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ABSTRACT

Horticultural Therapy (HT) is claimed to offer extensive benefit to clients and is recognised as having a positive impact on both physical and mental functioning. Individuals with mental health problems are considered to have poor functioning in all aspects of their occupational performance. This impacts their lives by possible social exclusion, poor motivation, difficulty establishing/maintaining relationships and stigma. This may affect their quality of life and consequently limits their potential to participate fully in everyday life. HT may help alleviate these problems.

This Literature Review highlights the research in the field of HT specifically in regard to mental illness. It identifies client's perceptions of well-being and important themes that are the priorities for their quality of life. This is explored by reference to Zhan's "Quality of Life" (QOL) conceptual framework and the "Clubhouse Model" (Beard, Propst, and Malumund, as cited in Schlicksup-Curdt, 1998).

It continues by discussing the use of the Canadian Model of Occupational Performance (CMOP) Law et al (1997) and its link with horticulture. Kaplan's (1973) Attention Restoration Theory (ART) is also discussed.

The Research Proposal will aim to investigate perception of clients' well being after experiencing/participating in a twelve-week horticultural therapy programme.

INTRODUCTION

Horticultural Therapy (HT) is an accepted though relatively underused intervention, despite its versatility, effectiveness and cost-efficiency. This review shows that much of the literature is dated describing the successful use of HT within long-term institutions. It is apparent from the literature that HT may not be fully utilised with the recent changes from institutionalised to community-based care.

The scarcity of peer-reviewed academic literature on the subject of HT may suggest that although HT is used by occupational therapists, the lack of evidence-based practice produced by research findings may inhibit its use.

The search for literature was carried out using Firstsearch and CINAHL databases and by manual searching. Twelve articles were found. Of these, only six were specific to occupational therapy the other articles being written by horticultural therapists and health care professionals. Alternative sources of literature came the author's attendance at a Horticultural Study Day run by College of Occupational Therapists (COT) and Thrive, a charity using gardening to improve disadvantaged people's lives.

The literature review is subdivided into chapters including an historical overview, three key papers written by occupational therapists, and a chapter on the implications of HT to work and leisure.

Further research is necessary to identify outcome measures related to client's perceptions of the benefits gained from HT. The research proposal, aims to investigate the benefits gained from group based HT from the client's perception.

The author works as an occupational therapist within community mental health and wishes to use HT as treatment and is therefore interested to highlight and identify the benefits of HT for clients suffering from mental illness.

LITERATURE REVIEW

Organisation of this literature review is based around an historical overview of HT and three key, current, academic papers, all written by occupational therapists engaged directly in HT studies. The papers illustrate the emerging themes in the literature and are supported by other references.

Historical Overview

References to the use of HT are evident for over two thousand years. The belief that contact with nature fosters psychological well-being and helps reduce the stresses of urban living seems to be as old as urbanization itself. The gardens of ancient Egyptian nobility and the gardens of Persian settlements in Mesopotamia indicate that earliest urban peoples went to considerable lengths to maintain some direct contact with nature (Shepard, 1967). In 1st century B.C., the Roman poet Horace wrote:

“ Why, amid your varied columns you are nursing trees, and you praise the mansion which looks out on distant fields” quoted in Glacken in 1967.

Hefley (1973) indicates that in 1768 Rush was convinced that digging the soil had a curative effect on the mentally ill (Zahorbenski, 1997). By 1806, Spanish

hospitals emphasized the benefits of agriculture and horticultural activities to their mentally ill patients. Gregory in Scotland gained fame in the early 1800's for curing insanity by compelling his patients to work on his farm. Gardening has been an important part of the work therapy programme at Pontiac State Hospital, Michigan since it was founded in 1878. Such early programmes were primarily orientated towards maintenance of the institution and food production. However, as the therapeutic values of such activities became apparent, emphasis shifted to interventions that were more therapeutically orientated. Perrins-Margalis et al (2000) refer to a psychiatric institution in Philadelphia as the first hospital to construct a greenhouse for its inhabitants (Davis 1994).

During World War I, occupational therapists used horticulture to rehabilitate injured war veterans (Hyland, 1995) (Zahorbenski, 1997). Additionally, volunteers from garden clubs brought horticultural benefit to thousands of men recovering from battle (Levenston, 1997).

