Practitioner Perspective

Green Care and Walk & Talk Therapy:
An Underused Resource that has Benefits for Everyone.

By Ian Birthistle

Introduction

This article is a literature review of green care followed by my own observations and feedback on Walk and Talk Therapy (W&T) that I offer to clients. Green care is defined as a nature based therapy or treatment intervention, designed, structured and facilitated for individuals with a defined need (Green Care Coalition, 2015). The benefits of Green Care include increases in memory performance and attention span (Berman et al., 2008), and improvements in mood and self-esteem (Barton & Pretty, 2010). Views of nature can positively affect job satisfaction (Kaplan, 2007), while images depicting natural scenes can aid physiological recovery from stress (Brown et al., 2013). Exposure to nature has resulted in shorter hospital stays (Ulrich, 1984), while Green Care has also been noted to significantly decrease anxiety, depression, anger, fatigue, confusion and to increase vigour (Park et al., 2010; Lee et al., 2011; Li,2012). Green Care can have positive effects on dementia (Erickson at al., 2012), while Li et al., (2007, 2008, 2010 & 2011), found significantly reduced blood pressure and stress hormones, and increased human Natural Killer (NK) cellular activity after a trip to a forest park

If this was a drug I wonder how much would we pay? Yet this resource is readily available, completely free of charge. The question then has to be asked; Could our natural environment combined with any level of exercise be used more extensively when the limited research is showing a great potential for positive mental, emotional, physical and spiritual outcomes?

Green Care

Green care offers many opportunities to be tailored to suit a vulnerable person's needs and abilities and there are many variations; Walk and Talk Therapy, Green Exercise, Care Farming, Animal Assisted Therapy, Social & Therapeutic Horticulture, Nature Therapy, Wilderness Therapy, Environmental Conversation as a treatment intervention, Ecotherapy and Ecopsychotherapy.

Related to Green exercise is 'Blue Exercise' which refers to physical activity undertaken in and around 'natural' aquatic environments such as lakes, rivers, canals and the coast, these activities can include being in the water, on the water or simply by the water (Depledge and Bird, 2009). People living near the English coast tend to report higher self-reported health than those inland (Wheeler et al., 2012), while longitudinal data suggests that self-reported physical and mental health tend to be higher among individuals in the years they live nearer the coast (White et al., 2013). A study in an aquarium also found that the longer children stayed at a fish exhibit the calmer they appeared as well as experiencing enhanced

mood (Cocker, 2012).

Walk and Talk therapy (W&T) is an opportunity to engage in therapy with the added mindfulness coping skill of becoming present in nature while clients experience the physical and mental health benefits of exercise, nature, and therapy simultaneously. An arrangement is initially made to meet in a park with weather appropriate dress, and then we walk through the more private areas of Dublin's parks, forests and beaches. The session is an hour in duration and encompasses walking at the client's pace and/or perhaps sitting depending on the client's energy levels.

Richard Louv (2005), coined the term 'Nature Deficit Disorder' referring to human beings (especially children) spending less time outdoors, resulting in a wide range of behavioural problems including attention difficulties, diminished use of their senses, and higher rates of physical and emotional illnesses. It has been hypothesised that the average Australian child spends less time outdoors than a maximum-security prisoner (Government of South Australia, 2014), with the typical American child being engaged with electronic media more than fifty hours each week while involved in outside free play less than one hour during a typical day (Louv, 2005). Although modern technology offers many benefits it may also be linked to reduced physical activity, less time spent outdoors and the potential for cyber-based overload resulting in increased stress (Misra and Stokols, 2012). A supervised programme of exercise can be equally as effective as antidepressants in treating mild to moderate depression (Halliwell, 2005; Richardson et al., 2005), yet 93 per cent of GPs have prescribed antidepressants because of a lack of alternative treatment options (Hairon, 2006).

The Psycho-Evolutionary Stress Reduction theory (Ulrich, 1981), suggests that exposure to nature provides distractions from daily stresses and produces feelings of ease, calm and interest which in turn reduces stress symptoms and promotes positive emotions. Exposure can be direct contact with the outside world, or indirect contact through potted plants, a garden or aquarium, or a representational contact through pictures, symbols or stories. The positive effects can be seen in reductions in blood pressure, heart rate and stress hormones after exposure to nature and also in a study where hospital patients with a window view of nature had shorter hospital stays than patients with a wall view. These latter patients also required far more potent pain killers than those with a nature view. (Ulrich, 1981, 1984, 1991; Herzog and Strevey, 2008; Ewert et al., 2011).

