



REVIEW ARTICLE

ARE DEVELOPING COUNTRIES READY FOR AGEING POPULATIONS? AN EXAMINATION ON THE SOCIO-DEMOGRAPHIC, ECONOMIC AND HEALTH STATUS OF ELDERLY IN TURKEY

ABSTRACT

The proportion of older persons increased year by year and this group faces different problems than those of developed countries in terms of economic, social and political considerations. The purpose of this study was to evaluate the current situation of older persons in Turkey and discuss the challenges of interpreting the existing data regarding this population. In Turkey, from 1985 to 2000, the proportion of older persons in the total population increased from 4.2% to 5.7%. Projections show this proportion will increase to 9.1% by 2025. The majority of older persons are women, less urbanized, and have lower educational levels. Sixty-five percent of them are not active in the labour force. The most common cause of death is cardiovascular disease. The increasing proportion of older persons in Turkey may lead to a decrease in families' ability to support them, and new arrangements for taking care of older persons may thus be required. Among the key issues of concern to policy makers are health and social services, home care, social security, social support, and proper education of those involved in the care of this population.

Key words: Aging population, Demography, Health care, Older persons, Social support



DERLEME

GELİŞMEKTE OLAN ÜLKELER YAŞLANAN TOPLUM İÇİN HAZIR MI? TÜRKİYE'DEKİ YAŞLILARIN SOSYO-DEMOGRAFİK, EKONOMİK VE SAĞLIK DURUMLARINA İLİŞKİN BİR İNCELEME

Öz

Gelişmekte olan ülkelerde yaşlı nüfus yıldan yıla artmaktadır ve bu grup ekonomik, sosyal ve politik açıdan gelişmiş ülkelere göre daha farklı sorunlarla karşı karşıyadır. Bu çalışmanın amacı Türkiye'deki yaşlıların durumunu eldeki verilere dayanarak değerlendirmek ve yorumlamaktır. Çalışmada son 20 yıldaki yaşlı nüfusa ilişkin tanımlayıcı ve analitik veriler toplanarak değerlendirilmiştir. Türkiye'de 1985 yılından 2000 yılına kadar yaşlı nüfusun oranı % 4.2'den % 5.7'ye yükselmiştir. Projeksiyonlar bu oranın 2025 yılında %9.1'e yükseleceğini göstermektedir. Yaşlı nüfusun çoğunluğu kadın, kırsal alanda yaşayan ve eğitim düzeyi düşük bireylerdir. Bu grubun % 65'i işgücüne aktif olarak katılmamaktadır. En yaygın ölüm nedeni kalp-damar hastalıklarıdır. Türkiye'de yaşlı nüfusun artması ile ailelerin desteği yeterli olamamaktadır, bu nedenle yaşlı bakımında yeni düzenlemelere gereksinim vardır. Yaşlılara ilişkin geliştirilecek temel politikalar arasında, sağlık ve sosyal hizmetler, evde bakım, sosyal güvenlik, sosyal destek ve yaşlı bakımına ilişkin eğitim gibi öncelikler olmalıdır.

Anahtar sözcükler: Yaşlanan toplum, Nüfus, Sağlık bakımı, Yaşlı birey, Sosyal destek.

İletişim (Correspondance)

Emine AKSOYDAN
Baskent Üniversitesi, Beslenme ve Diyetetik ANKARA
Tlf: 0312 234 10 10
e-posta: aksoydan@baskent.edu.tr

Geliş Tarihi: 08/10/2008
(Received)

Kabul Tarihi: 01/11/2008
(Accepted)

Baskent Üniversitesi, Beslenme ve Diyetetik ANKARA



INTRODUCTION

The world's elderly population has been growing for centuries. The global population aged 65 and over was estimated to be 420 million people as of midyear 2000, an increase of 9.5 million since midyear 1999. The net balance of the world's elderly population grew by more than 795,000 people each month during that year. Projections to the year 2010 suggest that the net monthly gain will then be approximately 847,000 people. The current aggregate growth rates of the elderly population in developing countries is more than double that of developed countries, and also double that of the total world population. Well over half of the world's older persons (aged 65 and over) now live in developing countries (59 per cent, or more than 248 million persons, in 2000). By 2020, this proportion is projected to increase by 67% (1, 2).

