

*Full Length Research Paper*

# Outdoor environment preferences in nursing homes: Case study of Ankara, Turkey

Dicle Oguz<sup>1\*</sup>, Isil Cakci<sup>2</sup>, Gizem Sevimli<sup>1</sup> and Sirin Ozgur<sup>1</sup>

1Ankara University Department of Landscape Architecture, Diskapi, 06110, Ankara, Turkey.

2Ankara University Centre for Environmental Studies, Diskapi, 06110, Ankara, Turkey.

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This study has been carried out in three nursing homes in Ankara, Turkey, in order to find out older people's needs and preferences for outdoor environments. As people age, their needs and preferences might differ, therefore it is needed to determine their requirements and expectations from an environment to be able to create satisfactory environments. Research findings show that older people enjoy having nature views and natural settings and need for social interaction motivates them to use outdoor environments. It has been suggested that creating outdoor environments which would serve the needs of and specifically designed for elderly would help improving quality of life of older people.

**Key words:** Elderly, nursing homes, outdoor environments, health.

## INTRODUCTION

Aging is an inevitable aspect of all living organisms' life-cycle and generally perceived as a problem by many due to the physical, psychological and social changes it causes. Following rapid industrialization after the "Second World War", the share of population of people over the age of 65 have increased substantially and continuously in many developed countries along with decrease in birth rates. As a result, societies have recognized the need for developing policies towards elderly in order to provide and maintain high quality of life. Policies towards elderly mostly focus on financial burden of aging and social participation, ignoring or underrating physical living conditions. However quality of physical environment (or the living environment) has a direct influence on quality of life and public health.

Turkish population is relatively younger, compared to the western countries which are already facing with high rates of aging. Current population of Turkey is 72, 561, 312 and people aged over 65 has a share of 7% of the population as of 2009 (Turkish Statistical Institute, 2010). However, this rate is expected to rise up to 20% by 2050 (Figure 1). State planning organization has already implemented a national action plan for elderly (2007).

The action plan consists of needs and priorities in three major areas; elderly and development, increasing health and well being at old age, and provision of a supportive environment with adequate facilities. The first two areas covers the subjects of social participation and inclusion, workforce opportunities, social security issues, access to information, elimination of poverty, and improvement of health and well-being. Although the title of the final action of the plan is "provision of a supportive environment with adequate facilities", the action goals have been restricted to safety and accessibility issues for elderly. The action does not mention the restorative and therapeutic roles of open and green spaces. This might be due to the fact that the working group for this action does not include any designer or planner.

Aging is mostly associated with health problems which affect and limit daily routine of a person. Eventually older people start to spend most of their time within their residential environment. Therefore planning and design of these environments have a significant role on older people's quality of life. There are many research focuses on the effect of environmental conditions on people's mental and physical health. Takano et al. (2002) have found that living environments near green spaces which

\*Corresponding author. E-mail: [oguz@agri.ankara.edu.tr](mailto:oguz@agri.ankara.edu.tr).

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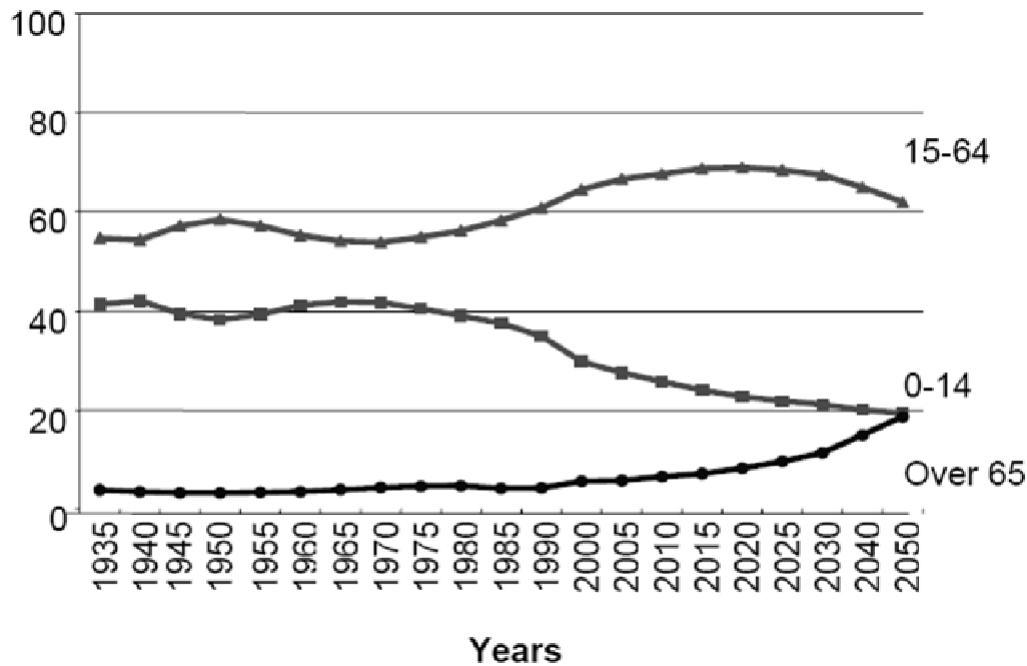


