

# Garden Therapy: The Health-Enabling Capacities of Nature Contact

Iva Pires<sup>1</sup>, Dana Křivánková<sup>2</sup>, Jana Dvořáčková<sup>3</sup>

<sup>1</sup>*Cics.Nova, Nova University of Lisbon, Portugal, im.pires@fcsh.unl.pt*

<sup>2</sup>*LIPKA, Brno, Czech Republic, dana.krivankova@lipka.cz*

<sup>3</sup>*LIPKA, Brno, Czech Republic, jana.dvorackova@lipka.cz*

**ABSTRACT:** We live in a world where new information and knowledge technologies and increased mobility simplify everyday life. However, at the same time, contact with the natural environment is shrinking. More than half of the world's population lives in urban areas with high population densities and, in many cases, with a little or no access to the quality green spaces. One of the consequences is that there is an increasing disconnection from nature and its sensory stimuli while the noise, air and visual pollution negatively affects the health and reduces the quality of life in urban areas. The "healing" capacity of nature is being increasingly discussed as well as the need of reconnection with it and its therapeutic, spiritual and psychological benefits. The garden therapy defined as a treatment and relaxation through contact with nature is attracting more and more attention, both, from academic field as well as from practitioners of different areas. Among others, a social care and health care, particularly in the case of the children with autism, hyperactivity, with lack of relational capital, psychiatrists (in the case of dementia) but also an architectural landscaping (Which characteristics must the gardens have to fulfill these benefits?). An interdisciplinary approach is needed in order to discuss concepts, benefits, potentialities and ways to implement these therapies. We will be presenting the results of a research project - With Nature to Mutual Understanding - developed by a consortium of seven European countries, on the potentialities of garden therapies to develop communication, social and entrepreneurial skills of the target groups (e.g. minorities, people with learning disabilities and physical and mental health problems, migrants and refugees).

**KEYWORDS:** garden therapy, green care, reconnecting with nature, well-being

## Introduction

We live in a world where the everyday life is simplified by new information and knowledge technologies and increased mobility. The transition from the industrial society to the post-industrial society has brought profound changes in the production and consumption patterns, in the labour market, in our mobility, it has brought new forms of sociability and it has transformed the world into a small "village". New information and communication technologies not only facilitate the long distances interactions in a real time but they also allow the access to amount of information that would have been unthinkable in the recent past (Castells 2001).

At the same time, however, we are hyper-stimulated by the excess information, we live in an artificial spaces and the contact with nature is shrinking. The world's urban population, which represented 54% in 2014, will grow to 66% by 2050. Many of the largest metropolis have high population densities, as well as high soil sealing rates, low biodiversity, pollution and low air quality. The World Health Organization identifies the air pollution as the greatest environmental risk to the health, that affects all regions, socio-economic groups and age groups and estimates the number of deaths resulting from exposure to the environmental pollution at 3 million (WHO 2016). On the other hand, large cities will be affected by the climate change as the heat waves and floods can destabilize the food supply and together will the further aggravate of the quality of life and the health of its inhabitants. In many of the world's largest cities, where a thousands of inhabitants live, the percentage of public green areas (parks and gardens) is very low: for example, 4.9% in Bogotá, 2.2% in Istanbul or 9.5% in Paris. One of its consequences is that urban population is increasingly estranged from the contact with nature and its sensory stimuli while the noise, air and visual pollution end up negatively affecting the health and reduce the quality of life representing a burden on health systems.