Over the last two decades, the percentage of elderly persons in Turkey in relation with the rest of the world has increased. During that same period, fertility and mortality rates decreased; while, at the same time, there were increases in life expectancy at birth and median age. Owing to these population changes, the percentage of those aged 65 and over to the rest of the population also increased. For example, while the percentage of the elderly was 4.3% of the total population in 1990, it reached to approximately 6% in 2000, and the percentages are estimated to increase to 9.1 and 18.2 in 2025 and 2050 respectively (3).

The considerable growth in the elderly population in Turkey has brought with it problems as well as concerns and represent a major challenge in setting new policies regarding these persons and their needs. One reason for this is that at the national level, there has been a lack of systematic research regarding the socio-demographic, socioeconomic, and health statuses of this population segment. This, in turn, has led to a weak analysis policy for decisions makers, especially with regard to keeping systematic records and statistics on health status, living arrangements, and social security for these persons. For example, whereas limited research at the regional level does exist, the exact number of older persons registered in the national social insurance system is not known.

It has been revealed that the pace of aging will accelerate in the near future, and that social support for older persons will be insufficient. In this regard, researchers have raised several concerns regarding policy. It appears that as the older population begins to make more and more demands on social

services that the Turkish government will be unable to respond to the needs of the larger number of older persons, but will also be faced with a more demanding group in terms of service quality. As it stands, health services now available for older persons barely meet current needs. Despite ambitious monitoring of chronic diseases, health care and related social services remain insufficient or out of reach for many older persons. Furthermore, finding a solution or treatment for those who are physically or psychologically handicapped is not possible at the current level of care.

Owing to the aforementioned concerns, the purpose of this study was to assemble the available data regarding older persons in Turkey and clarify the current and future challenges of health care and social support for this population segment.

Turkish population census data, Turkey Demographic and Health Surveys, and projected data from 1990 to 2050 were examined to determine age groups and socio-demographic characteristics. This data was compared with global (developed and developing countries) population data.

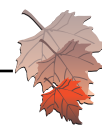
Existing research data on the Turkish elderly (education, marital status, working status, health status, living area, social security, etc.) was collected. This data was used to analyze the current needs of older persons and project the future needs and problems that this population will face.

Trends in the Elderly Population in Turkey

In Turkey, from 1990-2000, there was a significant increase in the growth rate of the elder age group. The yearly average expansion in total population during that period was 18.3%. Those who were active in the labour force (producers: aged 15-64 years) showed a growth of 24.3%. The youth population (aged, 0-14 years) saw slight increase (2.4%), while the elderly population (aged, 65 years and older) had the highest growth rate of all the country's groups (46.8%). In 2000, the youth represented 30%, the labour-force 64.5%, and the older persons 5.7% of the total population in Turkey. In 2050, the population size for older persons in Turkey is expected to increase to 21.7% (3, 4).

Table 1 shows the distribution of population, median age, and dependency ratio by years and age group.

Table 2 shows the distribution of the elderly population by years and life expectancy at birth. The elderly population has been steadily increasing, and estimates for the next 50 years show an even more rapid increase. Likewise, life expect-

**Table 1**— Median age, dependency ratio, and percentage of total population by age group and year (3,5,6)

Age group	Population Census (1990)	TDHS* (1993)	TDHS* (1998)	Population Census (2000)	TDHS* (2003)
<15 (%)	35.0	33.1	31.5	29.8	29.1
15-64 (%)	60.7	61.4	62.6	64.5	64.0
>65 (%)	4.3	5.5	5.9	5.7	6.9
Median age (year)	22.2	23.1	24.3	24.8	24.7
Total dependency ratio	64:7	62:7	59:7	55:1	56:3
Elderly dependency ratio	7:1	NA	NA	8:8	NA