Figure 1. Distribution of age groups according to the years (State planning organization, 2007).

are in walkable distances have positive influence on longevity of urban senior citizens. Even, nature views from windows are considered to be a strong factor in well-being and residential satisfaction (Kaplan, 2001). Sugiyama and Thompson (2007) have concluded that neighborhood environments have positive influence on older people's health by providing them opportunities to be active. Similarly, De Vries et al. (2003) have found that quantity of green spaces in a living environment is positively correlated with people's health (Sugiyama and Thompson, 2007). Furthermore Wentzel et al. (2001) found that older people who live in well maintained environments seem to remain independent for longer (Sugiyama and Thompson, 2007). According to Kaplan and Kaplan's "attention restoration theory", natural settings support healing of directed attentional fatigue which occurs after prolonged and/or intensive use of attention and provide attentional restoration (Kaplan, 2001; Staats and Hartig, 2004).

As people age, their physical activity levels decline which also affects their health status (Kanyoni and Phillips, 2009). Green areas are places for elderly to be active both physically and socially. These areas (whether a home garden or a public park) may offer opportunities for elderly such as walking and gardening. Such activities are not only good for enhancing physical health but also provide social interaction (Oussetb et al., 1998; Shin, 1999; Grant, 2001; Jackson, 2003; Maller et al., 2009). Especially gardening might be an effective tool in improving older people's physical and mental health (Riordan and Williams, 1988; Milligan et al., 2004).

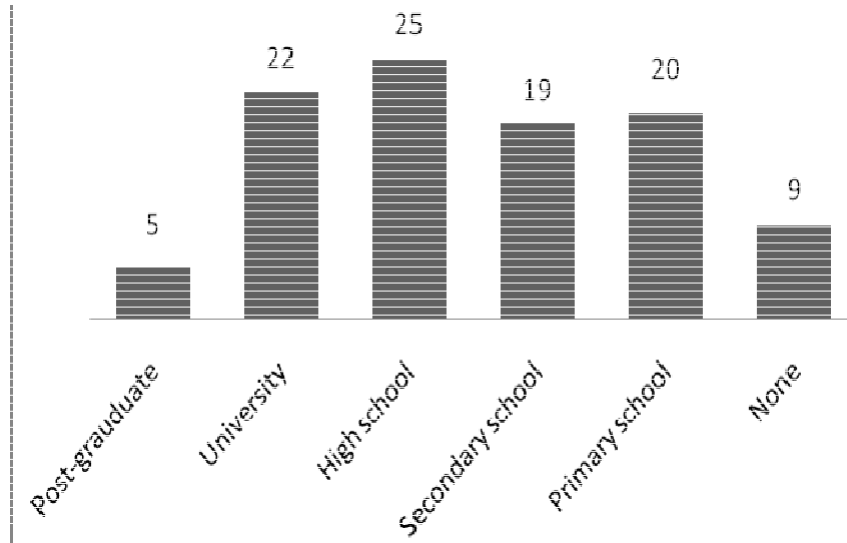
Aging is not only a physical process; it also alters social

roles of elderly in the community (Uslu, 2005). Retirement, loss of friends and relatives, lower income, physical mobility issues are examples of the factors affecting the social status of older people. Therefore supporting active participation of elderly in the society is also a crucial issue in promoting high quality of life. Türel et al. (2005) found out that inadequate design and maintenance of public spaces leads to social exclusion of older people. According to Connidis and McMullin (1992), engaging in social activities enhances independence and develops cognitive abilities and emotional feelings of individuals (McPherson, 1998). Uslu (2005) highlighted the roles of designer and planners on creating socially equal environments.

Nursing homes are residential places that serve for elderly who need care. They are places where services and facilities are designed specifically for elderly and many spend rest of their life in nursing homes. Therefore interior and outdoor design of these environments requires specific knowledge and awareness of environment - well-being relationship. However, there is little research on environmental preferences of older people who live in nursing homes. In this paper, we presented the results of a study on older people's expectations of outdoor environments at nursing homes.