Disconnection with nature is the result of several factors such as the scarcity of a nearby green spaces, a decontextualized teaching of environmental subjects, the globalization of food chains (Richard &

Zapata 2013), new sedentary and indoor leisure activities of the younger generations, lifestyles with long working hours, high stress levels, and reduced walking distances (Cooper et al. 2015; Deliens et al. 2015; Puig-Ribera et al. 2015), thus affect the vital connection we had with the nature in the past and where the personal interaction tends to be replaced by a filter-mediated interaction, as we can see in the case of children, by parents, the school and the media (Cox and Gaston 2016). Another negative aspect is that the less we interact with the nature, the less we value it, the less affinity and interest we tend to show for it, and the less likely we are to adopt the pro-environmental attitudes (Cox and Gaston 2018). Moving away from the nature and living in the artificial urbanized ecosystems gives us no idea of either the benefits of ecosystem services or the costs associated with the transformations we are imposing on them by creating the false idea that we can continually exploit a planet that has finite resources. On the other hand, an increasing number of lifestyle-related diseases and the trend towards an ageing population imply increased costs for health systems (Ding et al. 2016).

The consequences of losing the interactions with nature, especially in Western economies, include the degradation of the public health and well-being, the loss of emotional affinity for nature, and the reduction of pro-environmental attitudes and behaviours. These links need to be re-established and strengthened, particularly in the case of urban populations, which will contribute to the healthier and also more sustainable societies because they are more aware of the benefits of this interaction (Sempik, Hine and Wilcox 2010; Soga and Gaston 2016; Cox and Gaston 2018).

In order to improve the population's general health and to reduce the health systems expenditure, the new alternatives are needed. Increasing cities resilience to the climate change, as well as their inclusiveness and providing better quality of life is a global goal stated in objectives 3 and 11 of the 2030 Agenda for Sustainable Development. In Europe, currently over 70% of population lives in the cities and this is expected to increase to over 80% by 2050. In a Special Eurobarometer (2015) on Citizens' view on the nature-based solutions (some examples are parks, green walls and urban gardening) the majority of Europeans (53%) think that one of the main benefits of introducing more natural features in a neighbourhood or city is a better quality of life. The other most widely perceived key benefits are a better-looking neighbourhood or the city (41%), an improved health (36%) and a cleaner water and air (35%), which in some way is also related with health (Eurobarometer 2015, 26).

In this context, the recent years have seen a flourishing scientific interest in the benefits of the contact with the nature for human health and well-being, the “healing” role of nature, the need to reconnect with it and the therapeutic, spiritual, psychological and physiological benefits that come from its enjoyment (Hurly and Walker 2019; Bailey et al. 2013; Bowler et al. 2010). Despite the tremendous growth of a research on the nature-health connections there is still a research agenda to be developed including discussion of the concept of nature, many forms of contact with nature, through which nature is experienced ranging from plants in a room to views out of the windows, to camping trips to virtual reality imagery (Frumkin et al. 2017).

### **Nature-Based Therapies**

Wilson's biophilia hypothesis (1984) suggests that humans possess an innate tendency of connection with nature and the emotional contact with other living organisms because of our shared evolutionary development. He further declares that this instinct is as powerful as the others are and it has been a driving force in our evolution as a species.

Nature-based therapies take an advantage of this innate instinct to benefit a human health and have been used as a part of health treatments for centuries; the first hospital-based garden program was created in Philadelphia in 1817 (Pieters et al. 2019). This term includes a wide range of interventions using the nature and the natural environment as a framework for carrying out the activities such as garden therapy or animal-assisted therapy with the aim of improving and promoting the (mental and physical) health of the participants (Sempik, Hine & Wilcox 2010). Even though a causal effect between nature-based therapies and the improvements in the health and the well-being has not yet been demonstrated, there is already a wide literature showing that there are correlations between their use and

increasing well-being (Ulrich 1984; Grinde & Patil 2009; Soga et al. 2017; Carver et al. 2018, Sempik, Hine & Wilcox 2010).