*TDHS: Turkey Demographic and Health Survey

NA: Not available

Table 2— Population aged 65 and older, by years, and life expectancy at birth for given periods In Turkey (3,7)

Year	Number (1000)	Percent	Period	Life Expectancy at Birth
1950	690	3.2	1950-55	43.6
1960	978	3.5	1960-65	52.1
1970	1565	4.4	1970-75	57.9
1980	2113	4.7	1980-85	62.3
1990	2417	4.3	1990-95	67.2
2000	3858	5.7	2000-05	70.5
2010	4799	6.2	2010-15	72.9
2020	6619	7.7	2020-25	74.9
2030	9889	10.8	2030-35	76.7
2040	13923	14.5	2040-45	78.0
2050	17834	18.2	2045-50	78.5

tancy at birth has been increasing each year. During 1950-1955, life expectancy at birth was 43.6 years. This increased to 70.5 by 2000-2005 and is expected to increase to 78.5 in 2045-2050 (7).

In Turkey, life expectancy for females is higher at birth than it is for males (70.4 for women in 2000, 65.8 for men) and at age 65 the life expectancy years is 15.8 for women and 13.8 for men in 2000. These figures are in agreement with the majority of developing countries (7). The expected loss of healthy years at birth is 6.7 for males, while it is 9.3 for females. Total male and female life expectancy lost is 9.8% and 12.9% respectively in 2002 (8).

Sex Ratios and Marital Status

One distinctive characteristic of population throughout the world is the predominance of women at older ages. Women generally form the majority of the elderly population in the vast majority of countries, and their share of the population

increases by age. Gender imbalance in older ages has many implications for population and individual's ageing (2).

Turkish older women make up a greater percentage of the elderly than older men. In 2000, 55% of the population was women and 45% of the total was men (3).

Marital status, as one of the most significant demographic variables, directly influences how people organize their everyday lives. Older married couples tend to be more financially secure than non-married persons. Changes in marital status at an older age can affect pension potential, retirement income, and an individual's social support network. Many older widowed men, in particular, may lose many social ties after their wife has died. In contrast, widowed women tend to maintain their support social network following the death of a spouse. Marital status also influences one's living arrangements and affects the nature of care giving that is readily available in case of illness or disability (2).



In Turkey, 64% of elderly are married and 34% are widowed. There is a higher percentage of widowed women than men (28% vs. 6%) (3).

Urban and Rural Dimensions

Urbanization is one of the most significant factors affecting population trends over the last 50 years. In keeping with the worldwide pattern of increased urbanization, the elderly population has become more concentrated in urban areas.

In developed countries as a whole, an estimated 73 per cent of people aged 65 and over lived in urban areas in 1990, and this figure is projected to reach 80% by 2015. In developing nations, which are still predominantly rural, just over one-third (34%) of people aged 65 and older were estimated to live in urban areas in 1990. This proportion is expected to exceed 50% by the year 2015 (2).

Although, due to immigration, urban population expansion rates increased further during the last decade in Turkey (from 59% in 1990 to 65 per cent in 2000), many of the older persons still live in rural areas. Thirty six per cent of older persons live in urban areas (men 34%, women 37%) versus 64% who live in rural areas. Of these, 46% live in a sub-district or village (men 48%, women 44%) according to the 2000 census (3).

Living in a rural area is disadvantageous for older persons owing to the limited amount of and insufficiency of health services available. On the other hand, from a traditional perspective, owing to stronger social values and tighter relationship patterns, living in rural areas can be advantageous regarding social care. Urbanization and industrialization in Turkey have resulted in important changes to the family structure, especially in large cities. Older persons are the group most affected by the transition from the patriarchal family structure to the modern family structure. Older persons, who traditionally had held a prominent position in the family for many years, in the modern family structure, have become a burden owing to the stresses and demands of urban living. Families no longer can support the economic and spiritual demands of older persons, and this leads to a weakening of family bonds. Older persons have great difficulty adapting to this new family model, and this can cause unhappiness within the family (9).

