectancy and lower birth rate, have translated into, among other things, a rise in the aged population. This has transformed family dynamics in several ways among which are: the relations of intergenerational exchange, family coexistence, distribution of care giving among members, as well as a series of adjustments related to the satisfaction of the needs of the younger as well as the older generations. However these are not the only changes which have had an impact on living arrangements. There are also other factors related to marriages (the age of the first relationship, consensual unions, separations or divorces), women's education and participation in the work field (García and Rojas, 2002).

This has led to the observation of new forms of organization in households, involving five broad tendencies: reduction in the size of households; a relative decrease in the number of nuclear households; an increase in the number of non-nuclear households; an increase in the number of households headed by a woman; "aging" of households; and economic responsibilities shared by men and women (López, 2001).

Some of the tendencies mentioned are verified at the national level between 1992 and 2006 (Graph 1). Nuclear households have decreased in relative importance and within these the percentage of couples living alone or heads of households living alone with their children has increased. Extended households have not experienced important changes, except in the reduction of couples who live with their children and other relatives (Montes de Oca and Garay, 2010). One aspect which stands out is the increase in one-person households.

Graph 1

Types of households in Mexico, 1992 – 2006 (percentages)



Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 1992, 1997 and 2006.

3.1 Older persons in households in Mexico

With respect to households which include people who are 60 years and older among their members, data reveals that these have increased slightly between 1992 and 2006, from 24.2 to 27.1 percent. At the same time there has been a marked decrease in the proportion of households with residents less than five years of age: in 1992 there were 47 percent and in 2006 it decreased to 33.7 percent. This is simply a reflection of the decrease in the fertility rate and increase in life expectancy. The change in Mexican households turns out to be a very relevant matter since it represents not only a transformation in the structure by age and

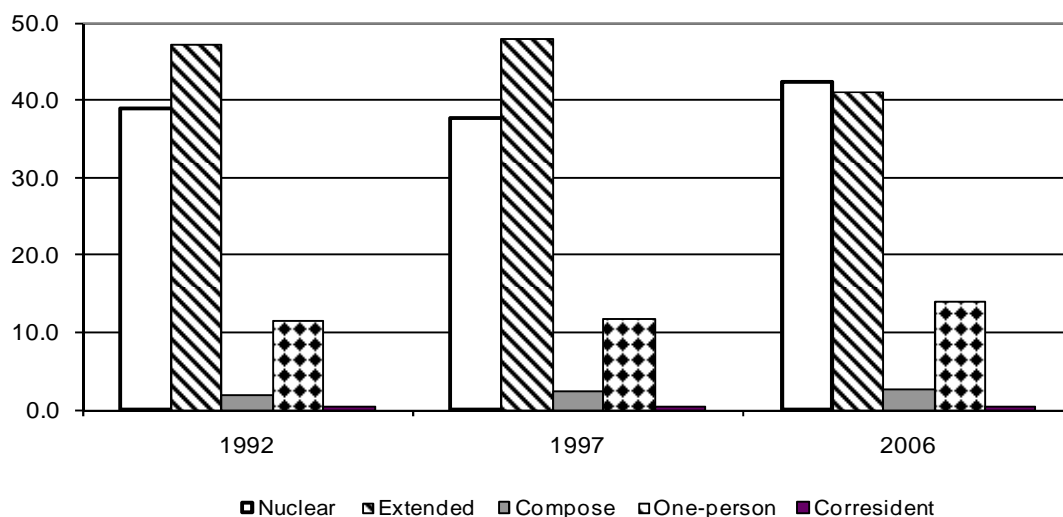
generational composition of households, but also because it reflects the changes in priorities of Mexican families.

Between 1992 and 2006 it is noteworthy to point out the increase within nuclear households in the proportion of households which include an elderly and in which the couple lives alone and also a decrease of couples living with single children (Montes de Oca and Garay, 2010). The decrease in the mortality rate also implies a reduction in widowhood of one of the spouses, which translates into longer married life, possibly with a first or second marriage.

Non-family households have also gained importance, especially those in which an elderly lives alone, which have grown significantly for the years mentioned (Graph 2). There are studies which point out the growing tendency of preferably living one's old age independent of the rest of the family, although there has been speculation that this is due to an increase in schooling in the new generations of aging adults and to an increase in the autonomy of decision making and financial management. If this hypothesis is true, then the profile of those who live alone may be explained by these characteristics (Ramos, 1994).

Graph 2

Types of Households with Older Persons in Mexico, 1992 – 2006 (percentages)



Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 1992, 1997 and 2006.

Also, it has been observed in literature regarding family demographics that one effect of the reduction in mortality is the fact that more and more two generations live together³. These households represented, within the Mexican household group, 6 percent in 1992, 5.7 percent in 1997 and 4.3 percent in 2006; it is worth pointing out that with the percentage drops the absolute number of households with said characteristics has also diminished in the mentioned period of time. The predominating family structure in these types of households are extended, though in 2006 a 7.1 percent of composite households is observed, an arrangement that has increased since 1992 (Graph 3).

