Gardening and food growing to reduce stress and stress related illness

Growing Health
Food growing for health and wellbeing

Evidence show that the garden and the activity of gardening and other nature based activities can be effective in reducing stress and stress related illness:

Effects of being in a garden or nature space: Kaplan, 2001, Grahn and Stigsdotter, 2011; van den Berg and Clusters (2011) and Hawkins *et al.*, 2011 and 2013.

Impact of the activity of gardening and food growing: Eriksson et al., 2011and Sahlin et al., 2014

Background

Nearly one in three people are regularly stressed, reveals a survey for Mental Health Awareness week 2015; the survey of 2000 adults showed that significant numbers of people are often feeling stressed (29%), anxious (24%) and depressed (17%) (Mental Health Foundation, 2015). Stress, the feeling of being under too much mental or emotional pressure and inability to cope, can affect the way we feel, think, behave and how the body works. Stress is not an illness *per se*, rather natural reactions and reflexes triggered by a perceived threat. This is expressed physically through signs of anxiety, muscle tension, sweating, increased blood pressure, sleeping problems, loss of appetite and difficulty concentrating. Long-term stress without the possibility of recovery can cause and aggravate many illnesses, including cardiovascular diseases, gastrointestinal diseases, depression, reduced immune function, increased risk of infection, chronic fatigue and exhaustion disorder.

The impact of gardens, nature spaces, and the activity of gardening on stress

Research has shown that gardens and green nature spaces can reduce stress in several ways:

The view of a green space or the natural scene. Numerous studies have shown that simply viewing a green space through a window can relax people and reduce stress levels and this is expressed by, for instance, decreased recovery times from illness and fewer stress related incidents. Studies of these effects are provided by various authors including Ulrich (1984) and Kaplan (2001) and are reviewed by Maller *et al.* (2005).

Immersion in a natural scene. Studies have shown that when people immerse themselves in a natural setting this can reduce stress, increase relaxation and improve recovery (Cooper Marcus and Barnes, 1999, Ulrich, 1999). Being in a garden or a natural space can stimulate a range of senses, including but not only vision, and allow feel connected to nature; the role of 'connectedness to nature' as Mayer *et al.* (2008) phrased it.

Engagement in gardening activity. One of the most effective ways to alleviate stress is to combine the effects of being in a nature setting with the effects of the physical activity of gardening. The annual growing cycle in the garden provide opportunities all-year-round for activities that connects us with natural lifecycles as well as providing physical exercise. Research has shown that for people recovering from stress, nurturing plants from seed to maturity evoked feelings of curiosity and desire to follow their progress (Eriksson *et al.*, 2011). Gardening and other creative activities during rehabilitation facilitated feelings of competence and enjoyment and created positive hope for the future (Eriksson *et al.*, 2011). Furthermore, physical exercise in a nature setting appears to have a greater effect than exercise in an 'unnatural' setting (Pretty *et al.*, 2007).

Effects of being in a garden or a nature space

Research in Sweden found that people with access to a garden had significantly fewer stress occasions per year (Stigsdotter and Grahn, 2004, Stigsdotter, 2005). They reported that people living in flats without a balcony had the most stress occasions per year, with the number of stress occasions per year descending in order for those living in flats with a balcony, in houses with a small garden and those living in houses with a large leafy garden. In comparing gardens with other urban green spaces they found that while both were important for health, but having a private garden was more important (Stigsdotter, 2005). Grahn and

Stigsdotter (2011) have also studied the relationship between perceived sensory dimensions of urban green space and stress restoration. Their research identified and described eight sensory dimensions in green urban spaces. Whilst people in general preferred the dimension 'serene', followed by 'space', 'nature', 'species rich', 'refuge', 'culture', and 'social', ranked in order, they found that the dimensions 'refuge' and 'nature' were most strongly correlated with highly stressed individuals' preferences. They concluded that a combination of 'refuge', 'nature' and 'species rich', and a low presence of 'social', was the most preferred urban green space, and can be interpreted as the most restorative environment for stressed individuals (Grahn and Stigsdotter, 2011).

Impact of the activity of gardening and food growing

Van den Berg and Clusters (2011) tested stress-relieving effects of gardening in a field experiment with 30 allotment gardeners in Amsterdam either gardening or indoor reading on their allotment plot for 0.5 hours. Both, gardening and reading led to decreases in cortisol levels during the recovery period, but decreases were significantly stronger in the gardening group. Positive mood was fully restored after gardening, but further deteriorated during reading. The authors highlighted that these findings provide experimental evidence that gardening can promote relief from acute stress (van den Berg and Clusters, 2011).

In the UK, Hawkins *et al.* (2011 and 2013) studied the effects of allotment gardening and they found a similar significant difference in perceived stress levels between the activity groups of 'indoor exercise', 'walkers', 'allotment gardeners', and 'home gardeners'. Allotment gardeners reported significantly less perceived stress than participants of indoor exercise. There second study (Hawkins *et al.* 2013) had an older adult sample of community allotment gardeners with a particular focus on stress recovery. Here, too, results indicated that allotment gardeners appreciate both 'doing' the gardening as well as 'being' in the garden/allotment landscape with a wide range of benefits to their health and wellbeing.

In Sweden, nature-based stress management courses have been offered as an intervention for individuals at risk of adverse health effects from work-related stress. Sahlin *et al.* (2014) evaluated the effects of a 12-week nature-based course on stress related symptoms, work ability and sick leave. Results showed that the levels of stress, measured through self-rated burnout, sleep quality and somatic symptoms, declined between the start of the course and the end, and continued to decline to the last follow-up which was at 12 months after the end of the course. Along with the improvement in health, participants self-rated work ability increased and a decline in long-term sick leave was observed. The garden and nature content of the course, which included gardening activities following the season and guided walks in the nearby nature reserve, were found to have a profound role for stress relief and for tools and strategies to be developed and adopted to better handle stress (Sahlin *et al.* 2014).

Case study

The Garden of Health in Torup is a part of the internal services in Malmo municipality. Employees of the municipality, who are in the risk-zone of stress related disorders can be offered a 6 or 12 week nature-based stress management course. The approach is based on the recognition of the four corner-stones of health; relaxation and recovery, physical activity, food and relationships and the value of achieving a balance between these for healthier life. The courses include organic gardening and food growing activities combined with other nature based and mindfulness activities.
http://bit.ly/1MsOcPA

The Garden of Health in Torup, Malmo, Sweden

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