"Relax, Refresh, and Refocus:" A Brief Account on the Potential Utility of Snoezelen in Dementia

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Abstract

Dementia is a quantifiable decline in cognitive functions. The behavioral and psychological symptoms of dementia (BPSD) are developed along with cognitive decline in patients with dementia. Pharmacological treatment of BPSD can have various side effects, so non-pharmacological measures of treatment for BPSD are advisable. One such non-pharmacological mode of treatment is Snoezelen, also called multisensory therapy. Here, participants basically interact with different kinds of stimuli that involve stimulation of different primary senses such as vision, hearing, tactile, or olfactory. In this viewpoint article, the studies regarding the impact of Snoezelen in patients of dementia are being briefly discussed.

Keywords: Dementia, multisensory stimulation room, multisensory therapy, Snoezelen

Introduction

Dementia refers to the decline in cognitive functions that results in significant impairment in activities of daily living. Along with cognitive decline, the person may develop some behavioral and psychological symptoms, commonly known as the behavioral and psychological symptoms of dementia (BPSD). These BPSD include delusions, hallucinations, restlessness, wandering, depression, or anxiety. It is theorized that BPSD is directly related to sensory imbalance and could be improved by non-pharmacological therapy inducing sensory equilibrium.[1] One such modality of therapy is "Snoezelen," also called "multisensory therapy."

The word Snoezelen is derived from two Dutch words: "snuffelen" (to explore) and "doezelen" (to relax). Thus, Snoezelen essentially indicates a controlled multisensory therapy designed for people having autism or other developmental disorders, dementia, and brain injury. The concept was first introduced in the Netherlands in the 1970s as an intervention for learning disabilities, under the registered trademark of Rompa. The rationale of the therapy lies behind the fact that multisensory environment will provide controlled sensory inputs (visual, auditory, tactile, or olfactory stimulation), that in turn will balance the overexpressed (anxiety, agitation, or aggressiveness) or underexpressed (apathy or depression) behaviors.[2]

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Methodology for Snoezelen Therapy

Snoezelen is based on the idea that the world around us is an intricate amalgamation of light, sound, odors, tastes, and tactile sensations which we experience through our sensory organs.[3] The core idea of Snoezelen is that the simulator environment will provide the essence of the actual environment and the patients have to manage the symptoms. A typical Snoezelen environment may be compartmentalized and split into specially designed rooms, each providing a particular stimulus of various modalities [Figure 1].

One such example is the Whittington Hall project, one of the earliest Snoezelen rooms. This project used six different rooms – a Jacuzzi room, an adventure room, a sound and light room, a sitting room, a touch corridor, and a white room. The Jacuzzi room has a large Jacuzzi pool which is supposed to provide sensory stimulation through the soothing effects of water. The adventure room is a colorful room that consists of a range of shapes and spaces including a ball pool. The sound

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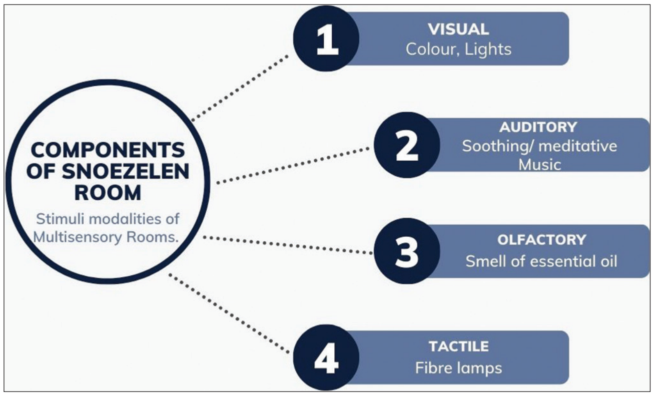

Figure 1: Components of Snoezelen room

and light room encompasses visual displays, sound effects as well as a vibrating floor designed for tactile stimulation. The touch corridor is a passage containing a combination of tactile experiences to feel various shapes and textures. The white room is nothing but a large room with soft music and lights to create a relaxing environment.[4]

An alternative setup could comprise a single room with various equipment for each modality such as projectors, fiber optic-mediated light sources, vibroacoustic furniture, water tubes with constantly moving bubbles, and relaxing music playing throughout.[2]