Educational Attainment and Literacy

Educational attainment is linked to many aspects of a person's well-being. Research has shown that higher levels of education usually translate into better health, higher incomes, and consequently higher standards of living (10).

During the 20th century, educational attainment increased markedly in most countries. In some developed countries, younger persons are more than twice as likely as older persons to have completed secondary education. In less developed countries, differences between the younger and older generations are even more striking. Many older persons, particularly women, have low literacy levels (2).

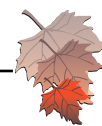
This is also true for Turkey. While the percentage of at least primary education graduates was 17% for males and 8% for females in 1975, this percentage increased to 43.6% for males and 26.6% for females by year 2000. The educational level of older persons is very low compared with the overall population, demonstrated by a dramatic 48% illiteracy rate. There is also a considerable difference between men and women in the elderly population, in which 27% of men and 65% of the women are illiterate. The percentage of older persons who graduated at least primary school is 29% (41.6% for male, 17.8% for female) while the rate of university graduates is 2.3% (3.7% for male, 0.9% for female) (3).

Living arrangements

Living arrangements take on special importance with regard to older people, because living arrangements reflect both the nature of accommodation required and the need for community or institutional long-term care. Living arrangements often reflect socio cultural preferences - for example, a preference for living in nuclear-family households versus living in extended-family household - or the propensity of society to allow, encourage, and support institutionalization of older people. While multigenerational households have been declining in more developed countries most studies in less developed countries indicate that older people want to live with their children or at least close to them (11).

An extended multi-generational family has generally been considered the ideal family in Turkey. The social structure is based on close-knit family relationships. Children or other relatives are expected to provide for needs of older adults. Despite recent social change and an increase in urbanization, parents have continued to support their children often well into adulthood. By the same token, children continue to respect their parents and to assume responsibility in caring for them in old age.

However, the odds of parent child co-residence are anticipated to decline with urbanization and the narrowing of re-



gional disparities in the levels of development and modernity (12).

According to 1998 Turkey Demographic and Health Survey indicators, 20% of the households in Turkey have at least one elder member. Fifty-five percent of older persons live with their children, while 14.4% settle down independently in the same neighbourhood. The others live in the same community (14.3%), close community (10.5%) and distant community (5.7%) (5). The reasons for this are generally financial and the merging of the older person's pension income with the salaries of the working adults in the same domicile contributes significantly to the overall household economic situation. In cases where the children live far away, older persons may be taken care of by neighbours, in accordance with Turkey's strong tradition of hospitality.

The Turkish elderly generally are unfavourable toward institutional living. In Turkey an institution was perceived as an acceptable last resort for those who had fewer social contacts and felt lonelier and more negatively about aging and their lives. According to state statistics, only 19,675 people or 5% of the total elderly population reside in these institutions (13). One of the explanations offered for the attitude-related cross-cultural differences was concerned with the collectivistic nature of the Turkish society where interdependence rather than independence is predominant and where the elderly sense of being seems to depend on strong cultural values of interpersonal relatedness. For example, in contrast to the more individualistic Swedes and English, Turks strongly favoured living next door to the children and their families; and attributed more importance to people in their neighbourhoods (14-17). According to a study, Turkish elderly who lived in a family environment had higher life satisfaction compared to those living in nursing homes (18). In another study, it was determined that while 33% of the elderly living in nursing homes preferred "a nursing home", 33% preferred "their own homes", followed by preferences for staying "with children or a relative" (22%) and "sheltered housing" (12%) (19).

Institutional services for the elderly are generally limited to old folks' homes which provide very limited services to a very small proportion of the elderly, most of whom lack other alternative means of support and accommodation. Currently, only 1% of those who are in need of care are in nursing homes (13).