In the United States in 1865, Olmsted, a renowned landscape architect, wrote that nature:

“ employs the mind without fatigue and yet exercises it; tranquillises it and yet enlivens it; and thus, through the influences of the mind over the body, gives the effect of refreshing rest and reinvigoration to the whole system”.

A century later, Ulrich and Simons (1986) noted that passive experiences with vegetation have positive effects on psychological and physiological well-being.

Occupational therapists have documented the therapeutic use of gardening for many years; Macdonald (1960) refers to hoeing as ”useful to a manic client”. The counteracting of institutionalisation and the “sick role” is extensively documented (Goodban and Goodban 1990). HT has also been used extensively in forensic settings.

In 2002 it is possible to study HT at Coventry University and to become state registered as a Horticultural Therapist.

HT and its significance to Occupational Therapy

Occupational therapists seek to maximize client strengths, assets, and potentials in order to contribute to their quality of life (QOL) by the

engagement in purposeful activity. According to the American Occupational Therapy Association (AOTA)(1998):

”An activity is purposeful if the individual is an active, voluntary participant and if the activity is directed toward a goal the individual considers meaningful”.

Purposeful activity is the motivator for satisfaction, sense of mastery, and performance. Human beings seek to enrich the quality of their lives through the use of purposeful activity (Zhan, 1992).

Hagedorn (1991) asserts that one’s environment can effect how people behave, and that HT may be applied in a dysfunctional occupational setting offering an appropriate balance in activity and environmental content, supplying versatile tools capable of shaping client’s behaviour.

The American Horticultural Therapy Association, (AHTA) (1997) indicates an increased curiosity in horticulture in relation to health and QOL. Engaging in horticulture as a purposeful activity may enhance one’s QOL and that HT uses plants and horticultural activities to improve a client’s mental, physical and spiritual aspects of life simultaneously restoring mind, body and spirit. This

intervention is designed to help clients improve their functional abilities, improve their capabilities and help them cope with change. (AHTA, 1997).

Hagedorn (1991) states “failure is not therapeutic” and that success is important and that the therapist must know enough about horticulture to ensure success.

The author recognises the need for safe, adequate supervision when using sharp instruments and potentially harmful substances. However, Cornille et al (1987) and Hewson (1994) reported that individuals who abuse alcohol, drugs and food have responded to HT at certain stages of treatment.

Chapter 1

The Immediate Effects of a Group-Based Horticulture Experience on the Quality of Life of Persons with Chronic Mental Illness

Perrins-Margalis et al (2000)

Perrins-Margalis et al (2000) investigated the therapeutic use of HT within a group setting. The study was client-centred, as it was believed that a club can only exist with voluntary participation and examines perceptions of client's quality of life within it. The study was qualitative and employed hermeneutical phenomenological research techniques. "Hermeneutical reflection" (Ray, 1994), involves achieving further knowledge of a phenomenon through reflecting on themes generated by collected data. This reflection aims to achieve a deeper understanding as it relates to chosen theory". This investigation studied the impact of horticulture, a purposeful activity, on group participants in a clubhouse facility. (refer to appendix 1 for definition of "Clubhouse Model"). The impact of therapy was analysed according to Zhan's (1992) conceptual model of quality of life (QOL) (appendix 2); the researchers had the presupposition that HT would have a positive effect on QOL of clients with chronic mental illness, potentially biasing the design and results of the study. The clubhouse provided an environment for members to enhance their QOL through active, voluntary participation in daily purposeful activities (Schlicksup-Curdt, 1998).

The study showed seven emerging themes and was related to Zhan's QOL conceptual model. These were:

1. The Group Experience leading to feelings of accomplishment

The interactive experience was a strong feature of the study creating opportunity for less motivated or creative members to be inspired and supported by others. This develops a "team" approach therefore identifying roles and a sense of accomplishment. Relf (2002) observed that members of an horticultural group learn to relate in a meaningful way whilst working together towards common goals, learning to respect others, to be co-operative, to share responsibility and to develop leadership skills. Role theory was first defined by Goffman (1961) to describe how "in any given situation individuals are assigned and normally follow certain roles". Kielhofner and Forsyth (1997) spoke about roles as part of the habituation subsystem within the Model of Human Occupation defining the internalised role in terms of social identity and related obligation. Kielhofner and Forsyth stated, "we see ourselves reflected in the attitudes and behaviours of others towards us".