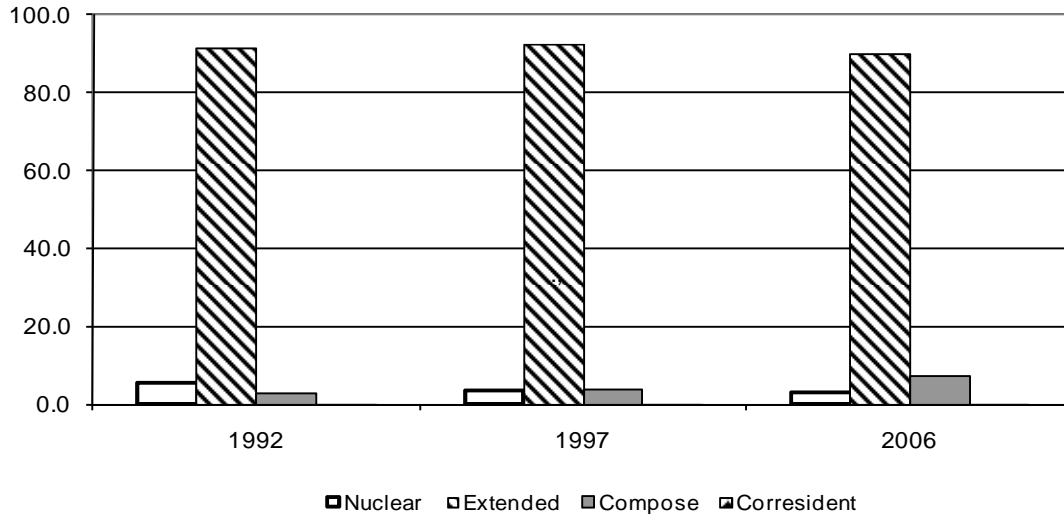
The different living arrangements where people under 5 and over 60 years old reside is a type of household which acquires a higher presence as proof of higher cohabitation between generations and on a local level as an effect of immigration⁴. In these households people can be said to experience a double generational pressure, derived from both descendants and ascendants, since the two groups have specific demands and needs in health care and nutrition. Besides, it is not easy to place these households in those in the category of formative phase or dissolutive stage since they have characteristics from both. It is also a type of household derived from the dynamics of the job market, be it from immigration or due to the fact that household members need extra hands to care for the young or sick, a job which in Mexico is on many occasions left to the grandmothers, who are a way to counter the lack of public nurseries.

³ Some authors point out that this practice can be translated into benefits to the younger generations, like the acquisition of human capital and health care for the children (Rentería et al., 2007).

⁴ The percentage of men who reside in households with people under 5 years old and aged is much higher than that of women, 75 percent vs 25 percent. When the relationship of the members of such households is explored, it is found that the presence of young children is not always related to grandchildren, but rather a part of the cohabitation of young children and aging adults in the same household is related to the men's second marriage to younger women, with whom they have small children.

Graph 3

Households with > 5 years old persons and elderly, Mexico,
1992 – 2006 (percentages)



Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 1992, 1997 and 2006.

To summarize, the information hereby presented shows significant differences in the household structures of the total population nationwide with regards to households which have populations with 60 years and older. Although one-person households are not important on a national scale, they are important when only the senior population is considered. When we speak of households with populations of 60 years of age and more an increase of nuclear and one-person households is observed, while the number of extended households diminishes.

3.2 Households with older persons and poverty

The previous section can be complimented with the information about households of older persons and socioeconomic level. In Mexico is observed that in higher socioeconomic levels exist a larger number of nuclear households, this has increased from 1992 to 2006 (Table 1). In the composition of this type of arrangements, the proportion of couples in the mid-socioeconomic level has increased considerably, and along with the lower socioeconomic levels shows the highest percentages in this category. In the higher stratum

a greater percentage of two-parent with children arrangements is concentrated, as well as heads of families who live alone with their children, the latter having important increases between 1992 and 2006. This could be a consequence of the phase in which the family life cycle is found at the time, since it could be considered that among unmarried siblings there are more economically active members. This aspect is made more evident when related to households with elderly members where this effect is clearly visible (Montes de Oca and Garay, 2010).

As is observed in other studies, the rate of extended households with senior men and women is higher in the lower strata. This rate has been reduced in the different social strata between 1992 and 2006 but has shown a greater decrease in the middle stratum, particularly, in the number of couples with children and other relatives has decreased (Table 1). When the households with children under 5 years of age and elderly are observed, it is noted that most of these domestic units are extended, which prevail in the lower strata⁵. Within these types of households the category of couple with children and other relatives has been reduced considerably between 1992 and 2006 in the middle and higher strata, going from 64.9 to 54.6 percent respectively. At the same time, the living arrangement where the head of the family lives alone with children and other relatives has gained presence in both socioeconomic strata, increasing from 17.8 to 23 percent in the lower stratum and from 21.9 to 30.5 percent in the middle and higher strata for 1992 to 2006 period.

The literature on aging has pointed out that mainly aged women live in one-person households and due to this condition these homes are in a vulnerable situation⁶. Although Ramos (1994) found that in Brazil these elderly people live in better conditions than those who live in multigenerational households, for the case of Mexico a double effect takes place which calls one's attention. Since 1992, a higher concentration of one-person households is found in the lowest strata, this relative presence increased by 1997 and then

⁵ For households with aging residents and children under 5 year of age, socioeconomic strata were grouped due to fact of the number of cases being much reduced when divided into the four strata.

⁶ In the case of Mexico there is no significant association between the socioeconomic stratum and sex, which is why the economic situation is very similar for men and women 60 or older, both tend to find themselves in the less advantaged socioeconomic strata.

slightly decreased in 2006. Nevertheless, the National Survey for Demographic Dynamics (ENADID) for 2006 shows that one-person households are also concentrated in the lower and middle strata (Table 1).