Another study found significant reductions in stress and aggressive behaviour in visitors and staff in a hospital emergency waiting room after it was re-fitted with natural materials, carpeting and fabrics, nature murals and potted plants (Ulrich, 2008). In a psychiatric facility in Gothenburg in Sweden, refurbished with more natural light and materials, plants and gardens, Kellert and Finnegan (2011) found a significant decline in hostility and aggression; a 40% reduction in the use of physical restraints and a 20% decline in compulsory injections to control aggressive behaviour. Anecdotal evidence from other hospitals also suggests the calming, the stress relieving, and the emotionally restorative impact of exposure to nature along with positive contributions to staff satisfaction and morale, although the lack of a systemic approach to design and little focus on the external environment does limit the lessons to be learnt (Kellert, 2016; Barton et al., 2016).

Before the onset of antipsychotic medication O'Reilly and Handforth (1955) also noted, outdoor activity and gardening led to greater cohesion and social interaction, with increases in verbal and nonverbal forms of communication in patients with schizophrenia. This has huge implications for the practice of medicine and the design of healthcare facilities and landscapes, but it can also be extended to the workplace.

One quarter of European workers report work related stress for all or most of their working time with an estimated 136 billion euro lost to sick leave and diminished productivity due to mental ill-health (European Agency for Safety and Health at Work, 2014). Stress increases the likelihood of making mistakes, it decreases performance and increases sick leave resulting in increases in staff turnover and losses in productivity. In the modern workplace, there has been an increase in repeated stressors in quick succession with an inadequate response and lack of time to recover from a stressor (Gladwell and Brown, in Green Exercise, Barton et al., 2016). Over time this causes chronic exposure to fluctuating or heightened neural or neuroendocrine responses which causes physiological damage to the body (allostatic load), and thus causes ill-health (McEwan & Seeman, 1999). There is also some evidence to suggest that nature can act as a buffer to stressful life events (Van den Berg et al., 2010).

A more active workforce in nature could therefore reduce absenteeism, health care costs and increase productivity, which will be of great benefit to

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employers (Proper *et al*., 2002). However rigorous research in this area is limited and needs to focus on engaging with natural spaces during working time; the effect of regular short breaks; repeated exposure to green exercise and the cost-effectiveness of these interventions.

The Attention Restoration Theory (Kaplan and Kaplan, 1989) suggests that directed attention which requires mental effort and concentration can lead to fatigue, irritability, stress, accidents, impulsivity, distractibility and inattentiveness. However, when focus is redirected to involuntary attention which requires no work and which natural environments promote, this then provides an opportunity for recovery from mental fatigue.

Berman, Jonides and Kaplan (2008) found memory performance and attention spans improved by 20 percent after people spent an hour interacting with nature in any season. They also found that when participants walked in a botanical garden or arboretum they improved their short-term memory by 20 percent but they showed no improvements after walking down city streets. These results were also replicated when subjects sat inside and looked at pictures of either downtown scenes or nature scenes. This is supported by the Transient Hypofrontality Hypothesis (Dietrich, 2006) which suggests that directed attention is associated with prefrontal cortex activation which lessens with physical movement thereby resulting in prefrontal cortex restoration. Kaufmann (2015) suggests that interactions with nature may lead to that activation of neural networks that support subconscious processing and cognitive flexibility. Other researchers have found that people have an easier time resolving minor life problems while spending time in natural environments (Mayer et al., 2008). A recent study found that walking in nature decreased both self-reported rumination and neural activity associated with rumination, while a walk in an urban environment had no such effects (Bratmann et al., 2015).

Five minutes of interaction with nature has been shown to improve mood and self-esteem (Barton & Pretty, 2010), while views of nature, especially trees, appear to positively affect job satisfaction (Kaplan, 2007). Natural views out of a window can enhance directed attention during cognitively demanding tasks (Tennessen & Cimprich, 1995), while images depicting natural scenes can aid physiological recovery from stress (Brown et al., 2013). Green exercise incorporated into a working and/or a relaxing day could produce profound affects for our psychological, emotional and physical well-being. A limitation of this research is that it can lack rigorous control over the duration and intensity of the exercise undertaken which will obviously influence the outcome, as does an individual's initial mood or upset and their predisposition for any given place and exercise.

Forest bathing refers to a short leisurely visit to a forest where one can relax and breath in the phytoncides derived from trees, such as α-pinene and limonene (Li in Green Exercise, Barton et al., 2016).