- 2. Sharing** - the study indicated that sharing experience is a self-satisfying aspect of horticulture creating opportunities to share skills, equipment, strategies, activities, and hobbies. Conversation establishes rapport, develops bonds and

allows members to share life stories and interests. Some negative observations were recorded in the Perrins-Margalis study, one participant stating, “sharing got frustrating”.

3. **Learning** – this study states that HT is a rewarding opportunity to learn novel, interesting, skills in a challenging way. Yerxa (1990) considers the “just right” challenge as an optimal fit between the demands of the occupation and the skills of the person necessary for initial and sustain engagement in occupation. Hefley (1973) and Relf (2002) both document that HT can lead on to intellectual pursuits by the attainment of new skills, improved vocabulary and communication skills and an aroused sense of curiosity. The author identifies with the intellectual element (refer to appendix 3 for definition of a snowdrop.)
4. **Sensory experience** - this study believes that working with their hands in the soil, and viewing and smelling coloured flowers and herbs heightened sensory experience. All participants named favourite smells and colours. Hefley (1973) and Relf (2002) further state that vision, hearing, touch, taste, and smell all play an important role towards benefiting from HT increasing one’s sensitivity and perception to detail. However, in some circumstance clients may experience negative sensual experiences as documented by Dunford (1998), “some people don’t like getting their hands dirty and hate weeding”.

Keep et al (1980) and Ruys1970)(Heerwagen.1990) conducted research on windowless settings and evidence suggests that visual contact with nature can be restorative. A further study by Ulrich (1984) of patients recovering from gall-bladder surgery indicated that those with a view of trees had shorter post-operative stays, required less potent pain drugs, and received fewer negative staff evaluations about their health than those with a wall view.

These conclusions are supported by the work of Harris, (1995) and Pope, (1991) who have used garden imagery in visualizations and meditations to treat clients suffering from cancer.

5. Creative experience

Creativity was evident when participants produced something with their own hands and minds. Du Toit (1970) defines “creative ability” as the “way in which people realise, define and extend themselves by expressing their potential through creative action”. Hazen (1997) also refers to a client’s ability to learn transferable, creative skills from HT and Goodban and Goodban (1990) indicate that HT created “off-shoots” such as carpentry, plumbing, bricklaying, painting, bird-watching and cooking.

Creativity in HT can also be related to choice. Dunford (1998), in her study of long-term inpatients involved in an HT programme refers to choice as helping

clients reach their potential, reinforcing empowerment and independence and preventing institutionalisation.

6. Emotional experiences -relaxing and stress-relieving

Participants reported within this study that HT was relaxing and stress relieving.

7. Reminiscent experience – re-kindling of positive experiences.

Field notes from this study indicated that participants recalled positive memories, leading to the development of relationships within the group through the common bond of reminiscing. Dunford (1998) reflects on Hagedorn's (1987) comment that "the growth of plants is inextricably linked to the passage of time". Pool (2002) refers to reminiscence as "a way of preserving one's identity, searching for meaning and relevance in one's life, or reviewing past experiences of solving problems in order to solve current ones".

The significance of this study to mental health is its exploration of the clubhouse theory within the context of enhancing QOL and the ability to replicate, easily and cost-effectively, this study, within a CMHT.

It is recognised that due to the holistic nature of HT, the seven themes often overlap and are therefore difficult to measure independently. The researchers

also believed that QOL could be described through a series of subjective and objective components, yet the study only includes subjective assessments (Zhan 1992).

Further shortfalls of this research are that the researchers attempted to interpret the data through their own “historicity”(Ray, 1994) which are theoretical presuppositions based on researcher’s experiences, suggesting possible personal bias and subjectivity to the results. Only members who showed a “definitive interest” in HT were selected, therefore creating further potential bias, this paper therefore lacks self-criticism about it’s own bias and subjectivity.

Chapter 2

Occupation of Gardening in Life-Threatening Illness

(Unruh 2000)

Unruh (2000) recorded the results of this qualitative pilot study into the meaning of gardening using Attention Restoration Theory (ART), focusing on three women with breast cancer using gardening for leisure. It is recognised that the inclusion of men may produce different issues as indicated by Johnson (1999) who found variation in gender perception. All three women had urban gardens; people who garden in rural environments may have different perspectives, a possible limitation of the study.