#### METHODOLOGY

A questionnaire survey was carried out in three nursing homes in Ankara in order to find out preferred features of outdoor environments and activities by elderly who live in nursing homes. One of the nursing homes is funded by the private and the other



**Figure 2.** Educational background of the participants.

**Table 1.** With whom the elderly stay in their rooms.

		Female	Male	Total
Single	Number	53	43	96
	%	38.41	31.16	69.57
Room mate	Number	20	15	35
	%	14.49	10.87	25.36
Partner	Number	3	4	7
	%	2.17	2.90	5.07
Total	Number	76	62	138
	%	55.07	44.93	100.00

\*G value = 0.481;  $p > 0.05$ .

two are run by public sector. The participants, eligible to participate in the research, were determined by social service experts of the nursing homes. A total of 138 older people participated in the survey. Questionnaires consisted of twenty eight open ended and multiple-choice questions. Participants were interviewed face to face. Questionnaires were analyzed by using 2, G-test and Fisher's exact test in minitab 15.1.

## RESULTS

Out of 138 participants 55% of the participants were male and 45% were female. Educational background of the participants is given in Figure 2. First, participants were asked with whom they stay in their rooms. Most of them (69.57%) answered they live in a single room (Table 1). Then, they were asked the factors affecting their room choice. However, 58.70% of the participants stated their room were chosen by either their relatives or nursing

home administration instead. The participants who chose their rooms themselves mostly paid attention to the view and sunshine (Table 2). There is a significant relationship between educational background of participants and their room preferences ( $p < 0.01$ ). Especially participants with a university degree seem to choose their room depending on its view.

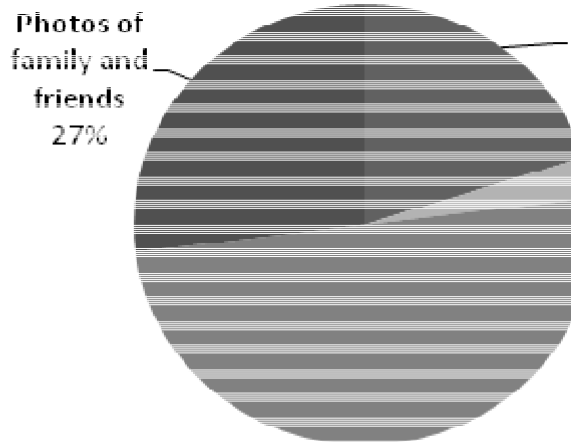
50% of the participants stated they prefer having landscape portraits or photos in their room while 27% prefer photos of family and friends and 19% of the participants do not want to have any photos or drawings in their room (Figure 3).

64% of the participants said they like to spend time on balcony, watching around while 22% has no access to balconies. Women seem to prefer spending more time on balcony compared to men. On the other hand men prefer going outside rather than sitting on balcony. Participants with a university degree prefer spending more time on

**Table 2.** Factors affecting the choice for rooms.

		Female	Male	Total
Neighbors	Number	4	0	4
	%	2.90	0.00	2.90
View and exposure to the sun	Number	33	14	47
	%	23.91	10.15	34.06
Accessibility to the facilities	Number	5	1	6
	%	3.62	0.72	4.34
Had no choice	Number	34	47	81
	%	24.64	34.06	58.70
Total	Number	76	62	138
	%	55.07	44.93	100.00

Fisher's exact test probability= 1.3E-05,  $p < 0.01$ .



**Figure 3.** Preference for photos.

balcony rather than indoors ( $p < 0.01$ ). However, at one particular nursing home, it has been observed that women prefer spending more time on balconies because they seem to be uncomfortable to spend time in the gardens with men at the same time.