Working Status

The rapid growth of the older population may place added pressure on a nation's financial resources. In all countries, ol-

der persons account for a small proportion of the overall labour force. Labour force participation of the older population has declined worldwide over the last decades. Traditionally, the proportion of older men who are active in the workforce has been notably higher than the proportion of older women. However, as participation in the labour force at older ages has dropped faster among men than among women, the older female share of the labour force has steadily increased over the last decades, especially in the more developed regions. At the global level, the percentage of older women workers increased from 26% in 1980 to 31% in 2000 (4).

In Turkey, 55% of all persons aged 12 and over form the labour force, and the difference between male and female workers is considerable (male participation 71%, female 40%). In the aged 65 and over range, the labour force is comprised of only 35% of the total elderly population (men 40%, women 29%) Participation in agricultural work among older persons is higher in rural areas (women 100% and men 87%) (3).

Social security benefits in Turkey guarantee socio economic and health support. The percentage of older persons not working is 65%; of those only 44% receive retirement benefits. Fortunately, there is a social security pension system available for persons aged 65 years old and older. However, the percentage of older persons who are not registered to receive social security is 47.8% (3). Older women, in particular, fail to register for social security benefits. One of the major reasons for this is the lack of public awareness programs to inform the elderly of their right to receive state social security. Even after the older persons become aware of their eligibility, they are then required to go through a long and arduous process to receive these benefits. Additionally, the monthly pension payments fall far short of the amount of money needed to support even the most basic of existence. Consequently, elder persons are more dependent on their families who then bear much of the responsibility of their care, leading to a decrease in both groups' quality of life. Being at an age where the risk of disease and disability is high, older persons without social security also face a lower level if not complete lack of proper health care service.

Health Status

With the increase in life expectancy occurring in most countries of the world since the beginning of this century, the leading causes of death have shifted dramatically from infectious to non-communicable diseases as well as from younger to older individuals. As greater numbers of children survive and li-



ve longer, they are increasingly exposed to the risks associated with chronic diseases and accidents. Furthermore, as fertility rates decline, the population ages, and national mortality and disease profiles begin to reflect the significance of chronic and degenerative ailments associated with greater numbers of older persons (1, 20). Chronic diseases can become a significant health and financial burden to not only those persons who have them, but also to their families and the nation's health care system. Chronic conditions such as diabetes and heart disease negatively affect quality of life, contributing to declines in functioning and the inability to remain in the community (21).

In Turkey, similar to other countries' elderly population, the prevalent diseases observed in elderly are hypertension, heart disease, and diabetes mellitus. A summary of the researches on the health of older persons is illustrated in Table 3.

As can be seen in Table 3, the most frequent disease in older persons is hypertension (24-73%), followed by heart diseases (7-35%), diabetes mellitus (6-26%). In addition to these statistics, according to Ministry of Health (2000), the incidence of cancer is about 10% in Turkish elderly (30). In Turkey, cardiovascular diseases remain the main causes of death in older persons (31).

Researchers have also studied increases in medication use as a person ages. Arslan et al. found that the most frequently used medicines are those prescribed for cardiovascular diseases (26.7%), followed by analgesic and non-steroidal anti-inflammatory (20.8%). In the same study 31 per cent of women and 23.3% of men were found to use at least three different medicines concurrently (28).

Arslan & Kutsal (2000) found that 18.9% of all handicapped persons are older than 65 years. Of these, 5.3% of disabilities are orthopaedic, 22.6% are vision, and 31.2% are hearing. Similarly, among those persons aged 65 years and older who are taken care of in care houses, the prevalence of those persons who are physically and psychiatrically handicapped (e.g. Alzheimer's disease) is 31.1% (32).

