



Healthy landscapes: green, regeneration, safety

Gardens for seniors: relationship between the gardens characteristics and their usage in a pilot study in 3 Italian nursing homes

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Abstract

Well-designed gardens can encourage older adults to spend more time actively outdoor, increasing their wellbeing, especially in long-term care settings. The present pilot study aims at verifying the relationship between the physical characteristics of the gardens of three nursing homes in Italy and their use in terms of spent time, type of activity and most used places. The pilot study confirm that residents go out in the gardens even if their quality is low, but if the quality of the outdoor spaces increases, they spend more time outdoor.

Keywords: Healing gardens; Seniors; Nursing Homes; Design; Seniors Outdoor Survey

Introduction

The benefits of gardens on human well-being and health are wide and are related both to physical and mental aspects (Ulrich, 1984; Adevi, & Lieberg, 2012, Cooper Marcus & Sachs, 2013; Berto, Barbiero, Barbiero and Senes, 2018). This is particularly important for older adults, especially in long-term care settings where residents spend the last years of their life (Sugiyama and Ward Thompson, 2007; Whear et al., 2014; Bassi, Rassiga, Fumagalli and Senes, 2018).

Well-designed gardens can encourage older adults to spend more time actively outdoor (Rodiek, 2010): although outdoor usage is influenced by several aspects, such as weather, health conditions, lack of interest and staff attitudes, it is also strongly related to the characteristics of the physical environment (Rodiek, 2010; Rodiek, Nejati, Bardenhagen, Lee and Senes, 2016).

Reference literature is concentrated almost exclusively in the USA and the "Anglosphere". There are few studies in different cultural and geographic settings showing possible cross-cultural differences (Bardenhagen et al., in press): differences in the demographic profiles of residents, the types of care facilities available, the culture, history and habitudes of the residents, result in different perception and use of green spaces in nursing homes (Senes, Fumagalli, Crippa and Bolchini, 2012; Bengtsson and Carlsson, 2013; Othman & Fadzil, 2015; Fumagalli et al., 2017).

The present pilot study aims at verifying the relationship between the physical characteristics and the quality of the gardens of three nursing homes in Italy and their use in terms of spent time, type of activity and most used places.

Materials and Methods

The pilot study was carried out in 3 nursing homes in Liguria (Italy), different for location, type of care facilities and gardens. For each nursing home, the authors proceeded to:



1. assess qualitative characteristics of outdoor spaces using the Seniors' Outdoor Survey© (SOS-2) tool (Rodiek, Nejati, Bardenhagen, Lee and Senes, 2016);
2. interview residents, relatives and staff through a properly developed questionnaire to understand how and how much they use the gardens.

SOS-2 is an environmental audit tool for evaluating how well the outdoor space in a long-term care setting supports the preferences and outdoor usage of residents, assessing physical environments from the user's perspective.

The instrument consists in 48 items about specific characteristics of outdoor spaces, classified in 5 domains:

1. *Lush garden setting*, 7 items about the composition and quality of planting;
2. *Safe and comfortable*, 17 items about outdoor comfort and safety in relation to the main activities that take place in the garden;
3. *Outdoor walking and activities*, 8 items about walking and outdoor activities as gardening;
4. *Easy to see and reach*, 9 items about indoor-outdoor connection,
5. *Connect to the world*, 7 items about the possibility to establish and perceive a relationship with the outside world from within the garden.

The **questionnaire** included 18 questions, divided in 3 domains:

1. *General information*, 6 questions about gender, age, former residence and (former) job of the people interviewed;
2. *Garden use*, 4 questions about time spent in the garden, favorite areas, activities;
3. *Feel good*, 8 questions about how they feel in the garden.

Results and discussion

Data gathering (gardens assessment and questionnaires) was conducted in spring 2017, in order to evaluate the gardens in the period of blooming and avoiding extreme weather conditions (temperature and rain).

Two trained people (two of the authors) assessed 5 gardens (the Chiappori nursing home has three different outdoor spaces) rating each item of the SOS-2 tool on a 1-7 scale, with 7 as the highest and 1 as the lowest possible rating for each feature.

The results (Fig. 1) show an extreme variability among the garden and, for each garden, among each item/domain. In synthesis (Tab.1), the average score is quite low for all the gardens (3.16 is the average), even if 2 gardens (Chiappori 1 and Borelli) are higher than the average.

Recently, Bardenhagen E., Rodiek S., Nejati A. and Lee C. (2017) proposed a weighting framework for the SOS, to approximate the relative importance of different items on the tool, according to their potential level of support for resident usage and preferences. The authors applied this framework to the Liguria pilot project, selecting the 5 most important items for each domain (for a total of 25 items). Even if the total average is almost the same (3.12 vs. 3.16), the difference between the best gardens (Chiappori 1 and Borelli) and the other increases (Tab.2). Both the number of "good" (in green) and "bad" (in red) scores increases, avoiding the flattening towards the average showed in Tab.1.

