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THE EFFECTS OF THE USE OF THE SENSORY ROOM IN PSYCHIATRY

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Abstract

It is common for occupational therapists to create specialized clinics for use in practice, and many have explored the use of multi-sensory rooms, modeled after existing sources (Martin & Thompson, 1994, p. 341). The occupational therapist modifies the context or structure to provide a better match between the physical or social environments and an individual's sensory needs and abilities (Roley, 2002, p. 3). The results of this client-centered quality improvement study revealed that the use of the multi-sensory room on an in-patient psychiatric unit, with adolescent and adult clients, had positive effects on ninety-eight percent of those who participated. It also suggests the relevance for use in psychiatric service delivery, across multiple levels of care. Additionally, the appropriate use of the multi-sensory environment provides experiential and alternative opportunities for de-escalation, empowerment, choice, increasing awareness, and skill development (Champagne, 2003).

THE EFFECTS OF THE USE OF THE SENSORY ROOM IN PSYCHIATRY

Introduction

Imagine being bombarded both internally and externally with too much stimulation, feeling emotionally dysregulated, unsafe or out of control. How would you hope to be treated? For some people, this often leads to emergency room trips, crisis stabilization units, being admitted and locked into psychiatric hospitals, and sometimes restraint or seclusion. Inadvertently, such interventions often add more chaos to an already overwhelmed and over-stimulated system. As therapists, doctors, nurses, and social workers we are often required to facilitate order and positively influence emergent behaviors through our therapeutic interventions.

We propose the skilled and responsible use of the multi-sensory environment and a host of sensory-based treatment tools, in addition to the therapeutic use of self, to facilitate client-centered, meaningful and goal-directed treatment interventions. Such interventions provide opportunities for supporting self-regulation, learning, and social interactions based upon trust and mutual understanding. We hypothesized that the use of a specially designed therapeutic space would provide clients with additional options for recognizing and reducing their level of self-perceived distress and for modulating behaviors. We also projected that providing staff with additional tools, to redirect and guide clients whose condition appears to be escalating, would ultimately help reduce and/or prevent the need for seclusion or restraint. “The environment will be substantially safer if staff know how to give service recipients some degree of control over their situation, and are skilled in modifying interventions to reduce the factors that can lead to incidents” (NASMHPD, 2000, p. 8-9).

The multi-sensory environment promotes a culture and a climate for humane and client-centered practice, within the often chaotic and complex treatment environments available to date. The “multi-sensory” room was initially developed by Verheul at the Hartenburg Center in the Netherlands in 1975 (Hulsegge & Verheul, 1987). These rooms are commonly used during treatment sessions with individuals with profound learning disabilities and older persons in a variety of settings. The trademark term “Snoezelen” is often used to describe many of these environments. “Life involves a constant encounter with the sensory world” (Brown, 2001, p.125). The bombardment of the nervous system from multiple forms of environmental stimuli can be overwhelming, and often

dominates the lives of individuals with mental illness.

The ability to recognize the effects of the environment on one's unique and dynamic system is a skill that often requires increased awareness, education, and practice. Recognizing these stressors and exploring meaningful strategies that can help individuals adapt to these demands is essential in our intervention planning (Reeves, 2001, p.3). Neurologically, an adaptive response cannot be forced through the use of seclusion or restraint techniques, however using meaningful therapeutic environments, in addition to skills training, may influence it. According to the study of neuro-dynamics, the self-organization of voluntary actions is the product of: context, previous experience, the states of arousal and attention, the expectancies of responding to stimuli, and the intentionality of individuals-including their goals and meanings (Lazzarini, 2002, p.17). Ultimately, one's unique neuro-psycho-biological system is the quintessential factor in facilitating self-organization and self-regulation.

The Quality Improvement Study

The following are the results of a preliminary quality improvement study examining the possible benefits of the use of a sensory room with adolescent, adult, and older persons within a locked acute psychiatric unit in a small community hospital. A sample size of forty-seven clients ranging in age from 17 to 93 years randomly participated in this study. It was designed to assess whether the use of a sensory room could reduce perceived levels of distress. Staff occupational therapists developed the sensory room, sensory-based treatment protocols, educated staff regarding appropriate use and precautions, supervised the study, and developed the tool used to measure the client ratings considering the broad scope of the diagnoses and cognitive levels of the clients involved.

Method

DESCRIPTION OF THE UNIT

The unit is a twenty-four bed locked psychiatric unit in a one hundred and twenty-five bed community hospital. The average length of stay is approximately nine days and there are both voluntary and involuntary clients. Prior to the addition of the sensory room the unit typically had rates of involuntary restraints two to three standard deviations above the rate of other Department of Mental Health licensed facilities in the state of Massachusetts.