As a conclusion, in Turkey, the elderly population has not received significant policy attention because of the smaller percentage of older men and women to younger groups. Until recently, Turkey had a "young population" and the problems mostly addressed by policy makers were fertility and related issues such as mother-child health care. Adolescence and adult population issues such as education and employment were the other important policy matters. Recent population

Table 3— Research on prevalence of chronic diseases and drug use in older persons in Turkey

Researcher & Year	Age Group and Sample Size	Hypertension (%)		Heart Disease (%)		Diabetes Mellitus (%)		Drug use
		Men	Women	Men	Women	Men	Women	
Ministry of Health 2004 (22)	60-69	36.8	46.1	15.9	17.4	20.3	20.5	
	70-79	46.4	50.9	19.6	21.4	19.3	22.0	
	80 +	56.6	45.3	23.3	18.4	-	-	
	1176 men, 2064 women							
Bilir et al. 2002 (23)	65 +		Both sexes		Both sexes		Both sexes	78 %
	92 men, 113 women		56.1		36.6		22.4	
	65 +	33.6	37.9	22.5	16.1	10.7	16.4	64.8 %
Yaris et al. 2001 (24)	280 men, 280 women							
Onal et al. 2001 (25)	64 +	73.0	63.0	-	-	-	-	
	175 men, 179 women							
Turhanoglu et al. 2000 (26)	55 +	27.0	50.5	11.2	9.7	10.3	20.9	
	233 men, 277 women							
Diker 2000 (27)	65 +	24.2	57.1	18.5	30.8	8.7	18.1	2.18±0.12
	103 men, 133 women							
Arslan et al. 2000 (28)	60 +	26.7	36.9	11.5	7.0	8.5	12.8	
	1196 men, 748 women							
Onat et al. 1996 (29)	60-69	28.0	42.0	21.6	21.7	7.3	11.6	
	70 +	27.0	50.3	13.1	26.4	6.0	13.3	
	439 men, 464 women							



estimates have shown that Turkey's elderly population will increase very quickly in the near future. As examined in this article, factors such as inadequate income, insufficient care units, lack of social security, and low educational levels worsen the health status and quality of life for older persons especially women. Based on current research for older persons in Turkey, we can surmise that this population segment will be at an even greater disadvantage in the future. Until now, Turkish social values and traditions such as tight family relations and respect for the elderly helped to support the idea of having and looking after the elderly as socially inherited values. Family care of older family members was an essential traditional family service. However, rapid changes in population structure such as lower fertility rates (which mean fewer children as caregivers), social and economic lifestyles in Turkey have caused changes in the family structure, and it is now apparent that adults will not be able to ensure the care of their parents as they had in previous generations. Recent changes to traditional family roles have made it so that families are no longer be in a position to care for older persons, both psychologically and economically. Aykan & Wolf, 2000, found that factors such as higher educational status, adoption of modern practices with regard to marriage, and more modern perceptions of interfamilial roles and relationships at the individual level can be expected to lead to declines in traditional co-residence. For example, in comparison to couples in which the wife has a high school degree or higher, couples in which the wife has less education are approximately four times as likely to co-reside with parents (12).

Currently in Turkey, state agencies governing social security, health and elderly community support services are inadequate, ineffective or non-existent. Remedial corrections to the public health system have not been successfully made; thus, services for older persons remain insufficient. The health care systems are still focused on childhood and adult services. Whereas, due to the higher prevalence of chronic disease and disability in the elderly more geriatric hospitals and care centers are required. The increasing need for health care centers, geriatrist, gerontologists, problems of inadequate nutrition and self-care when living alone, and home-care services and food support, are among the many problems. Increasing life expectancy will necessitate the improvements of existing services as well as the introduction and development of further programs to maintain and enrich older persons' quality of life.