Table 1
Households with older persons by socioeconomic status,
Mexico, 1992 – 2006 (percentages)

	Socioeconomic Status			
	Very low	Low	Medium	High
1992				
Nuclears	39.8	34.8	41.5	45.2
Extended	42.4	57.7	45.4	42.9
Composes	0.8	1.9	2.5	6.4
One-person	16.8	5.3	9.9	2.7
Corresidents	0.3	0.3	0.6	2.7
Total	100.0	100.0	100.0	100.0
1997				
Nuclears	39.8	34.0	37.3	41.7
Extended	39.7	56.4	50.0	48.9
Composes	1.4	1.9	2.4	5.5
One-person	18.8	7.3	9.8	3.2
Corresidents	0.3	0.4	0.5	0.8
Total	100.0	100.0	100.0	100.0
2006				
Nuclears	42.7	32.8	47.3	52.2
Extended	38.1	53.2	33.7	37.8
Composes	1.6	3.4	2.1	4.0
One-person	17.4	10.3	16.6	5.5
Corresidents	0.2	0.3	0.3	0.6
Total	100.0	100.0	100.0	100.0

Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 1992, 1997 and 2006.

The differences in the socioeconomic strata and the higher presence of households with aged are the result of the distribution of these households within the national territory. In the country there are areas of high marginalization and structural poverty which has already been reported by Mexican institutions (CONAPO, 2006).

3.3 Households with older persons in regions of Mexico

The changes observed on a national level of the households with elderly populations become much more accentuated when distinguished between regions⁷ of the country. In 1992, it is observed that the number of households with senior populations was concentrated⁸ in the North, Central Western, Central Eastern and Southern regions of the country. Of these, the one presenting the highest percentage is the Central Eastern region (Hidalgo and Tlaxcala), with 26.8 percent of the households having at least one person 60 years and older. At the same time, the regions with percentages lower than the national in that year are Northwestern, Northeastern, Center, Eastern and the Yucatan Peninsula, the latter group being that which presents the lowest relative number of households with elderly population, with 21.7 percent (Map 1).

In 1997, the mentioned regional panorama does not show many changes in its distribution, pointing out only that the Center region reaches percentages higher than those of the national average (Map 2). The proportion of households with elderly population shows increases with respect to 1992, being the Central Eastern region the only one with the highest concentration of this kind of households (27.6 percent). Like in 1992, the Yucatan Peninsula shows in 1997 the lower proportion of households with population of 60 years and older (20.8 percent).

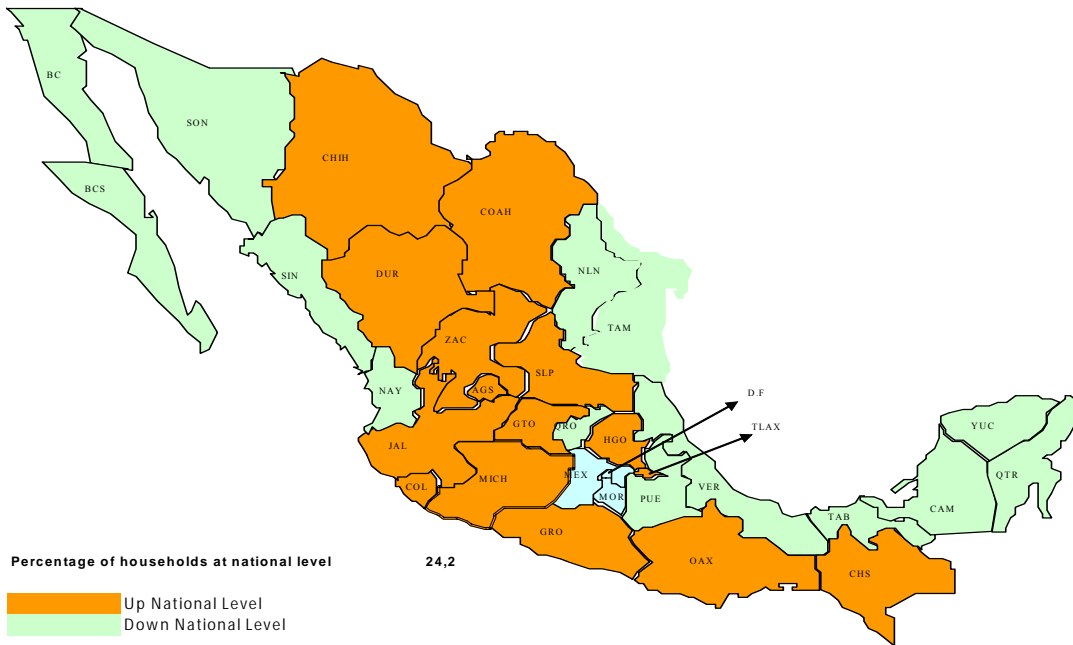
By 2006 some important changes are observed with regard to previous periods. The North Eastern region, which had kept proportions lower than the national average in 1992 and 1997, now shows the highest percentage of households with aged people. On the other hand, the Central Eastern and Southern regions which were above the national average, in 2006 show proportions lower than those of the whole country. The Yucatan Peninsula maintains the lowest proportion of households with populations 60 years and older (Map 3).

⁷ The regions considered by the ENADID are: North Western, North, North Eastern, Central Western, Central Eastern, Southern, Center, Eastern and Yucatan Peninsula.

⁸ To distinguish the concentration, or lack thereof, of households with people over 60 years of age in the different regions, it was considered that those regions with a concentration similar or higher than the national concentration would have a higher concentration of said kind of households, the opposite happening to those under the national average.