Interviews were conducted in January when participants were not actively gardening. Interviews in spring or summer may have altered client perspective. The author questions the significance to this in relation to Seasonal Affective Disorder (SAD) and recognises there is a deficit in current research concerning HT and its significance to SAD.

Cimprich (1993) has also used ART to examine attention, fatigue, depression and loss of concentration among clients diagnosed with cancer or multiple sclerosis. Cimprich (1995) found that women with cancer, randomly assigned

to restorative intervention, involving nature three times weekly, had improved attention and concentration.

Environmental psychology and landscape architectural research indicates the link between the benefits of nature and people's favourite places (Fishwick et al. 1992; Korpela and Hartig, 1996). ART builds on this research and argues that natural environments have four restorative characteristics promoting well-being: (Kaplan, 1973, Kaplan and Kaplan, 1989,1990). These are:

1. **Fascination** - a compelling interest in nature being restorative because no effort is required to sustain attention whilst excluding competing thoughts.
2. **Being away** -the possibility to put stressful events aside creating a sense of escapism.
3. **Extent** is the environment's capacity to draw the attention of the person into it. Kaplan (1995) describes it as "rich enough and coherent enough to constitute a whole other world" indicating that the more complex the environment the higher the restorative effect.
4. **Compatibility** describes the fit between the environment and the tasks that one wishes to accomplish within it allowing a client to feel:

“ an harmonious part of a larger whole” (Kaplan and Kaplan 1990) resulting in satisfaction and “just right challenge”, as discussed in chapter 1.

The significance of this study to clients suffering from mental illness is that, through involvement in HT they can improve their quality of life and morale, heighten concentration and attention, and use it as a medium to alleviate stress, hence restoring health. HT is an example of where” flow theory” can be achieved. Csikszentmihalyi (1990) describes, “flow theory” as:

“the state in which people are so involved in an activity that nothing else seems to matter: the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it.”

Csikszentmihalyi further proposed that the phenomenology of enjoyment in occupation consists of seven components which are challenge, concentration, clear goals, immediate feedback, deep involvement, sense of personal and a disappearance in concern for oneself. Enjoyment that merges into the experience of flow enhances perceptions of meaning and purpose. The garden, created and maintained by gardeners, gives opportunities and challenges provided by seasons, weather, the environment, and the life cycle.

Considerations of the contributions of “flow theory” to occupations that are

particularly meaningful to people (e.g., Emerson, 1998, Rebeiro and Polgar, 1998) may clarify the relationship between occupation and well-being.

To complement this qualitative data, participants also completed the Perceived Restorativeness Scale (PRS) (Hartig et al, 1996) derived from ART, which provided quantitative data.

Unruh's (2000) study of occupation in life-threatening illness identified six major themes:

1. **Physical elements** including the manipulation of outdoors, tactile activities and personal space. This includes the promotion of mental health through physical activity and fitness as discussed by Bracegirdle (2002).

2. **Interactions with living things**
includes dynamic, inter-actional perspective with nature and interaction with people. The author recognises the non- verbal and cross-cultural therapeutic value of HT.

3. **Meeting personal needs**
includes creativity, challenges, satisfaction and accomplishment.

Reflections about Life

Discusses the symbolism of plants, personal meanings and renewal of life.

Hazen (1997) documents the significance of HT in regard to “loss and grief”.

Motivation

Illustrates ties between gardening and clients with life-threatening illness using HT to motivate themselves. Zandstra (1987/88) describes using HT specifically to create individualized treatment goals. Hefley (1973) refers to immediate rewards from short-term projects. Using goals and successful projects may motivate.

Coping

Refers to venting of anger, control and release inducing relaxation.

Stress management and coping are major themes of OT and numerous references support the value of HT in this area. (Refer to appendix 4 for Cohen’s (1987) definition of stress).

Ulrich (1981) recorded brain electrical activity from unstressed individuals whilst viewing outdoor scenes. Subjects who viewed nature as opposed to urban scenes experienced increased alpha wave activity, resulting in wakeful, relaxed states.

Cohen (1978)' s overload and arousal theories state that environments with high levels of visual complexity, noise, intensity, and movement can overwhelm and fatigue human perception, or lead to detrimentally high levels of psychological and physiological excitement. Both Cohen's theories imply that restoration from stress or perceptual fatigue should be fostered by settings with stimuli such as plants, that are low in intensity and incongruity thus reducing arousal and processing effort (Berlyne, 1971).