In the light of the preceding, the following is recommended:

1. Multidisciplinary research designs should be developed for the collection of data on the aging populace that can best guide public policies;
2. Adequate policies and programs should be promoted and implemented for active aging including life long education and training, and the full participation of older persons in community life;
 - a. More opportunities for older persons must be made available such as increased employment opportunities with both flexible and part-time employment options so that they might increase their income and remain in the protected environment of the family or live independently as they so choose,
 - b. Programs should be established to insure all senior citizens are registered to receive state social security benefits,
 - c. Governmental or private senior citizen clubs and information services should be established to prevent the loneliness and isolation of elderly people,
 - d. Public awareness programs need to be instituted.
3. Education programs should be developed for health and social service personnel, senior citizens and family members;
 - a. Study programs of gerontology and geriatrics for healthcare providers and support staff must be introduced/made mandatory under social and health sciences,
 - b. Programs should be initiated to educate all age groups realistically about the process of aging so that they would be able to provide support or needed services to older adults,
 - c. Education programs should be introduced to promote awareness of preventable physical illness and disabilities resulting from poor lifestyle habits and to provide alternative information such as sufficient and balanced dietary programs and/or regular physical activity programs.
4. Health care services should be expanded and developed to increase the quality of care within elderly health institutions such as health centres, nursing homes and home care;
 - a. Home help, nursing care at home, and priority in housing assignments to family members should be provided,
 - b. Physical conditions and services in senior citizen care homes and geriatric hospitals must be improved,
 - c. The private sector must be encouraged to invest in modern nursing homes and provide essential nursing services and support staff.