Map 1

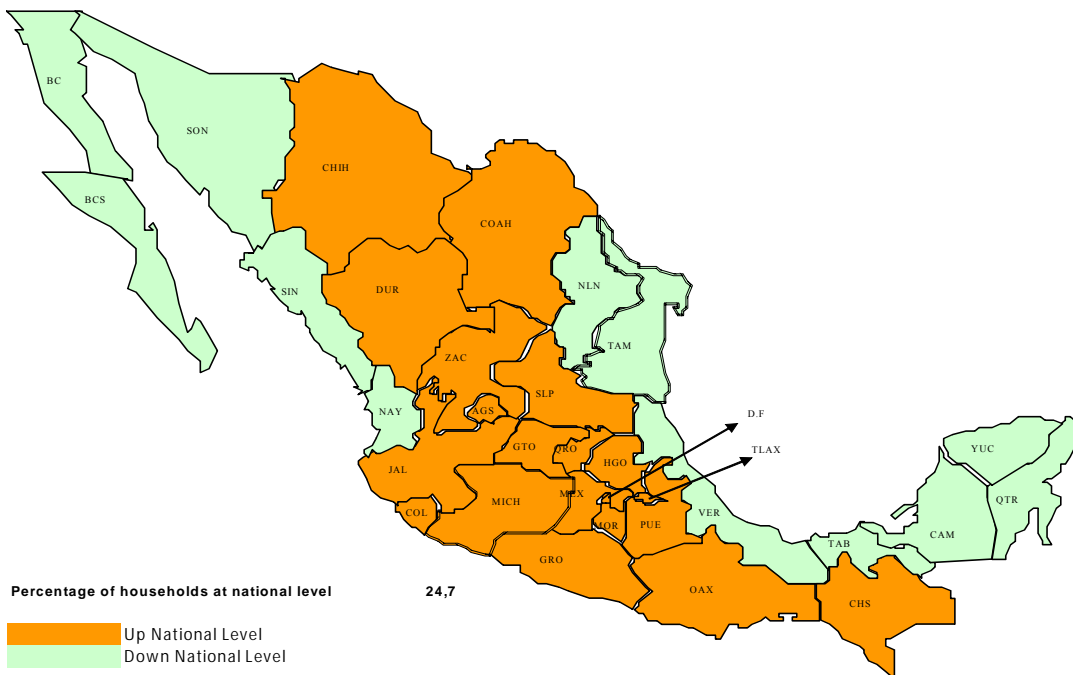
Households with elderly in Mexico, 1992.



Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 1992.

Map 2

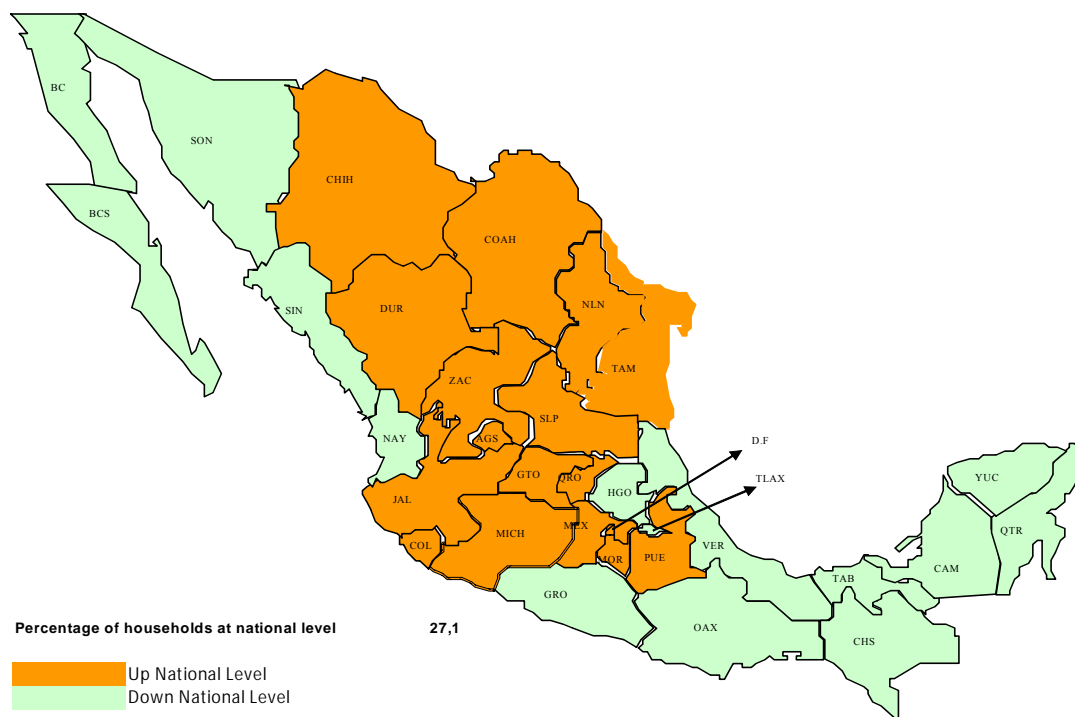
Households with elderly in Mexico, 1997



Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 1997.

Map 3

Households with elderly in Mexico, 2006.



Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 2006.

It is interesting to observe that in the different periods the North region has a tendency to a higher presence of households with aging populations, while the Central Eastern and Southern regions have a larger presence of households with children under 5 years of age and of households with infants and elderly (Table 2). This is due to the higher rate of aging in the North of the country previously reported (Ruiz, 2008). Also, the differentiated fertility rates in the country can explain this, since in the Central and Southern regions the fertility is high while in the North it has dropped and life expectancy has increased. Also the education levels are considerably different between the North and the Southern regions of Mexico, propitiating lifestyle changes in the elderly people.