Wohlwill (1976) produced evidence indicating that settings that are dominated by vegetation tend to have lower levels of complexity and other arousal-increasing properties than urban settings.

Ulrich (1979,1981,) conducted studies with direct empirical evidence suggesting that vegetative scenes, compared to urban scenes effectively hold attention and interest indicating that along with attentional effects, vegetation elicits emotional and physiological responses that play critical roles in restoration. Ulrich (1990) recognised that aesthetics are central to the psychological dimension of stress and personal restoration.

In conclusion, Unruh questioned the scientific nature of the attention restoration concepts of "being away" and "fascination". These have been

measured in more detail than other concepts resulting in the PRS being under further revision. The quantitative outcomes provided by the PRS would thus complement the qualitative elements.

Chapter 3

Reflections on Spirituality and Occupation: Garden Musings and the Himalayan Blue Poppy

Unruh (1997)

Spirituality is a recurrent theme in HT literature. A key paper by Unruh (1997) discusses spirituality as an important aspect of the client and intimately related to the meaning derived from everyday occupations (Canadian Association of Occupational Therapists, 1991,1994, 1997). However gardening may give pleasure and satisfaction without any spiritual importance as argued by Nollman (1994) who states that to experience gardening as a spiritual occupation, a perspective of gardening as “nurturing participation” is essential.

Unruh (1997) created the term “garden musings” to refer to the reflective, meditative comments made by gardeners about the role of gardening on their lives. She identified three themes with spiritual implications as:

1. **A Solitary Being** – reflections of the self as solitary focusing on tensions experienced in life, the need to find a place beyond everyday difficulties, and the capacity to dream and plan for the future. Bellingham et al, (1989) indicates ties between spirituality and gardening defining spirituality as “ability to live in the wholeness of life” and Francis (1990) refers to one’s life cycle being connected with nature.

2. **The Life Cycle** - both the occupation of gardening and being in the garden facilitates an intimate relationship with nature and the cyclical nature of life. Land gives the gardener an opportunity to participate directly in the life process through occupation. Nollman (1994) argues that participation in the tasks of this occupation, in a nurturing partnership with nature, generates a sense of place central to a spiritual relationship with the garden.”

3. **The Community** - a sense of spirituality within a community begins in childhood through family life, colours and smells; the sharing of plants and experiences creates a bond with others. A possible criticism of HT is lack of privacy and boundaries, as highlighted by Lloyd (1983). Ambivalence among gardeners about the intrusion of others is discussed but only to the extent that others recognise the garden as a private place.

Miller (1990) describes a profound process experienced by some individuals coming to terms with psychiatric illness. Miller uses Oates (1978) definition of a “ spiritual crisis” as one in which the person is acutely ill and seeks to find meaningful interpretation of the existing chaos. Moch (1990) states that at times of crisis people reflect inwardly more critically about one’s purpose and adopt ways of being.

Unruh's literature suggests that people have a spiritual drive compelling them to seek purpose from life (Egan et al, 1994) and that the Canadian Model of Occupational Performance (CMOP) Law et al (1997) encompasses spirituality within its core. Urbanowski and Vargo, (1994) and Law et al (1997) indicate that through occupation, spiritual needs are addressed.

The Canadian Association of Occupational Therapists (CAOT) refers to spirituality as "largely unplotted territory within our professional practice" (1991). A decline in spiritual well-being can result in depression, loneliness, feelings of powerlessness and hopelessness, anxiety, uncertainty, reduced self-esteem and lessened motivation (CAOT, 1991; Landis, 1996). Unruh's study on garden musings indicates that by using HT many of these emotions can be addressed. She highlights that the key therapeutic element of gardening may be the spirituality and notes the relevance of CMOP/COPM. Finally, the study further reinforces the physical, mental and social well-being of HT documented by Burgess (1990) and Goodban and Goodban (1990).

Chapter 4

Leisure and Work

Research by Schor (1991) concludes that time for leisure within the employed population has decreased and Gare (1995) reported that people in paid employment are expected to do too much, increasing the chances of health breakdown. Wilcock (1998) reflects on the importance of leisure occupations such as gardening as vital to enable clients to do, be and become.