A two-hour forest walk has been shown to significantly decrease anxiety, depression, anger, fatigue and confusion and increase vigour in both male and female subjects (Park, et al., 2010; lee et al., 2011; Li, 2012). It is also hypothesised that nature can provide a preventive effect on depression (Li and Kawada,2014), with Schiffman et al., (1995) suggesting that phytoncides from many species of trees may in part contribute to a calming effect. A reduction in sympathetic nervous activity has also been noted in forest bathing along with an increase in parasympathetic nervous activity and a regulation of the balance of autonomic nerves (Park et al, 2010; Tsunetsugu et al., 2010; Lee et al., 2014). Li et al., (2011) found that a trip to a forest park significantly reduced blood pressure, heart rates and urinary noradrenaline and dopamine levels whereas an urban trip did not. Mao et al., (2012) reported that forest bathing had therapeutic effects on hypertension in the elderly and it also induces inhibition of the renin-angiotensin system and inflammation, thus inspiring its preventive efficacy against cardiovascular disorders.

Forest bathing has been noted to reduce stress hormone levels such as urinary adrenalin, urinary noradrenaline, salivary cortisol and blood cortisol, inducing a more relaxed state (Li et al., 2007,2008, 2009, 2010, 2011; Park et al., 2010). Forest environments also significantly increase dehydroepiandrosterone sulfate levels (DHEA-S) and serum adiponectin, with lower than normal blood adiponectin concentrations associated with obesity, type 2 diabetes mellitus, cardiovascular

disease and metabolic syndrome (Simpson and Singh, 2008). Epidemiological evidence in humans suggests that DHEA-S has cardioprotective, anti-obesity, and anti-diabetic properties (Bjørnerem et al., 2004), however large scale longitudinal studies in different countries are needed to further assess the therapeutic properties.

Forest environments can also act directly on the immune system to promote increased human Natural Killer (NK) cellular activity by increasing the number of NK cells and intracellular levels of anti-cancer proteins such as perforin, granulysin (GRN), and granzymes (Gr) in both male and female subjects. This increased activity has been shown to last more than 30 days after the forest trip (Li et al., 2007, 2008, 2010). People with a higher NK activity report a lower incidence of cancers while those with a lower NK activity report a higher incidence of cancers (Imai et al., 2000). With forest environments also reducing levels of stress hormones which can inhibit immune functioning, therefore this and all the above suggest that forest bathing has a preventive effect on cancer. This is supported by the lower incidence of cancers among males and females living in areas of high forest coverage in all prefectures in Japan even after the effects of smoking and socioeconomic status is controlled (Li et al., 2008).

In the UK, dementia directly affects around 800,000 people and a further 670,000 carers with annual costs to the health service, local government and families estimated at £23 billion (Prince et al., 2014). Exercise promotes the growth of new brain cells that shrink with age, it improves cell and tissue repair mechanisms, it can be most effective in reducing the risk of getting dementia and it can help slow down the progression of dementia in those already suffering (Erickson et al., 2012). The benefits of engaging with the natural environment are seen in better eating and sleeping patterns and better mobility, in reduced stress, agitation, apathy and depression, and also in improved self-esteem and control leading to improved social interaction and a sense of belonging (Clark et al., 2013). Engagement with nature and exercise can be encouraged through the provision of well-designed green space which may increase their use and physical activity in those who live nearby (Giles-Corti et al., 2013). This has implications for designers and planners in making green spaces more dementia friendly through being easily accessible, safe, easy to use and interactive through the senses. More robust large scale research is needed into the benefits of different activities for different groups and both sexes with dementia.

By being employed, offenders can become optimistic and motivated to change, leading to a reduction in stress and increase in self-confidence allowing them to make the right choices towards a pro-social life.

Desistence is the process of stopping repeat criminal behaviour, and care farming can assist in achieving this. Being needed and believed in, having time away from negative environments, time to reflect and reassess one's life, creating a new non-criminal identity and feelings of belonging are mechanisms that clients report as positive benefits of being part of the care farming community (Hassink et al., 2010; Granerud and Eriksson, 2014). By being employed offenders can become optimistic and motivated to change, leading to a reduction in stress and increase in self-confidence allowing them to make the right choices towards a pro-social life (Evans and Evans, 2015). Therapeutic horticulture and care farming have also been shown to reduce depression scores in patients with clinical depression (Pederson et al., 2011). More robust long term trials are needed as the majority of research studies in this field are uncontrolled before and after studies with high levels of bias (Murray et al., 2016, in Green Exercise, Barton et al., 2016).

Strongly linked to the above is Wilderness Therapy which is a therapy program in a remote outdoor setting. Wilderness Therapy can foster personal, social and emotional growth (Russell, 2001, 2006a; Norton and Watt, 2014), while significant positive changes in self-esteem, self-efficacy, confidence, behaviour and decision making have been noted (Russell, 2006b; Asfeldt and Hvenegaard, 2014; Hoag et al., 2014). Self-esteem has an inverse relationship with depression and anxiety (Orth et al., 2009), it is a risk factor for mental ill-health (Griffiths et al., 2010) and it has also been linked to anti-social behaviour and behavioural difficulties (Moksnes et al., 2010) (Roberts et al., 2016, Barton et al., 2016).