Table 2

Regional distribution of households with >5 years old persons, elderly and both in Mexico, 1992 - 2006

Regions	1992			1997			2006		
	Households with 60 and + persons	Households with >5 years old persons	Households with >5 years old persons and 60 and + persons	Households with 60 and + persons	Households with >5 years old persons	Households with >5 years old persons and 60 and + persons	Households with 60 and + persons	Households with >5 years old persons	Households with >5 years old persons and 60 and + persons
North Western	23.2	44.1	5.2	22.4	42.4	4.9	26.0	31.5	3.6
North	25.5	47.4	6.0	26.6	45.7	6.2	28.3	34.1	4.3
North Eastern	23.3	40.2	3.6	24.5	37.8	4.3	30.7	30.1	3.6
Central Western	25.4	47.3	5.2	24.8	45.2	4.8	28.2	34.8	4.4
Central Eastern	26.8	48.1	8.7	27.6	45.9	8.0	25.8	36.0	5.1
Southern	24.4	52.7	7.5	27.0	44.0	6.7	26.3	37.0	5.6
Center	24.0	47.1	6.2	25.0	43.0	6.5	27.8	34.3	4.6
Eastern	22.6	46.4	6.6	23.5	43.3	5.7	26.8	30.8	3.6
Yucatán Peninsula	21.7	49.1	5.3	20.8	43.7	4.9	22.3	33.9	3.5
NATIONAL LEVEL	24.2	53.3	5.9	24.7	43.7	5.7	27.1	33.7	4.3

Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 1992, 1997 y 2006.

On a national level it has been shown that the socioeconomic situation of the population with 60 years and older and of their households is not encouraging, a large number of them find themselves in an unfavorable situation. Breaking up the panorama by regions it is still similar, mostly in those which concentrate a higher percentage of households with aged populations. For example, in 1992, of the 26.8 percent of households contained in the Central Eastern region, 80 percent were in the lower socioeconomic strata. The same thing happened for the Southern region, of which 87 percent of the households with aged were in a situation of poverty. In 1997, 75 and 80 percent of households with aging inhabitants in these same regions were in unfavorable socioeconomic conditions. These results were expected, especially in the Southern region, due to the fact that historically this region has concentrated the poorest entities in the country (Guerrero, Oaxaca and Chiapas) (Esquivel, 1999).

The situation looks more favorable in 2006, when 15 and 17 percent of the households are in the higher economic strata in the North and Central regions respectively. This is expected since both regions group entities with a greater socioeconomic development

(Esquivel, 1999; Messmacher, 2000). It is important to remember that in this year the Central Eastern and Southern regions are not shown as areas with a high concentration of households with older persons.

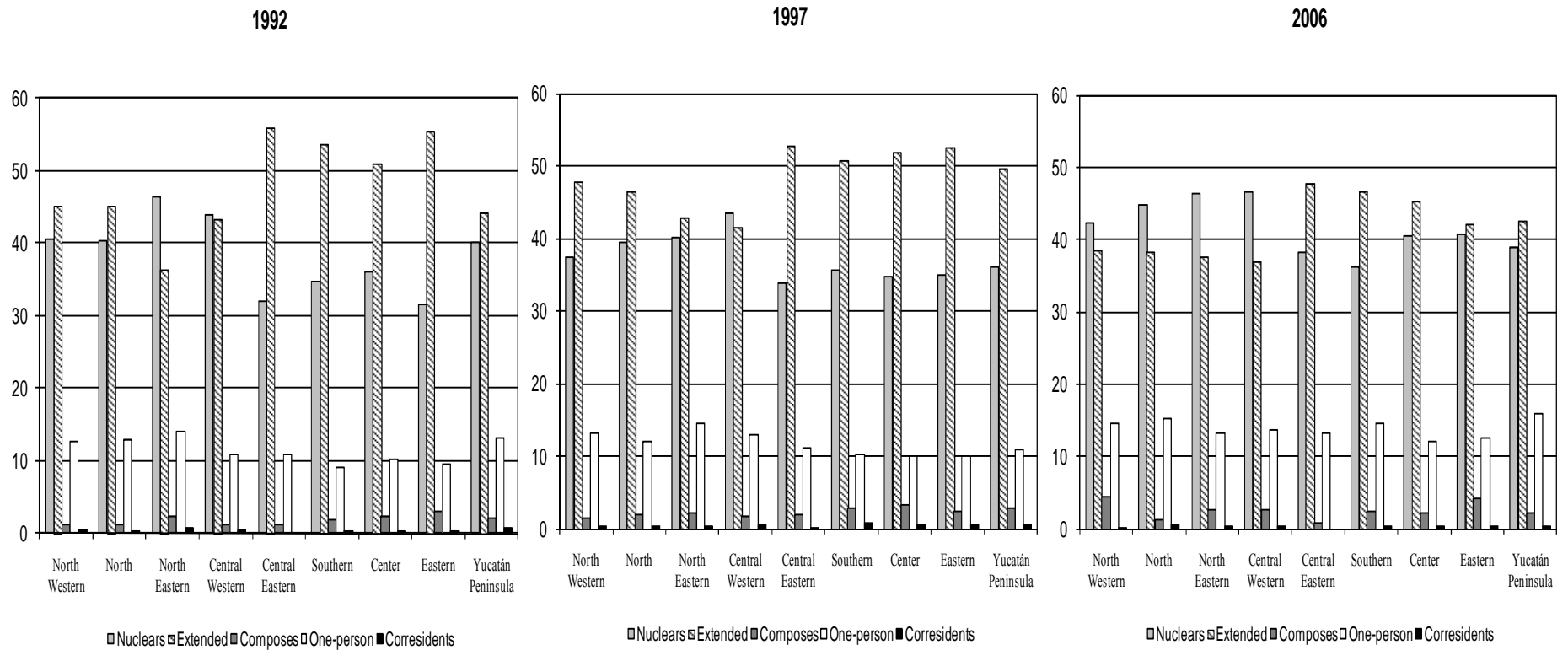
Like with the percentage distribution of households and their economic situation, the types of living arrangements predominant for the aging population tend to differ in the regions of Mexico. In the period analyzed, it is possible to visualize the types of household where a 60 year and older person lives; in them it is clear that they are nuclear households where an aging person lives since they had, in 1992, more presence in the North Western, North, North Eastern and Central Western regions. This type of living arrangement loses importance in the following years, since only in the Central Western and North Eastern regions is the nuclear household greater than the extended one (in 2006) (Graph 4).