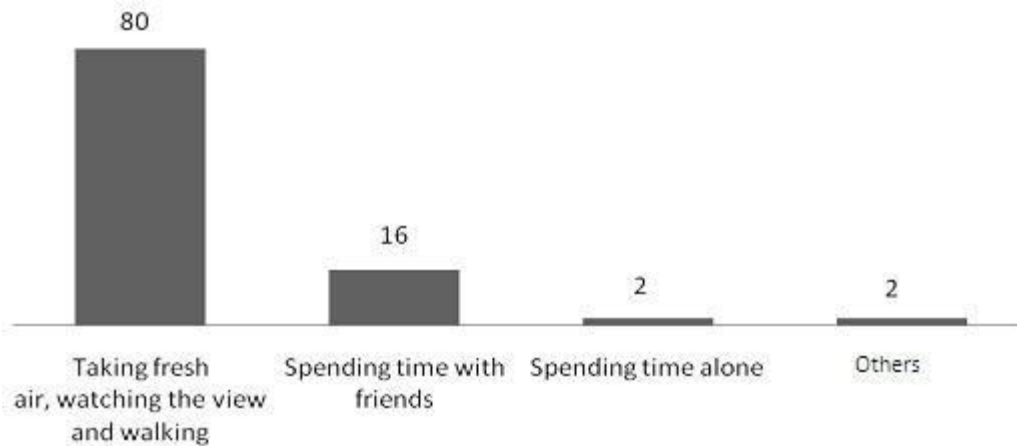
Most of the participants (84.78%) like to go out to gardens of nursing homes. There was no significant difference found between genders in preference for spending time in the gardens. Both female and male participants likely spend an average of 1 to 2 h in the gardens (Table 3). However, men tend to stay outdoors longer than women in terms of total time spent outdoors. 86% of the participants are satisfied with outdoor environments of the nursing homes and there was no significant difference found between genders. One of the

nursing homes has been originally designed as a guesthouse and one as a hospital. Participants from these nursing homes are found to be less satisfied with their physical environments. Existence of large amount of hard surfaces within the gardens is the most important reason for not liking the gardens. Lack of seating areas, insufficient lighting, and lack of shady areas are other factors which have negative effect on preference of outdoor environments. 48.56% of the participants stated they need spaces designed for walking within the nursing homes' gardens. Most of the participants (80%) use the garden for taking fresh air, watching the view and for walking (Figure 4). The results show that older people prefer physical activities and activities which include social interaction more. 71.2% of the participants who

**Table 3.** Time spent in the gardens of nursing homes.

	Female	Male	Total
30 min (%)	8.00	4.80	12.80
1-2 h (%)	37.60	24.80	62.40
2-6 h (%)	6.40	12.80	19.20
Over 6 h (%)	0.80	4.80	5.60

G value = 10.605;  $p < 0.05$ .



**Figure 4.** Reasons for using gardens.

**Table 4.** Frequency of time spent out of the nursing homes.

	Female	Male	Total
Everyday (%)	4.17	10.00	14.17
A few times in a week (%)	25.00	29.17	54.17
Every two weeks (%)	9.17	4.17	13.34
Once a month (%)	10.83	0.00	10.83
Other (%)	4.17	3.33	7.50

G value = 23.260;  $p < 0.01$ .

use gardens regularly have a single room. Although participants would like to engage in gardening activities, it is found that most of the participants could not do gardening activities due to health problems.

Findings show that as time spent in the gardens increase, participants seem to engage in more social activities, such as spending more time with friends. Participants, who stay in the garden for less than an hour, generally spend their time on their own.

When participants asked how often they go outside of the nursing homes, most of the responses (54.17%) were "a few times a week" (Table 4). 78.33% of the participants go out of the nursing homes to visit friends and relatives and to shop (Table 5). Only 19.17% of them go out to parks to spend their time.

Finally, when participants asked about the features they would like to have in their gardens, most of them (60%) responded water surfaces and flower beds, especially aromatic flowers (Figure 5). Participants who responded they would like to have walking areas also stated that there is need for security elements (e.g. handrails, low steps and proper lighting).