Law et al (1998), in a review of occupation, health and well-being concluded that occupations have an influence on the physiological and functional outcomes that are key to health and well-being and suggested that meaningful, leisure occupations, possibly with spiritual dimensions, enable experiences of control and reduce stress.

Olmsted (1865) indicated leisure activities in natural settings are important for people to cope with and meet other non-stress-related needs. Olmsted's "tranquillity hypothesis" (as quoted above in historical overview) has yielded evidence of the restorative effects of viewing nature. Ulrich's (1979) studies on stressful students are consistent with Olmsted's work suggesting that natural scenes promote greater stress recovery indicated by increases in positive thought, significant reduction in fear and lowering of anger and aggression.

Suto (1998), Thibodaux and Bundy, 1998 indicated that engagement in meaningful leisure occupations may be important for health and well-being and warrants further research.

HT is also being used extensively to motivate clients with mental health difficulties to return to employment. There are many established programmes. Claridge (2002) describes how Plymouth Health Action Zone is running a scheme to help people with mental health difficulties to return to work by facilitating appropriate training and pre-work skills using therapeutic horticulture. Intervention includes work skills, interpersonal skills and interview technique assessment, actual manual work skills and preparation for work. Therefore the goal of HT, as used in this project, is to promote client employment potential.

Work and leisure are relevant to this study as it may prepare clients for work or introduce horticulture to them as a purposeful leisure activity.

Conclusion

This literature review has shown that there is a body of work that focuses on therapeutic horticulture. The holistic nature of HT makes the structuring of a review problematic as the papers and articles cited often overlap in their themes and content.

The four key chapters of the review focus on three central academic studies, with supporting references from other authors and a final chapter on the implications of HT to work and leisure.

It is evident from the references that HT is considered beneficial as a therapeutic intervention – no significant criticism of HT was found during the review. Despite the positive attitudes towards HT, the results of studies to date are predominantly qualitative and this can lead to a subjective view and may explain the limited uptake of HT by occupational therapists.

The lack of academic studies in the field of HT, particularly in the community setting, points towards the need for further research replicating and extending the existing studies.

RESEARCH PROPOSAL

Horticultural Therapy Study

A twelve-week HT study programme, forming part of a community-based occupational therapy intervention for clients suffering from mental illness. The study is designed to assess the benefits of an HT programme based on client perceptions.

Background to the Proposed Study

The National Service Framework (NSF) calls for greater partnership working between the statutory and voluntary sectors. (Department of Health, 1999) It emphasises the mental health of communities, identifies social inclusion as a key mechanism for this, and specifically calls for increased access to green, open spaces as a matter of “public mental health”(Sainsbury Centre for Mental Health and Mentality, 2001) The literature review suggests that HT is an excellent therapeutic tool to address these challenges.

The author works as an occupational therapist within a community mental health team (CMHT) with clients who suffer from mental health problems. This research proposal describes an HT study, the “Snowdrop Project”,

supervised by the author, modelled on that of Perrins-Margalis (2000). By contrast it will be in a community-based setting and will use COPM as an initial assessment tool.

Aim of the Study

The main aim is to explore the benefits of horticultural therapy for this client group by setting up a small therapeutic garden within a local drop-in centre and also to investigate additional benefits gained from their experiences.

Methodology

Ethical Considerations

Ethical considerations, concerning confidentiality, are vital to research. (Barnitt and Partridge 1999) and Bell (1993) recommends gaining permission early especially when working with vulnerable clients. Before commencing the study, approval would be sought from the Hertfordshire NHS Trust Ethical Committee.

Following approval an outline of the study would be discussed with the multi-disciplinary team (MDT) and community support workers (CSW). Close liaison with the occupational therapist will be vital. Informed consent will be sought from potential participants and the occupational therapist will contact their G.P. to obtain medical clearance. Withdrawal from the study will be at the participants free-will. An outline of the study will be available to all clients.

Design and Subjects

The study will be qualitative in nature as described by Jongbloed (2000), “Qualitative research aims to describe the experiences of people in particular settings and to understand their perspectives within it”.

The purpose of research is to develop theory by understanding the perspectives of people in defined settings. The researcher and the subject can be considered interdependent, and it is possible that the process of research can alter both the participant and the researcher. The way that questions are asked and findings interpreted can influence the conclusions of research studies. (Domboldt 1993).