REFERENCES

1. Shrestha LB. Population aging in developing countries. *Health Affairs* 2000; 19 (3): 204-212.
2. Kinsella K, Velkoff AV. *An Aging World: 2001*. US Census Bureau, 2001. Series P95/01-1, US Government Printing Office, Washington, DC, pp. 1, 49, 57, 85.
3. State Institute of Statistics. 2000 Census of population: Social and economic characteristics of population. Prime Ministry Republic of Turkey, Publication No: 2759, Ankara 2003, pp. 29-33.
4. United Nations. *World Population Aging: 1950-2050*. Department of Economic and Social Affairs Population Division. 2001. United Nation Publications. <http://www.un.org/esa/population/publications/worldageing19502050/>. Accessed: 12.06.2008.
5. Hacettepe University Institute of Population Studies. *Turkey Demographic and Health Surveys, 1998*. HU Institute of Population Studies, Ministry of Health Mother and Child Health and Family Planning Department, Ankara, 1999 pp.14-15.
6. Hacettepe University Institute of Population Studies. *Turkey Demographic and Health Surveys, 2003*. HU Institute of Population Studies, Ministry of Health Mother and Child Health and Family Planning Department, State Planning Organization and European Union, Ankara, 2004, pp.18-19.
7. United Nations. Population division of the department of economic and social affairs of the United Nations Secretariat. *World Population Prospects: The 2002 Revision and World Urbanization Prospects: The 2003 Revision*. <http://esa.un.org/unup> Accessed : 07.05.2008.
8. World Health Organization (WHO), *The World Health Report 2004*. World Health Organization 1211 Geneva 27; Switzerland 2004, p. 135.
9. Durgun B, Tumerdem Y. Urbanization and services for the elderly, *Turkish J Geriatrics* 1999; 2 (3): 115-120.
10. Frisco M. Education, Social Status and Health (review) *Social Forces* 2005; 84 (1): 609-610.
11. Kinsella K, Phillips DR. *Global Aging : The Challenge of Success*, *Population Bulletin* 2005; 60 (1): 1-40.
12. Aykan H, Wolf DA. Traditionality, modernity, and household composition, *Research on Aging* 2000; 22: 395-421.
13. Prime Ministry Social Services & Child Protect Association Statistics, Turkey, 2008. http://www.shcek.gov.tr/hizmetler/yasli/Yasli_Bakim_Hizmetleri.asp. Accessed: 12.06.2009.
14. Imamoglu EO, Küller R, Imamoglu V, Küller M . The Social Psychological worlds of Swedes and Turks in and around retirement. *Journal of Cross-Cultural Psychology* , 1993; 24: 26-41.
15. Ayranci U, Ozdag N. Old Age and its related problems considered from an elderly perspective in a group of Turkish elderly. *The International Journal of Geriatrics and Gerontology* 2005; 2 (1) <http://www.ispub.com/ostia/index.php?xmlFilePath=journals/ijgg/vol2n1/turkey.xml>. Accessed: 12.06.2008.
16. Imamoglu EO, Imamoglu V. Life situations and attitudes of the Turkish elderly toward institutional living within a cross-cultural perspective. *Journal of Gerontology* 1992; 47(2): 102-108.
17. T.R. Prime Ministry State Planning Organization. *The Situation of Elderly People in Turkey and National Plan of Action on Ageing*. 2007, p. 94.
18. Ozer M. A study on the life satisfaction of elderly individuals living in family environment and nursing homes. *Turkish J Geriatrics* 2004; 7 (1): 33-36.
19. Imamoglu EO, Kilic N. A social psychological comparison of the Turkish elderly residing at high or low quality institutions. *Journal of Environmental Psychology* 1999; 19: 231-242.
20. World Health Organization (WHO). *Keep fit for life- meeting the nutritional needs of older persons*. WHO & Tufts University School of Nutrition and Policy. Geneva, Switzerland 2002, pp.54-61.
21. Centers for Disease Control and Prevention. *The Power of Prevention. Reducing the Health and Economic Burden of Chronic Disease*. Atlanta, 2003, pp.1-2.
22. Ministry of Health. *Healthy Nutrition Protect Our Heart Project*. Ministry of Health, Basic Health Services Department, Ankara, Turkey 2004, pp. 22, 28-30.
23. Bilir N, Aslan D, Güngör N, Ağaç M, Sıddıqı Z, Uluç F, Ülger Z, Yılmaz Ü. Determination of Health Status and Some Social Conditions of People 65 Years of Age and Older in Sakarya Neighbourhood, Altındag Health Centre Region in Ankara. *Turkish J Geriatrics* 2002; 5 (3): 97-102.
24. Yaris F, Can G, Topbas M, Kapucu M. Evaluation of medico social status of elderly inhabitants of a medical centre region in Trabzon. *Turkish J Geriatrics* 2001; 4 (4): 159-171.
25. Onal EA, Tumerdem Y. Hypertension among elderly people. *Turkish J Geriatrics* 2001; 4 (4): 141-145.
26. Turhanoglu AD, Saka G, Karabulut Z, Kilinc S, Ertem M. Disability and chronic disease prevalence in the individuals aged 55 years or older in Diyarbakir. *Turkish J Geriatrics* 2000; 3 (4): 146-150.
27. Diker J. Diseases and drug use in elderly over 65 years in the Korfez Health Center 6 as well as in the one at Yuzbasilar in the Province of Kocaeli. *Turkish J Geriatrics* 2000; 3(3): 91-97.
28. Arslan S, Atalay A, Kutsal YG. Drug use in elderly. *Turkish J Geriatrics* 2000;3(2):56-60.
29. Onat A, Avci GS, Soydan I, Koylan N, Sansoy V, Tokgozoglu L. Past and present health conditions of Turkish adults. *Karakter Color Press, Istanbul, Turkey* 1996; pp. 18, 63, 104.
30. Ministry of Health; *Health Statistics 2000*. Ankara, Turkey <http://www.saglik.gov.tr/TR/BelgeGoster.aspx?F6E10F8892433CFF71BE64510F6C8BC9E6DB75D0F6D6C383>. Accessed: 12.06.2009.
31. State Institute of Statistics. *Death Statistics from Provincial and District Centres 2001* State Institute of Statistics, Prime Ministry Republic of Turkey. 2003, pp. 70-73.
32. Arslan S, Gökçe-Kutsal Y. A multi-centre epidemiological study to evaluate the prevalence of disability in the elderly. *Turkish J Geriatrics* 1999;2(3): 103-114.