DESCRIPTION OF THE PATIENTS

The clients who participated were of varied sex, race, diagnosis, and legal status. The ages ranged from 17 to 93 with a mean of 40. There were 26 different psychiatric diagnoses reported, with the discharge diagnosis used for the purpose of this study. The majority of those diagnoses included some form or combination of the following disorders: schizophrenia, schizoaffective disorder, bipolar disorder, major depression, adjustment disorder, anxiety disorder, panic disorder, substance abuse and borderline personality disorder.

DESCRIPTION OF THE SENSORY ROOM

The sensory room used in this study is approximately 9'x16' and was in its initial stages of development. It contains a variety of equipment providing input to the proprioceptive, vestibular, tactile, olfactory, gustatory, auditory, and visual sensory systems. The environment is set up to be one that facilitates relaxation. It has sponge painted walls, posters of nature scenes, a bubble lamp, a variety of seating options (including: beanbag, rocking chairs, and glider rockers), and a host of other modalities and educational materials promoting relaxation and/or an optimal level of arousal.

DESCRIPTION OF THE MEASURE

A two-sided form was utilized to collect the data. Side one of the form contained two separate ten point scales, one labeled *before* and one labeled *after*. These forms were used to collect each client's self-ratings whenever cognitively possible. Between the two ordinal scales were four facial icons (displaying a range of emotional affects from calm through severe distress), used to assist those unable to comprehend the ordinal scale.

The check off section rating the individuals' ability to complete the task was as follows: performed independently by the client; performed by the client with more than fifty percent cognitive assistance by the staff; or completed by the therapist due to the severity of the cognitive limitations. Side two included sections for clients and/or staff to write the date and time of the session, to list which specific room elements were utilized, and to offer any comments. Other sections were included for the therapist to circle whether the client participated in a group or individual session, to report therapist's comments and observations, and to include the Allen Cognitive Level Screening score (ACLS) of the client at the time. A space for the addressograph stamp was also included in order to collect

additional demographic information.

Process

All clients received interdisciplinary initial evaluations upon admission. Some of the information obtained by the nurse and staff occupational therapist includes: the client's history, concerns, strengths, functional limitations, treatment goals, the client's account of what is helpful when in crisis, and any hyper or hypo sensory sensitivities they may be aware of. It is important to recognize that what the client identified as helpful and meaningful was taken into account, during both the initial evaluation and throughout one's treatment course. Additionally, and as part of the admissions protocol, an Allen Cognitive Level Screening is conducted by the occupational therapist.

ALLEN COGNITIVE LEVEL SCREEN (ACLS)

The ACLS is a standardized cognitive screening tool, using an ordinal scale (0.8-6.0). It is not an intelligence test, it is a screening of an individual's global cognitive processing abilities and is used as a guide to help determine an individual's best ability to function. This is determined by considering the task and environmental demands in relation to the cognitive abilities of the client. Throughout the study the ACLS information helped to determine the necessary level of cognitive assistance required to complete the questionnaire and helped to facilitate active and successful treatment participation.

Table 1 provides the titles of the general cognitive levels, which are broken down further into modes for increased specificity.

Table 1: The Allen Cognitive Levels

ACLS	Title	Consciousness	Sensory Cues
Level 1:	Automatic reflexive actions	Arousal	Subliminal
Level 2:	Postural Actions	Comfort Moving	Proprioceptive Cues
Level 3:	Manual Actions	Interest Touching	Tactile Cues
Level 4:	Goal Directed Activities	Compliance Seeking	Visual
Level 5:	Independent Learning Activities	Self-control	Related Cues
Level 6:	Planned Activities	Reflection	Symbolic Cues

The ACLS scores were obtained and documented on the day of participation by the staff occupational therapists, and ranged from 3.2 to 5.6, respectively.

Participation in the quality improvement study was voluntary and study data was collected throughout a total of ninety-six treatment sessions with forty-seven different clients. Four therapists specifically trained in sensory integration, sensory modulation, and sensorimotor theory and treatment techniques administered the treatment sessions and supervised the data collection process. The information gathered was submitted weekly to the hospital's research department for data entry, collection of the client's discharge demographics, and the formulation of tables and spreadsheets revealing the results of the study.

TREATMENT PROVIDED

The sessions varied depending upon the needs of those in attendance. Some examples of the types of treatment used in the sensory room includes education and training using the following: general exploration and use of the environment and equipment in the room, mindfulness and self-soothing exercises, progressive relaxation exercises, deep breathing, distress tolerance activities, sensorimotor activities, stretching and isometric exercises, education and practice regarding the creation and use of a "sensory diet", use of therapy balls, independent application of varied deep pressure touch activities, and imagery.