Quantitative Research assumes that there is a “single objective reality, and that it is possible to know this reality outside oneself” (Guba, 1990) Research may attempt to study and define this reality. Both researchers and participants

should be independent, thus ensuring that neither the researcher nor the participant can influence the outcome of the research. Variables within a study should be changed in a controlled manner to determine cause and effect. It is considered “desirable that research be conducted in such a way that findings are generalizable to other people, settings and times” (Domholdt 1993). It is therefore inappropriate for the author’s proposed study.

Clients will be seen both in group and individual situations. Semi-structured interviews will be used. Clients will set their own goals before commencement of the project. On completion of the programme they will evaluate, both individually and within the group setting, if they achieved their goals, and their sense of well-being. The advantage of a group setting is that participants are bonded together by their group identity and shared purpose. (Mosey 1973).

This is relevant to the author’s intended study because it is a qualitative study using group-based horticulture purposefully as an effective intervention, using semi-structured interviews and journals. The study will be conducted in the actual setting not a clinical environment elsewhere. The author wishes to merge together HT and CMOP within occupational therapy intervention within a CMHT.

Participants' journals will be used for data collection and a semi-structured interview of an hour's duration. A questionnaire will also be completed by each participant during the initial screening process (refer to appendix 6) Participants will have their own treatment aims, individual goals and be asked to complete a reflective journal and attendance record.

Sample Group

Six participants will be selected from an existing OT waiting list and two mentally "well" volunteers thus creating a diverse sample of healthy individuals and people facing mental illness. The researcher will be present as an observer.

Inclusion will be:

1. Female and Male clients
2. Aged 18 – 65
3. Clients who are literate/articulate in English and are willing to share their experiences.

4. Clients will already have completed their Canadian Occupational Performance Measure (COPM) interview and are familiar with Canadian Model of Occupational Performance (CMOP) principles.

5. Clients who have remained mentally stable for a minimum of six months.

Exclusion will be

- Clients taking Chlorpromazine (Largactil) due to potential photosensitivity.

Instruments

During the study participants will be requested to complete journals that record goals, feelings and perceptions. (Refer to appendix 5 for included journal items.) Fieldwork notes will be used to support the emerging themes.

Feedback after each intervention will be documented in the form of fieldwork notes by staff involved, thus reducing bias in client reporting and to find emerging themes. At the end of the week programme, semi-structured interviews will be used to verify participants' journal entries. Verbatim

transcripts from the semi-structured interviews will be analysed for additional categories.

Each participant will be subject to two semi-structured interviews and completion of a questionnaire (refer to appendix 6) and the beginning and end of the study.

These will be conducted at the community mental health unit (CMHU), as it is familiar to all clients and is a safe, confidential environment. Participants can choose to be interviewed in their own home. The author will conduct all interviews. The interviews will be audio recorded, transcribed, and augmented by field notes.

Data Analysis

Participants' journals will be read reflectively focusing on emerging thematic patterns within them (Robson, 1993). The journals will be used to note such data as attendance at the therapeutic garden, duration of sessions, individual participation, group interactions, client's attainment of goals, client's affect, feelings and perceptions.

Potential Limitations of the Study

1. The small sample size of the clients would not give reliable statistical results.
2. It may be difficult to relate cause and effect in this study due to other contributory factors effecting the well-being and mental state of the clients, e.g. relationship issues.
3. Seasonal effects – the study will take place during Spring/Summer - Seasonal Affective Disorder (SAD) could be a factor.
4. Semi-structured interviews –the location of the interviews, either in the CMHT or clients home may result in some inconsistency.
5. The study is not quantitative; the Perceived Restorativeness Scale (PRS)(Hartig et al 1996) could be included to create a mixed methodology.
6. Time constraints will limit the quantity of data obtained.

Ensuring trustworthiness

“Trustworthiness refers to the degree of confidence scholars can have in the accuracy and lack of bias of the research” (Kielhofner, 1992)

Fieldhouse (2002) indicates that “traditionally the benchmarks for good research have been validity and reliability (Bowling 1997) and that in qualitative research, checks and balances exist to accommodate the complexity of using a human instrument to gather and analyse data – and the concept of trustworthiness in a study has evolved to supersede validity and reliability. This ensures that the “lived experience” is faithfully conveyed, that findings are rooted in it and that the process is logical, traceable and documented.” These guidelines will be used in this research.