Evaluations of The TurnAround Programme, a nature based project for vulnerable English adolescents aged 15-21, have consistently shown significant improvements in self-esteem, mood, behaviour, wellbeing and hopefulness (Peacock et al., 2008; Barton et al., 2010; Wood et al., 2012,

2013). Evidence also suggests that wilderness expeditions have long lasting health benefits which increase over time (Hattie et al, 1997; Asfeldt and Havengaard, 2014). The added benefits of group style care are a sense of meaningfulness, stimulated interest in associated activities, and increased social interaction which develops social inclusion and cohesion (Sempik and Bragg in Green Care, 2013). With long term positive shifts, surely this program should be considered as an alternative to the very expensive, punitive and often unsuccessful methods used today. It could benefit society as a whole and also be a useful tool for helping the growing number of young people at risk of mental ill-health, crime and anti-social behaviour.

Walk & Talk

The following is based on my own observations of a number of my clients who have come directly into W&T, and also my observations of a number of my clients who have converted from the office to W&T therapy. As regards the latter, they seem to be processing their issues faster and dealing with more issues than when office based. W&T clients are reporting fewer symptoms of depression and anxiety, lower levels of stress and anger, and they are experiencing more insight and 'eureka' moments. Many are delving deeper into their processes than they did in the office through their seemingly increased ability to face and process their fears. This may be linked to a number of other reasons.

The physical exercise is a benefit for my clients with ADD and for those who are nervous, embarrassed, anxious and resistant of therapy. Without the formality, confrontation and anxiety of the therapy room some find it easier to let their guard down and open up. W&T is easier for emotionally restrictive men and those who struggle with direct eye contact, and silence while walking is also easier thereby promoting deeper incubation of thoughts and processes.

More evidence is required for the differences in ethnicity and between the sexes, while individual characteristics such as personal preferences, previous experiences, memory and perceptions of nature and exercise need also to be addressed.

Clients seem more able to view a situation from different angles with more clarity, more depth, more insight, and they are making more emotional connections than in the office. The environment and exercise can at times provide more memory retrieval cues, and the mood-improving physical activity with its associated increase in blood flow is sparking creative and deeper ways of thinking in both the client and in myself. I have also noted some W&T clients to be more physically active on their own personal time which in turn has improved coping skills, and quality and quantity of sleep. Clients have more energy and interacting with nature and dealing with all weather is also strengthening the interpersonal connection between me and my clients.

For clients with anxiety disorders, exercise seems to be reducing their fears of fear and their related bodily sensations such as a racing heart and rapid breathing, while exposure to the outdoor social aspects is desensitising them to social anxieties. Clients report that being outdoors and accomplishing something positive for one's health is invigorating and it reduces their feelings of isolation.

Clients visibly loosen up as they experience the outdoor freedom and with this lessened sense of confrontation they have become more receptive to feedback than when in the office. Clients also have to engage more with their senses with the result of being much more present, talkative and relaxed. They are reporting increases in self-esteem, in positive risk taking activities, and some have noted the relationship between their own physical forward movement and progression in their own processes. Many are surprised by how much they enjoy the sessions, they would definitely recommend it to others and most of my W&T clients will not return to the office even when the Irish weather is at its worst.

The above is based on my own observations and feedback I have received from clients. Robust research is needed with larger samples and specific groups over an extended time in therapy, with clients who have experienced both types of therapy and with those who have not. The author's bias also needs to be noted as this is a therapy that I very much believe in.

Conclusion

There are numerous adjustments to be made in W&T therapy compared to office based work, and many areas that need attention by the therapist. These include route planning especially when there are concerns around being seen crying and being overheard by passers-by. Attention is needed to give good eye contact to emotionally reassure and also to pick up on indicators of mood. Walking time needs to be monitored well and distractions to be avoided interrupting deep

processes or alternatively used as part of therapy.

With all of the above being of obvious benefit, I have to return to my original question; Could our natural environment be used more extensively? W&T has huge potential in the treatment of many physical and emotional ailments, some have been mentioned while others are as yet unexplored. More rigorous research is needed in all the above areas and also in nature's potential in the treatment of various disorders. More evidence is required for the differences in ethnicity and between the sexes, while individual characteristics such as personal preferences, previous experiences, memory and perceptions of nature and exercise need also to be addressed. Bigger groups need to be used and attention paid to how people engage with nature and with exercise.

Nature has vast benefits for us all in our physical, emotional and economic lives, but I believe natures' full potential in our lives is as yet unexplored.

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