Results

It appears that the use of a sensory room and sensory-based treatment approaches by skilled and/or educated staff has significant positive effects among clients of varied ages, diagnoses, and ACLS. Ninety-eight percent of the participants reported a positive change, ten percent reported no change and one percent reported a negative change in self-perceived levels of stress. It appears that the largest amount of change in perceived levels of stress is greatest among individuals reporting the highest levels of distress prior to use of the room. Interestingly, the number of restraints in this facility has decreased 40 percent during the year of this study.

Information regarding the ACLS revealed that those within the level 5 ranges were able to complete the rating scale

independently after being given verbal instruction and demonstration by the therapist. Those in the level 4.0-4.8 ranges required more than fifty percent cognitive assistance from the therapist, and those in the level 3.2 through 4.0 ranges required total cognitive assistance to complete the rating scale.

Tables 2-4 provide information regarding the client’s self reported average improvement, having rated their perceived levels of distress both before and after each treatment session in the sensory room.

Table #2:
Average improvement when the client’s *before* rating was between 10-8 using a 0-10 scale: n=5.3

Before	After	Difference	Average
10	5	5	
10	7	3	
10	3	7	
10	5	5	
10	1	9	
10	2	8	
10	5	5	
10	5	5	
10	5	5	
9	1	8	
9	1	8	
9	3	6	
9	2	7	
9	8	1	
9	5	4	
9	6	3	
9	8	1	
8	0	8	
8	1	7	
8	4	4	
8	1	7	
8	2	6	
8	3	5	
8	5	3	
8	2	6	
8	5	3	
8	5	3	
8	1	7	
8	3	5	
258	104	154	5.3

Table #3
Average improvement when the client's *before* rating was
between 7-5 on the 0-10 scale: n= 3.2

Before	After	Difference	Average
7	2	5	
7	5	2	
7	2	5	
7	3	4	
7	6	1	
7	6	1	
7	3	4	
7	6	1	
7	0	7	
7	1	6	
7	3	4	
7	4	3	
7	4	3	
7	4	3	
7	3	4	
7	3	4	
7	3	4	
7	6	1	
7	4	3	
6	3	3	
6	2	4	
6	3	3	
6	2	4	
6	4	2	
6	5	1	
6	2	4	
6	3	3	
6	0	6	
6	4	2	
6	4	2	
5	0	5	
5	4	1	
5	1	4	
5	4	1	
5	3	2	
5	3	2	
5	1	4	
5	3	2	
5	2	3	
5	1	4	
5	1	4	
5	1	4	

259 124 135 3.2

Table #4
Average improvement when the client's before rating was between 4-2 on the 0-10 scale: n= 2.2

Before	After	Difference	Average
4	2	2	
4	0	4	
4	3	1	
4	1	3	
4	1	3	
4	2	2	
4	0	4	
3	1	2	
3	0	3	
3	2	1	
2	1	1	
2	0	2	
2	0	2	
2	1	1	
45	14	31	2.2

Discussion

LIMITATIONS OF THE STUDY

In recognition of the considerable number of variables involved, the reasons for the dramatic decrease in restraints at this facility may not be exclusively attributable to the clients use of the sensory room. However it is possible that having the use of the therapeutic space was one important element. Due to the significant decrease in the number of restraints since the room was developed a second study would be beneficial.

RECOMMENDATIONS

The development and implementation of the sensory room has been an evolving project. The unit staff has received mandatory trainings by the unit occupational therapists regarding sensory-based theory, treatment protocols, precautions, and the general use of the sensory room since the time of this study. Therefore further studies are recommended to determine whether such trainings have had any impact on the quality of care provided on this unit or on its rates of restraint and seclusion.

There is limited research available regarding the use of the multi-sensory room in psychiatric settings. Therefore, the need for additional research into the validity of using sensory-based environments, assessments, and treatment strategies in psychiatry is evident. Brown (2002) reports the following:

Self-knowledge about sensory processing is empowering as sensory processing preferences can explain an individual's response to particular environments, situations, activities, and people. Furthermore, individuals can establish coping strategies and select activities based on an understanding of sensory processing by creating or pursuing environments that best match those preferences (p. 117).

Dunn's (1997) Model of Sensory Processing and The Adolescent/Adult Sensory Profile (Brown & Dunn, 2002) provide additional research into the validity of using sensory-based assessments, treatments, and environmental elements in occupational therapy service delivery within a variety of populations. In psychiatry, Dialectical Behavior Therapy (Linehan, 1994) is an evidence-based treatment originally developed for people with borderline personality disorder, promoting the use of stimuli and/or sensory rich activities in each sensory area in the mindfulness and distress tolerance modules. Additionally, Moore & Henry (2002) report that there is accumulating evidence suggesting the potential efficacy of using sensory-based treatment with adults engaging in self-injurious behaviors.

The literature available regarding sensory-based treatment, environmental considerations and the results of this study suggest significant applicability across multiple age groups and multiple levels of care. Additionally, increased specificity regarding the use of the multi-sensory room, the modalities used, and more objective measures is also recommended.

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