Conclusion

This research proposal is designed to assess the value of an HT programme as an effective intervention within a community-based programme.

It could, also, further illustrate that horticultural therapy is significant to client well being and hence a worthwhile therapeutic tool.

It is recognised that the study is qualitative and further research could include quantitative measures. As a small-scale pilot, this study could be further enlarged to increase data reliability.

5477 words

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APPENDICES

Appendix 1

Definition of: “Clubhouse Model”

A model formulated from the philosophy that each person contributes to the existence of the programme and that, without its members, the programme cannot exist” (Beard, Propst and Malumund, as cited in Schlicksup-Curdt, 1998). The target population of a clubhouse includes persons with chronic mental illness. Voluntary membership allows an atmosphere of empowerment and increased sense of self-worth (Schlicksup-Curdt, 1998).

Appendix 2

Definition of “Quality of Life”

“The degree to which a person’s life experiences are satisfying”(Zhan, 1992). Four aspects essential to QOL are “(a) life satisfaction; (b) self-concept; (c) health and social functioning; and (d) socio-economic factors” (Zhan, 1992).

Appendix 3

Definition of a “Snowdrop”.

A snowdrop plant looks like three drops of milk hanging from a stem, this accounts for the Latin “ Galanthus nivalis” which means, “milk white flowers”. White represents purity. It has been chosen to represent this project, as it is the first flower to blossom and is resilient and strong. It also indicates the ability for intellectual stimulation within the context of HT.

Appendix 4

Definition of “Stress”

Cohen, (1987) defines stress, as “a stress reaction is the process of responding psychologically, physiologically, and often with behaviours to a situation that is taxing or threatens well-being” and state that although certain short-term stressful situations can improve human performance and cognitive functioning, stress is considered here to be a negative condition that should be mitigated over time to prevent deleterious effects on human performance, well-being, and health.

Appendix 5

Recommendations of information to be included in participant's journals should be:

Feelings today on 1-10 scale

Resume of the actual events of the day/external factors

Weather

Perceived physical/physiological well-being

Duration of session

Interaction with others

Interaction with nature

Skills used

Skills learned

Satisfaction towards the session

Perceived performance

Goals attained

Any other comments

**Adapted from Canadian Occupational Performance Measure (COPM)
(1997)**

Appendix 6

Participants' Questionnaire

1. How did your interest in gardening begin?
2. What sort of activities do you do in your garden?
3. How much time do you spend in your garden-related activities?
4. What qualities of the garden and gardening give you satisfaction at this time of year?
5. How does your current experience of mental health affect your interest in gardening?
6. How important is it to you to be able to do your gardening-related activities?
7. What does your garden do for you?

From:

The occupation of gardening in life-threatening illness:

A qualitative pilot project

Anita M. Unruh et al.

La Revue Canadienne

D'Ergotherapie Fevrier 2000

APPRAISAL OF THE INVESTIGATIVE PROCESS

Whilst studying for my project I have assimilated the following skills and experiences:

A new academic language previously unknown to me e.g. critique, qualitative research, quantitative research, their context, usage, and appropriate application.

The ability to critique articles from journals and other sources of literature and how to access them from computerized databases and libraries.

Increased professional confidence within the multidisciplinary team and with younger, less clinically-experienced but more highly qualified occupational therapy graduates and the ability to state my opinion backed up with evidence and reference to current literature and legislation.

An appreciation and understanding of the versatility of therapeutic horticulture and the advancement of occupational therapy as profession since obtaining my diploma in 1982.

A dynamic shift in my working practice, basing it on evidence- based practice e.g. use of CMOP, advising of MDT by exchange of articles leading to potentially stimulating discussion and enhanced client care.

To actually set up the “ Snowdrop Project” involving staff, the public, local garden centre, and local media thus introducing a relevant therapeutic medium into the community and to use this medium as an example of occupational therapy intervention in order to advise and educate others.

Transferred my skills and knowledge into other contexts outside of the normal realms of occupational therapy by discussion with friends e.g. “flow theory” and its relevance to purposeful leisure pursuits.

Heightened my understanding of myself in regard to health needs, my limitations and expectations.

To have confidence and interest in carrying out future research and ability to advise/help/supervise others with the intention to do the actual research and write it up as an academic paper for the British Journal of Occupational Therapy (BJOT) in 2003.

Anna Libby.