In relation to the interviews, a total of 184 questionnaires were completed (30% of the total population of each nursing home), 65% by females and 35% by males. The analysis of the answers showed that the 88% of the residents and their relatives use gardens. Frequency of use, time spent, activities and feelings change in different nursing homes (Fig. 2).



Fig. 1 – Results of the assessment made with the SOS-2 tool

	Total	Trincheri	Chiappori1	Chiappori2	Chiappori3	Borelli
Domain 1 - Lush Garden Setting	3.53	2.14	5.50	4.14	3.57	2.29
Domain 2 - Safe and Comfortable	3.49	3.24	3.74	3.26	3.94	3.29
Domain 3 - Outdoor Walk. & Act.	2.91	2.56	2.88	3.75	1.63	3.75
Domain 4 - Easy to See and Reach	2.70	3.67	2.28	1.94	2.28	3.33
Domain 5 - Connect to the World	2.86	1.86	3.50	2.07	2.00	4.86
Overall average evaluation	3.16	2.84	3.54	3.05	2.91	3.46
	Legend of colours	> 4	3 - 4	2 - 3	< 2	

Tab. 1 – Synthesis of the results of the SOS-2 tool

	Total	Trincheri	Chiappori1	Chiappori2	Chiappori3	Borelli
Domain 1 - Lush Garden Setting	4.14	2.50	6.10	4.90	4.40	2.80
Domain 2 - Safe and Comfortable	3.52	3.80	3.50	2.80	3.50	4.00
Domain 3 - Outdoor Walk. & Act.	2.86	2.20	2.80	3.70	1.50	4.10
Domain 4 - Easy to See and Reach	2.10	3.50	1.70	1.10	1.70	2.50
Domain 5 - Connect to the World	3.00	1.30	4.10	2.30	2.20	5.10
Overall average evaluation	3.12	2.66	3.64	2.96	2.66	3.70
	Legend of colours	> 4	3 - 4	2 - 3	< 2	

Tab. 2 - Synthesis of the results of the SOS-2 considering only the 5 most important items for each domain (for a total of 25 items) Bardenhagen E., Rodiek S., Nejati A. and Lee C. (2017)

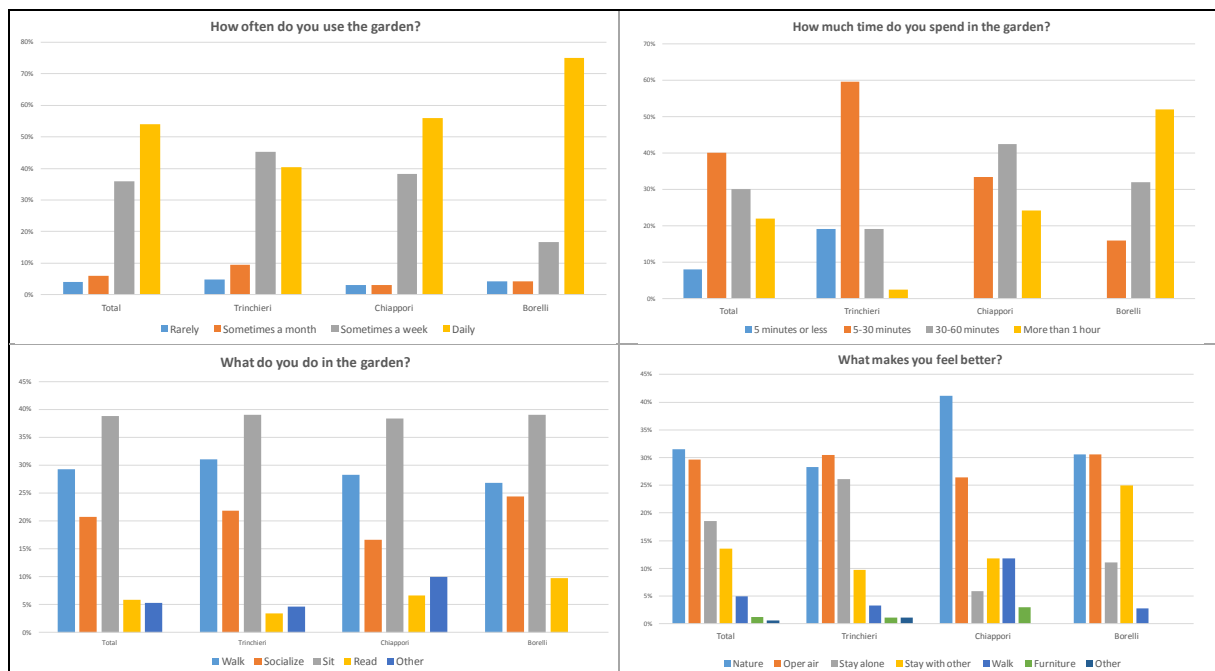


Fig. 2 – Some of the results of the questionnaires

Conclusions

The application of the SOS-2 tool showed a very diversified situation of the three nursing homes, even though with a general low quality of the gardens. Questionnaires revealed a major use of better designed gardens, both in terms of number of people and time spent in the garden. Despite the limited number of nursing homes, there is some correlation between the "quality" of gardens and their use.



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