About the extended household the fact that draws attention is that these types of households where an elderly person resides has more relative presence in the Central Eastern, Southern, Center, Yucatan Peninsula and Eastern regions (Graph 4). In these regions the life expectancy is not very high (except in Mexico City in the central region) and is characterized by high degrees of marginalization and poverty. A possible strategy of those families with elderly people is to live in cohabitation with several generations. In the North where there is a greater presence of households with couples living alone with an elderly member where this living arrangement is considered more common and is feasible economically and in health related issues to maintain quality of life in old age.

The one-person households of elderly people in the North and Northwestern regions are found to be in this same logic, but we could not say the same about those found in the Southern Region or the Yucatan Peninsula. Especially in the states of Guerrero, Oaxaca and Chiapas, the living conditions of the elderly are closer to nutritional poverty. Therefore these types of one-person households are not a better-living strategy but an effect of longer life spans in families in the context of poverty, marginality and immigration.

Graph 4

Types of Households with Older Persons by regions in Mexico, 1992 – 2006 (percentages)



Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 1992, 1997 and 2006.

Summarizing, in the Mexican territory there are marked differences in compositions of households with elderly people, being this a reflection of the different aging rates experienced throughout the country, as of the different fertility levels and life expectancy. The higher aging experienced in the North of the country, along with higher socio-educational levels and the effects of immigration could change the living arrangements where the elderly reside. While in the Central Eastern, Southern and Central regions, the households with elderly people living in them are extended and there is more cohabitation with children less than 5 years of age. While in the North the presence of households of elderly living alone is shown to be an option and in the South and the Yucatan Peninsula such households can be an answer to poverty and marginalization in settlements. In both regions it is impossible to avoid the role that indigenous traditions and local customs and habits which have been reported previously (Reyes, 2008).

4. People with 60 years and older and their living arrangements

As well as the subjects previously discussed, one of the interests of this paper is to show the influence of several individual, familial and contextual characteristics of the aging population on the type of arrangement in which they are found. Some studies have shown that an element which specially influences change of household by an elderly person is the death of the spouse, as well as the formation of a family by the siblings (Montes de Oca y Hebrero, 2006). On this subject, we see that unmarried elderly people are more inclined to living in extended households, followed by those who are separated or divorced, in comparison to those who are married or united (Table 3). The fact of not having a partner could be a factor associated with residing in extended households⁹.

⁹ When distinguished by sex it is shown that in extended households there is a greater presence of elderly women in this kind of arrangement (45.7 percent) compared to men.

Table 3
Binomial Logistic Regression for Extended Household,
Mexico, 2006

Marital Status	Exp(B)	Sig.
Separated o divorced	4,695	0,000
Widowers	5,239	0,000
Single	11,950	0,000
Married or joined	1,000	.

Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 2006.

On the other hand, it has been pointed out that men are more inclined to living alone or with their mate; schooling is also related to living alone or as a couple. When the older persons possess property or are in an advantageous economic situation they attract new members to their household, in the same fashion those who possess higher economic resources tend to live alone or as a couple. Elderly men or women who are involved in an economic activity are more likely to live alone, and the same is true for those with better health (United Nations, 1994; Perez and Brenes, 2006)¹⁰

Other studies exist which are not focused on the elderly population, in which it is pointed out that immigration has contributed to changes in cohabitation (Ariza and Oliveira, 2001, 2007). It is also suggested that a larger concentration of extended households exist in the urban areas compared to the rural areas (García and Rojas, 2002), so this could also determine the living arrangement.

Taking into account some of the aforesaid precedents a multinomial¹¹ logistic model was adjusted with the following variables: sex, age and condition of activity of population with

¹⁰ According to data provided by the ENADID 2006, elderly men are found primarily in nuclear households (52.4 percent) while women are less so (40.2 percent). Also we see that 11.1 percent of elderly women live alone whereas for men this figure is only 8.7 percent.

¹¹ Only three types of living arrangements were considered in the dependent variable of the model: nuclear, extended and one-person. The co-inhabited household was not included since it had a reduced number of cases.

60 years and older¹²; also incorporated were the presence of immigrants in the household and the size of locality, since, like some studies suggest, this can have an influence on household structure; it was also considered that the socioeconomic strata will concentrate populations into certain arrangements.