Ulrich's study (1984), which used two patient groups from a hospital (with and without access to windows overlooking a garden), is considered the first empirically reliable evidence that nature can affect the human health (Heerwagen 2009; Hurly and Walker 2019). Richard, Zapata and Angeoletto (2018) conducted an extensive literature review on the therapeutic and psychological wellbeing effects of the green areas and of the Urban Natural Reserves (RNU's). They have concluded that, both in the case of urban population as well as patients from health institutions that benefit from these green areas have formed positive and conservative attitudes about the nature that feeds back into their education and health. In a comparative study of two prisons, one in the UK and another one in a Nordic country with very different prison contexts, data was collected through a qualitative approach. The vast majority of prisoners interviewed in the UK reported the excessive presence of concrete in the outdoor spaces, the lack of plants and flowers, and the negative effects of not being able to see the trees, smell the flowers or feel the presence of grass. In the Nordic countries, where the green spaces are the most abundant and diversified, the prisoners clearly expressed the benefits of a sensory experiences arising from their enjoyment in accordance with the biophilia hypothesis (Moran and Turner 2019). Other studies have demonstrated the benefits of gardening as a horticultural therapy in terms of both, the physical and psychological health of elderly people with mental health problems (Carver et al. 2018; Han et al. 2018).

In the UK there are over 1000 therapeutic horticulture projects that provide services to 22,000 clients per week, and almost half of these projects (41%) target the clients with mental health problems (Sempik, 2010: 20). The authors claim that the social and therapeutic horticulture can be a very cost-effective addition to the treating and caring for people with mental health problems. While the studies described above have shown that the green spaces provide health benefits for a specific population groups, a variety of studies demonstrate differing health outcomes dependent on demographic factors including gender, age, ethnicity and socioeconomic status. They highlight the fact that the health benefits linked with access to the green space may be strongest among women, children, older adults and the lowest socioeconomic groups and minority ethnic groups. They are more likely to live in low income most densely populated neighbourhoods, suffer from socioeconomic deprivation and from a comparatively poor health, be more exposed to poor air quality and heat waves. Along with other factors, an access to the green space may contribute to reduce the health inequalities and improve well-being of these communities, to reduce sedentary lifestyle among elderly people and increase the sense of community and social ties (WHO 2016b).

People with the social and health disadvantages, minorities, migrants and refugees were the target groups of our research project.

### **The Project “With Nature to Mutual Understanding”**

The project *With Nature to Mutual Understanding* (2016-2019) is funded by Key Action 2, Cooperation for Innovation and the Exchange of Good Practices, of the European Union's Erasmus+ programme. Lipka (school facility for environmental education), from the Czech Republic, is the project coordinator and as a partners, the Faculty of Social and Human Sciences – Nova University of Lisbon, (Portugal), The Henry Doubleday Research Association (United Kingdom), SOSNA (Slovakia) the Co. M. P. A. S. S. Social Cooperative Society (Italy), the Seiler Foundation (Switzerland) and the Arboretum (Slovenia) joined the consortium.

These actions aim to support the development, transfer and / or implementation of innovative practices at the organizational, local, regional, national or European levels, producing positive and lasting effects for organizations and those directly or indirectly involved in organized activities. Through the exchange of good practices, it is intended that the organizations involved can improve the effectiveness of their activities for local communities by implementing new or improved practices taking into account the social, ethnic, linguistic and cultural diversity as well as the specificities of their

target groups. It is also intended that they improve their management skills and start or deepen internationalization strategies by initiating or strengthening collaboration with EU partners, and acquire skills to prepare, implement and monitor EU and international projects. Finally, these actions are also intended to have a positive impact on the level of people directly or indirectly involved in the activities, by means of developing entrepreneurship and acquisition of foreign language skills.

The aim of the project *With Nature to Mutual Understanding* was to share experiences and good working practices of organizations that use nature under different approaches: using, for example, gardens, vegetable gardens, parks and forests as a communication tool between and within target groups that are sometimes perceived as representing an economic burden on the social and health system. The project focused on the possibility and potential of using nature therapy (green care concept) to aid the reintegration of three main target groups:

- people with social and health disadvantages (e.g. the elderly, disabled people, unemployed, war veterans, victims of violence, people with burnout syndrome and young people struggling with addiction);
- minorities (e.g. Romani communities and ethnic minorities);
- migrants and refugees.