In this non-directive therapy approach, the client needs to spend around 20–60 min of one-to-one sessions with the trained therapists. Written guidelines for standardizing this procedure are also available.[5,6]

Literature on Snoezelen Therapy Effects

Studies have emphasized the efficacy of Snoezelen on the well-being of people with dementia. For instance, in a study by Baker and Dowling (2001)[5] 50 elderly people having dementia were checked for "mood," "behavior," and "cognition" either in multisensory stimulation (MSS or Snoezelen) group or standardized activity session group. They were exposed to the Snoezelen room for a 30-min one-to-one session, for 8 weeks. They were scored on a 12-item Likert-type rating scale named "interact short"[7] for assessing mood at baseline level and behavior during the first 10 min and immediately after the sessions. The observation of behavior is done using the scale "rehab"[8] in the hospital setting and the Behavior and Mood Disturbance Scale[9] is used for rating behavior and mood in the home setting. Mini–Mental State Examination (MMSE)[10] and Cognitive Assessment Scale[11] were employed to measure cognition. The test results revealed increased activity in different areas of cognitive functions such as the spontaneity of speech, relating to other people, attentiveness to the environment, initiation to do more on their own, actively enjoying by themselves, and less boredom in both groups. Further statistical results indicated a greater increase in attentiveness in the MSS group than activity group.[5]

Holtkamp *et al*. (1997) tried to compare 16 individuals having advanced stages of dementia over two types of interventions: Snoezelen condition and regular activity in a living room. The participants were measured over the domains of "restlessness," "apathy," "repetitive behavior," and "awareness disorder." The participant's scores in the above mentioned areas were significantly lesser in the Snoezelen group, indicating the fact that there is an effect of Snoezelen on the well-being of people with dementia.[12]

Hope did a study on 29 people. Participants were distributed into four groups, receiving between one and four Snoezelen sessions, for 20–30 min or more, respectively. On an average, some improvements in mood and visual and motor activity were reported.[13]

Furthermore, in another study, Sánchez *et al*. (2013) considered 22 patients having dementia and randomly assigned them to two groups: MSS environment (MSSE) and individualized music sessions group. The domains of "agitation," "anxiety," "mood," "cognitive functions," and "overall dementia severity" were measured at four consecutive time points: Baseline (pretrial), middle of intervention, posttrial, and follow-up (after 8 weeks). The results revealed that MSSE conditions had better effects on anxiety symptoms (measured by Rating Anxiety in Dementia scale)[14] and dementia severity (assessed by Bedford Alzheimer Nursing Severity Scale),[15] than individualized music sessions in elderly people with dementia.[16]

Another systematic review of sensory stimulation methods used in dementia by Pinto *et al*. (2020) showed that MSS had beneficial effects on individuals. The study analyzed 20 studies that used various methods of sensory stimulation including passive visual stimulation, unisensory stimulation of hearing, touch and smell, passive audiovisual stimulation, MSS in Snoezelen rooms, behavior therapy in MSSE, virtual reality environment, and rhythmic sensory stimulation. Out of the various methods, Snoezelen was found to be the most effective, followed by multisensory behavior therapy. A potential criticism of the study is that the frequency and duration of the Snoezelen exposure were not standardized in all the studies to strongly conclude upon the effect of Snoezelen.[17]

Moreover, Maseda *et al*. (2014) conducted a randomized controlled trial which showed that Snoezelen was as effective as conventional one-to-one therapy with a therapist. This suggests that we could explore combining the two modalities for more effective patient care.[18]

To summarize, Snoezelen therapy has been seen to improve attention, mood, visual-motor activity, and anxiety in mild, moderate, and advanced dementia, sometimes even more than conventional methods of single modality-based therapy.