Results show that men are less likely to live alone or in extended households, compared to women. This confirms the idea suggested by some authors where the adhesion of elderly women to other conjugal nucleus is a very common behavior in Mexican families (Montes de Oca and Hebrero, 2006). The greater presence of women in one-person households is probably due to greater life expectancy for women, which leaves them widowed at an advanced age (Table 4).

Also, the population 80 years old or more is more likely to live in extended and one-person households, compared to those between 60 and 69, the same happens for those between 70 and 79 (Table 4). This behavior is unexpected because with the passing of the years widowhood and decreased health may occur to the elderly population, and these will tend to change the living arrangements.

Elderly people who work are less likely to reside in an extended household compared to those who do not work, though we must say that the first category did not prove significant in statistical terms. Nevertheless, the fact that the population aged 60 or higher is inserted in an economic activity greatly increases the odds of living alone, which does not necessarily imply better economic conditions but a lack of benefits in the matter of social security, although relative autonomy and independence is maintained (Table 4).

Some studies refer to the fact that immigration will bring changes in living arrangements. In this study it is observed that the presence of an immigrant in the household greatly increases the odds of the elderly residing in extended households in contrast to those where

¹² In the multinomial model, marital status was not taken into account due to the fact that in single-member households people who are separated, divorced or widowed are prominent, thus the category of married or united people had few cases. Schooling was not integrated into the model because it was highly correlated with socioeconomic strata.

there are no immigrants. The opposite happens to residing in one-person households (Table 4).

The place of residence only has significant influence, in statistical terms, for inhabitants in places with less than 2500 inhabitants; those who live in said places are less likely to find themselves in an extended or one-person living arrangement (Table 4).

The likelihood of population with 60 years and older who belong to the lower strata living in extended households is slightly lower than that of those who belong to the upper strata. The opposite occurs to the lower stratum, since the population belonging to this sector is the one showing the greatest probability of belonging to an extended household. The elderly adult population found in a very low, low and medium stratum shows higher probabilities of living in a one-person household in contrast to those who belong to the higher strata, but above all it points out that said probabilities are higher in the very low and medium strata (Table 4).

Table 4

Probabilities for that Older Persons live in a type of household with nuclear household as category of reference, Mexico, 2006

VARIABLES	EXTENDED	ONE PERSON	NUCLEAR
Sex			
Man	37.1 *	7.5 *	55.4
Woman	46.5	11.5	42.0
Age			
70 to 79	41.9 *	12.7 *	45.4
80 +	48.8 *	15.5 *	35.7
60 a 69	40.0	7.0	53.0
Labor Condition			
Work	39.8	13.8 *	46.4
Not work	42.9	8.2	48.9
Migrants at home			
Yes	54.7 *	5.7 **	39.6
Not	41.6	9.7	48.7
Size of Locality			
> 2500 inhab.	40.2 *	8.8 *	51.0
2500 to 14,999 inhab.	45.2	9.6	45.2
15,000 to 999,999 inhab.	41.6	9.6	48.8
100,000 or more inhab.	42.9	10.1	47.0
Socioeconomic Status			
Very Low	39.4 *	12.3 *	48.3
Low	54.7 *	7.7 *	37.6
Medium	34.4	11.9 *	53.7
High	39.6	3.8	56.6

* $p \leq 0.05$ ** $p \leq 0.1$

Source: Own calculations with National Survey of Demographic Dynamic (ENADID) 2006.

Conclusions

The National Survey for Demographics Dynamics is a source of useful information to approximate family dimension and arrangements of the Mexican population so as to explore the most important changes in a determined period of time. It also allows for the

identification of the most outstanding changes in certain population groups as is the case of who survived and reached advanced ages. Through this source of information for the years 1992, 1997 and 2006 some important changes in household configuration of the Mexican population could be detected, as well as homes with older persons.

In this article important differences between the household structures of the national population were shown, with respect to households having a population with 60 years and older. The purpose of this was to identify the most relevant transformations derived for demographic aging and the reduction of fertility as the first component of impact on the structure by advanced age on the regional and national scales.

On this topic it is worthwhile pointing out that in Mexican households there is a decrease in the nuclear structure, no change in the extended households and an increase in households considered non-familial, where the one-person household stands out. This process of change between 1992 and 2006 shows that the decrease of fertility is affecting nuclear households. On the other hand a greater number of children under age 5 can be seen in extended households.

On the subject of change in the households with population with 60 years and older, the slight increase in the presence of nuclear households stands out, above all, caused by the increase in longevity, there is an increase in households composed by only a couple and at least one elderly person. With regards to extended households, these diminish above all the arrangement composed of a couple with unmarried children and other relatives. Although it is true that one-person households are not important on a national scale, they are so when speaking only of the elderly population. When distinguished by different regions, the behavior changes a bit with regards to the whole country, extended households being those which have acquired as greater presence in most of the country's regions (Center, Eastern Central, Southern and Western), specially in 2006. A similar behavior is found for one-person households, noting higher proportions of these types of living arrangements in the North Eastern region and the Yucatan Peninsula.

There also exist certain households where older persons reside along with children under the age of 5, where a double generational demand is experienced, but it is also evidence of the new extended households with greater generational composition. It is to be assumed that in these households support strategies will be developed in the possible presence of illness of the elderly people, and in that aspect increase the presence of either relatives or non relatives.