Another objective is to create a network of organisations that use these therapies in several European countries, in order to facilitate the mutual exchange of cultural, work and learning experiences. Each partner country can take a different approach when working with these target groups and it is intended to compare their results as well as assess the difficulties. The project activities include visits and meetings with the participants to discuss and understand how these approaches work, what their perception of the benefits is, whether they have contributed to the development of communication, social and entrepreneurial skills and what challenges they have faced when using these therapies.

The project mainly developed through the exchange of good practices and the sharing of knowledge and experience gathered during visits that each consortium partner organized in their country.

The range of projects visited was broad (Pires, ed. 2019). From farming cooperatives that employ individuals suffering from intellectual disabilities or who underwent rehabilitation programs (detention, drug addiction and so forth), offering them real employment opportunities and specially the opportunity of not being institutionalized and so spent the majority of their time outdoors, to community gardens cultivated by immigrants, refugees and asylum seekers, who sometimes have to wait months for the reply of their asylum application. Gardens give them the opportunity to occupy their time, to produce their own products and so to be able to maintain their cultural diets and sell extra production, increasing the family budget. Gardening also proved to be a good therapy for unemployed people. Here they can develop social skills, build self-esteem and learn about running a small business while enjoying the gardens and learning about food growing. The garden provides a supportive environment, addresses participants' health and wellbeing and creates a sense of community. We also visited a former hospice that was renewed by a social civic association. Part of the renovation process was to create spaces in the garden with some privacy where clients can go with the beds and necessary devices and families can use the possibility to stay in the garden during their visiting time; when standing in the garden they don't feel as they are in a hospital, which is important to children visiting their relatives or grandparents. For bedridden patients they have enlarged the windows and oriented the beds in a way that clients can observe the gardens from the windows.

Another project visited was a live-in rehab centre that addresses different forms of addiction (alcohol, drug use, pathological gambling). The centre resembles a small mountain village with its more than 100 "inhabitants" where garden therapy activities are conducted as part of the program: gardening, flower growing, greenhouse cultivation, animal husbandry, apiculture. In other projects, work in a kitchen where fruit and vegetable jams were prepared or workshops on aromatic herbs drying and packaging for sale to the public complemented the work in the gardens.

The visits included a meeting to introduce the institution, its educational model and how they were taking advantage of nature's therapies for leisure and occupational activities as well as professional

training of its clients. The advantages of using these therapies and the receptiveness to their use was also presented and discussed. For privacy and protection purposes, it was not possible to take pictures, but it was possible to visit the facilities and, as far as possible, observe the ongoing activities and interact with the clients.

## Conclusions

We visited a wide range of programs and initiatives, involving public and private organizations (agricultural businesses, social cooperatives, cultural associations, hospitals, environmental education centres) offering different activities: community gardens, gardening labs, universally-accessible nature trails, prison farm programs, animal therapy, to name only few of them. All the projects we have visited are putting evidence on the health benefits of the use of green spaces.

The project has shown that these therapies are being used in many situations and with very positive results namely with specific target groups. The opinion of the coordinators and of the technical staff involved in the implementation of activities that include the use of nature and the occupation of part of the time in the institution working in the gardens was very positive in all the projects visited. They highlighted benefits such as reduced medication, reduced conflict and increased perceived well-being of clients as well as contribution to the vocational training of young people, which will facilitate future labour market integration.

Thus, it was possible to observe the advantages arising from the use of nature therapies, and how its potential of application can be further explored and deepen. However, that will require a deeper and multidisciplinary discussion on the meaning of nature therapies, the situations in which they can be useful and the definition of appropriate indicators to assess the results of their use. Finally, organizing a network of institutions will allow identifying similar educational needs across all countries that can, eventually lead to the creation of an educational area dedicated to nature therapy and to training technicians whiling to take advantage of these therapies in their daily life.

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