Contraindications and Limitations of Snoezelen

There are no known prominent side effects in using Snoezelen for therapeutic purposes. However, some studies indicate that some elderly individuals do feel frightened when concurrently exposed to the various stimuli present in a Snoezelen environment.[19]

There are some studies which pose questions on the efficacy of Snoezelen indicating the need for further research. One such study is the randomized control trial by Klages *et al*. (2011).[20] The study had intervention group participants exposed to 30-min sessions in the Snoezelen room, weekly twice for 6 weeks. The balance of the participants was assessed through tests such as the functional reach test[21] and the Sharpened Romberg test.[22] They found that there were no significant benefits to using a Snoezelen room concerning balance.[20]

There have been other studies that also found Snoezelen to be not as effective. Goto *et al*. (2014) did a comparative study on using a Snoezelen room and a Japanese interior garden in patients with dementia to reduce anxiety. Through 15 min of exposure twice a week, they found that the Japanese interior garden was more effective in reducing anxiety. However, the authors emphasize that the short 15-min exposure in the session to the Snoezelen room could be the reason for the ineffectiveness of Snoezelen in the study.[23]

The follow-up of the study by Baker *et al*. (2001) after 1 month of the session did not show a clear difference between the two groups of MSS and activity groups in the areas of speech disturbance, self-care, and general behavior; but cognition in the Snoezelen group was better than the activity group.[5] In a review article by Sánchez *et al*., (2013) they found that intervention given in the Snoezelen room or MSS room has short-term positive improvements in the symptoms of patients with dementia shown immediately after the session, but long-term effects and generalization to other environments are unclear.[24]

Comparison with Other Non-pharmacological Therapies

Reminiscence therapy is a well-known nonpharmacological therapy that is being used to treat the symptoms of BPSD. A study by Baillon *et al*. (2004) tried to compare the two nonpharmacological therapy modalities: Snoezelen and reminiscence therapy to see their effects on agitation behavior in patients with dementia. They used MMSE[10] for cognitive impairment, the Clinical Dementia Rating Scale[25] for dementia severity, and the Cohen-Mansfield Agitation Inventory (CMAI) Short[26] for measuring the frequency of agitation behavior of the patients. They found that both therapies have positive effects on a short-term basis on mood and behavior.[27]

Music therapy is also another well-established nonpharmacological therapy for dementia.[16] In a study by Sánchez *et al*., (2013) it was seen that both MSSE rooms and music sessions have an improved effect on agitation behavior (the frequency of agitated behaviors in the participants was measured by the Spanish version of CMAI).[16]

Utility of Snoezelen in Low-and Middle-Income Countries

The Snoezelen technique is already being utilized by various agencies involved in the care of the elderly in various countries. The contribution of pharmacological interventions to the economic burden of dementia can be reduced by utilizing Snoezelen as a nonpharmacological modality, especially in resource-constrained low-and middle-income countries (LMICs) like India.[28]

In addition, Snoezelen setups can be made in the homes of dementia patients with suitable training imparted to caregivers, which will aid in reducing the workload on an already overburdened health-care system.

Discussion

By reviewing the literature, the authors opine that Snoezelen could be a helpful modality of therapy for patients with dementia. This therapy does not demand the involvement of any doctors as it can be conducted by any psychologist or nurse having proper training. Snoezelen also can be used to avoid the adverse side effects of conventional pharmacological therapy for dementia. Moreover, it can be set up in homes of dementia patients as well making it a convenient choice for the elderly.

Despite the potential advantages, Snoezelen has a few drawbacks of its own, especially in LMICs like India. For instance, it involves a resource-intensive setup and can be applied to mild and moderate dementia patients only, not to severe dementia patients. This initial resource requirement often proves to be a deterrent, as the benefits of the therapy are not known well enough by the public to be able to secure funding. The underreporting of mild and moderate dementia due to periodic checkups further results in less awareness about these medical conditions. In addition, the perception of concepts such as Snoezelen to be distinctly "Western," along with the general lack of acknowledgment of neurodegenerative diseases in India further reduces the accessibility of these interventions.

Conclusion

It is to be kept in mind that Snoezelen does not train any specific cognitive ability (although some of the learning may occur after the trial), instead, it improves equilibrium in activities of daily living.[6] People with dementia are thus encouraged to engage in Snoezelen along with other conventional modes of treatment. It might also help with the reduction of stress and anxiety for the elderly along with the potential of improving cognitive functions. In countries like India, introducing the concept of Snoezelen for dementia is quite important but needs to be modified concerning the existing acceptability pattern and in context to the relevant sociocultural milieu.

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Conflicts of interest

There are no conflicts of interest.

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