References

Ariza, Marina y Orlandina de Oliveira (2001), “Familias en transición y marcos conceptuales en redefinición” en *Papeles de Población*, abril – junio, núm. 28, Universidad Autónoma del Estado de México, Toluca, México, pp. 9 - 39.

Ariza, Marina y Orlandina de Oliveira (2007), “Familias, pobreza y desigualdad social en Latinoamérica: una mirada comparativa” en *Estudios Demográficos y Urbanos*, enero – abril, año/vol./ 22, núm. 001, El Colegio de México, A.C., D.F., México, pp. 9 - 42.

Borooah, Vani K. (2002), *Logit and probit: ordered and multinomial models*. Sage University Paper Series, Quantitative Applications in the Social Sciences, núms. 07 – 138.

Esquivel, Gerardo (1999), “Convergencia regional en México, 1940 – 1995”, en *El Trimestre Económico*, vol. LXVI (4), núm 264.

García, Brígida, Humberto Muñoz y Orlandina de Oliveira, (1988), *Hogares y trabajadores en la Ciudad de México*, El Colegio de México y IIS-UNAM, México.

García, Brígida y Olga Rojas (2002), “Los hogares latinoamericanos durante la segunda mitad del siglo XX: una perspectiva sociodemográfica” en *Estudios Demográficos y Urbanos*, mayo – agosto, núm. 050, El Colegio de México, A.C., Distrito Federal, México, pp. 261 – 288.

Instituto Nacional de Estadística Geografía e Informática, (1997), *Los hogares en México*, INEGI, México, 99 pp.

López Ramírez, Adriana (2001), *El perfil sociodemográfico de los hogares en México 1970 – 1997*, Consejo Nacional de Población, México, D.F., pp. 41.

Messmacher, Miguel (2000), “Desigualdad Regional en México, el efecto del TLCAN y otras reformas estructurales”, Documento de investigación núm. 2000 – 4, Dirección General de Investigación Económica, Banco de México.

Montes de Oca, V. y M. Hebrero (2006), “Eventos cruciales y ciclos familiares avanzados: el efecto del envejecimiento en los hogares de México” en *Papeles de Población*, núm. 50, octubre – diciembre, Universidad Autónoma del Estado de México, Toluca, México, pp. 97 – 116.

Montes de Oca, V. y M. Hebrero M. (2008), “Dinámica familiar, envejecimiento y deterioro funcional en México”, *Revista Kairós Gerontología*, Brasil, Sao Paulo, Vol.11, Num. 1, jun, 143-166. (ISSN 1516-2567)

Montes de Oca, V. y S. Garay (2010), “Familias, hogares y vejez: cambios y determinantes en los arreglos familiares con personas adultas mayores en México, 1992 – 2006” en Ana María Chávez Galindo y Catherine Menkes Bancet, *Procesos y tendencias poblacionales en el México contemporáneo. Una mirada desde la ENADID 2006*, Secretaría de Salud, Centro Regional de Investigaciones Multidisciplinarias de la Universidad Nacional Autónoma de México (en prensa).

Oliveira, Orlandina de, (1988), “Unidades domésticas y familias censales”, *DEMOS, Carta demográfica sobre México*, México, p. 22.

Pérez Amador, J. y G. Brenes (2006), “Una transición en edades avanzadas: cambios en los arreglos residenciales de adultos mayores en siete ciudades latinoamericanas” en *Estudios Demográficos y Urbanos*, septiembre- diciembre, año/vol. 21, núm. 003, El Colegio de México, A.C., Distrito Federal, México, pp. 625 – 661.

Ramos, Luiz (1994), “Family support for the elderly in Latin America: the role of the multigenerational household” en United Nations, *Ageing and the Family. Proceedings of the United Nations. International Conference of Aging Populations in the context of the Family*, Department for Economic and Social Information and Policy Analysis, Kitakyushu (Japón), 15 – 19 octubre 1990, New York, 1994, ST/ESA/SER.R/124.

Rentería Elisenda, Cássio Maldonado y Bernardo Lanza (2007), “Abuelos y nietos, ¿una convivencia beneficiosa para los más jóvenes? El caso de Brasil y Perú” en *Papeles de Población*, abril – junio, núm. 052, Universidad Autónoma del Estado de México, Toluca, México, pp. 47. 75.

Reyes, L. (2008) *Diagnóstico sociodemográfico de los adultos mayores indígenas de México*. Comisión Nacional para el Desarrollo de los Pueblos Indígenas, PNUD, México, 110 p.

Ruíz Pantoja, T. E. (2008) “Diferencias en la geografía del envejecimiento en México” documento presentado en la IX Reunión de Investigación Sociodemográfica en México, Mérida, Yucatán, México.

Salgado, N. y R. Wong, (2006), *Envejecimiento, pobreza y salud en población urbana. Un estudio de cuatro ciudades de México*, México, Instituto de Salud Pública, 161 pp.

SNDIF (2005) *Diagnóstico de la Familia Mexicana. Encuesta Nacional de la Dinámica Familiar*, México, D. F., SNDIF, IISUNAM, 153 pp.

Tuirán, Rodolfo, (1996), “Las trayectorias de vida familiar en México: una perspectiva histórica”, *Hogares, familias: desigualdad, conflicto, redes solidarias y parentales*, SOMEDE, México, pp. 7-14.

United Nations (1994), *Ageing and the Family. Proceedings of the United Nations. International Conference of Aging Populations in the context of the Family*, Department for Economic and Social Information and Policy Analysis, Kitakyushu (Japón), 15 – 19 octubre 1990, New York, 1994, ST/ESA/SER.R/124.