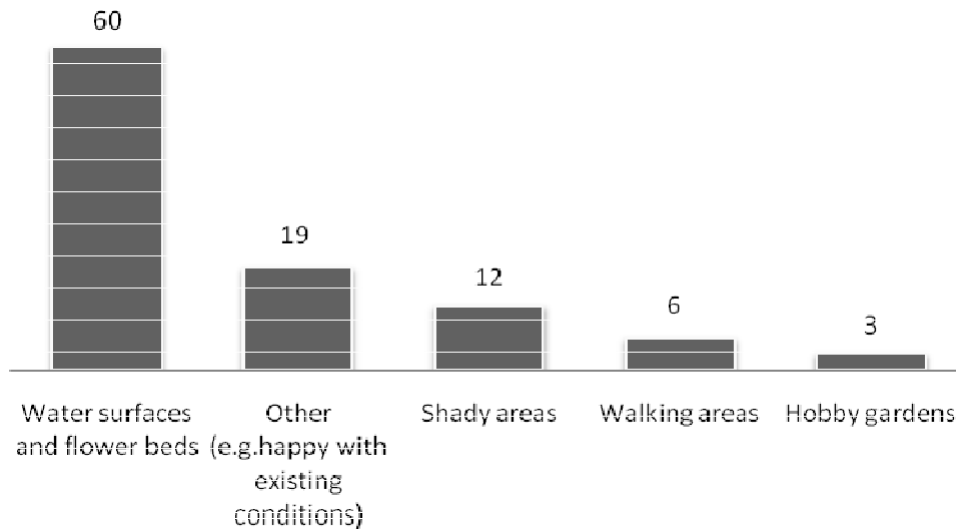
## DISCUSSION AND CONCLUSION

This research aims to identify the preferences of older people for outdoor environments of nursing homes. Since nursing homes become living environment and even a neighborhood for elderly, it is important to recognize their

**Table 5.** Reasons for going out.

	Female	Male	Total
Shopping, visiting friends and relatives (%)	45.00	33.33	78.33
Going to a park (%)	6.67	12.50	19.17
Others (%)	1.67	0.83	2.50

G value = 4.064; p > 0.05.



**Figure 5.** Most preferred features in the gardens.

needs and expectations in order to provide high quality of life. There are two main outcomes of this research;

- (i) Older people prefer nature views and natural settings in their living environments.
- (ii) Need for social interaction triggers the use of gardens in nursing homes.

Research findings show that older people enjoy nature views and natural elements such as water surfaces and plants in a garden. They mostly spend their time watching the view and walking around. Nature views and natural settings are known to have therapeutic effects on people. Some of the researches on this subject were already summarized in the introduction section. Therefore creating environments where natural elements are dominant would help to improve older people's physical and mental health.

Results show that older people spend an average time of 1 to 2 h a day in the gardens of nursing homes. Findings also show that gardens are places for social interaction since time spent in the gardens increases as they spend their time with others. Older people who have single room are the ones who spend more time in the gardens. As people age, social isolation becomes more common. Factors like loss of friends/relatives and health

problems may cause social isolation, feeling of loneliness and depression which reduce quality of life. Furthermore, when older people move into nursing homes, the sudden change of the living environment might worsen their mental and even physical health. Therefore outdoor design of the nursing homes should aim creating social environments for their inhabitants. In some cultures or regions gender differences may affect the use of such environments. For example in this research, it has been found that some female participants feel uncomfortable spending time in the gardens with male, and they prefer sitting on balconies rather than going out. We do not recommend creating gender based environments. On the other hand recognizing needs and expectations of older people who intend living in nursing homes by designers and authorities is fundamental in design and management. Creating outdoor environments which serve for all ethnic and gender groups is a challenge for designers to overcome.

Gardens are also places to be physically active. Since physical activity level decreases with increasing age, older people's health is affected negatively. Creating environments for more active lifestyles leads to better health conditions. Activities such as walking and gardening not only help to improve older people's physical health but also contribute to mental well-being.

However, as older people have more limited mobility, outdoor environments should be designed with easy accessibility, security and safety. An older person should easily be able to; have access to the garden, move around, and feel comfortable. A garden should not be designed too complicated; an older person should be able to find its way. Hard surfaces should be non-slippery and there should be supportive design elements such as handrails, benches, and sitting walls. Lighting design is also important for creating safe and enjoyable environments. Differences in texture and color of materials could not also contribute to safety but also enhance the visual appearance.

Findings show that shady areas are also preferred in the gardens. In climates where summer temperatures are high like in Ankara, landscape design is an important tool to regulate uncomfortable weather conditions. Gardens can also be used to stimulate different senses of older people. Aromatic plants can stimulate the sense of smell, and water surfaces can stimulate the sense of hearing. Such gardens are called sensory gardens. Sensory gardens are considered to have a therapeutic effect s on health problems such as dementia (Anonymous, 2007).

Societies in the modern world are getting older. Although creating high quality environments for elderly is not on top of the agenda yet, authorities will soon realize the important impact of physical environment on the quality of life and public health. Designing environments, with facilities and services specifically for the elderly, needs special attention. Finding out the needs and expectations of older people is fundamental in creating healthy environments. Current trade in elderly care is promoting home- like environments rather than nursing homes. However there are not any examples of such environments in Turkey yet. Furthermore, there are not many examples of nursing homes with good quality designed environments for elderly. Authorities and designers should acknowledge the importance of physical environment's effects on physical and mental health of older people. Turkey's national action plan for elderly is still inadequate in terms of policies on designing physical environments for older people. Quality of a physical environment and the degree of an environment's liability should be taken as priority issues in elderly policies.

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