

Sensory Modulation in Dementia Care

Assessment and Activities for Sensory-Enriched Care

Tina Champagne

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Introduction

Given the significant advancements in the field of neuroscience, it is now widely recognized that the different sensory-rich experiences human beings encounter every day help to "nourish the nervous system" (Ayres 1979, 2005). Each of the sensory systems has specialized receptors that detect very specific types of sensory stimuli. The sensory input received by the receptors is sent to the brain, and helps to support the ability to feel safe and self-regulated, and to functionally engage in meaningful roles, routines, and activities. The eyes detect and track visual and spatial input, the ears pick up on sounds, the nose takes in the air we breathe and different types of chemicals known to us as scents, and the skin contains a variety of tactile receptors that help us understand the many different types of touch sensation experienced (e.g., light touch pressure, deep touch pressure, temperature, vibration, pain). The mouth is used to taste, eat, and drink, and also to breathe, speak, sing, and even play an instrument!

In addition to the five basic sensory systems (tactile, vision, auditory, olfaction [smell], and gustatory [taste]), there are a few others that people rarely know about. These sensory systems are the vestibular, proprioceptive, and interoceptive systems. The vestibular system supports the ability to overcome gravity, coordinate the body, and safely navigate the world. Muscles are also major sensory organs and the proprioceptive receptors are located in the muscles, joints, tendons, and connective tissues of the body. The proprioceptive receptors are activated when a person engages in activities against resistance, stretching, or other movement-based actions. Proprioceptive input contributes to the ability to know where the body is in

space and time from a body-based "felt" sense. The vestibular and proprioceptive systems work together with other sensory systems to support body awareness, equilibrium, and the ability to sequence the body through the different steps of activities. Interoception is the ability to be aware of one's different internal states (e.g., degrees of alertness, illness, hunger, digestion).

The processing and organization of all sensory and motor input is part of the role of the central nervous system across the lifespan. The way an individual processes and organizes sensory input contributes to the formation of one's self-perception, the perception of others, and the physical environment. Different types and intensities of sensory and motor stimuli influence whether or not a person feels safe, regulated, and able to functionally communicate and engage in activities. In fact, without enough sensory input throughout each day sensory deprivation occurs, making it difficult for human beings to remain resilient and able to gain or maintain skills, such as strength, agility, and the ability to pay attention. The sensory systems also play a protective role, by sending signals to the brain that help to alert individuals to potential safety concerns.

Using a sensory-based approach with people with dementia requires focusing intentionally and strategically on the amounts and types of sensory stimuli a person experiences, in order to help maintain skills, support participation, and ensure safety, comfort, and quality of life. Exploring each person's sensory preferences and patterns, and identifying sensory-based needs and goals, is also part of a sensory-based approach. At times, sensory strategies are also used to help distract from pain, discomfort, and difficult thoughts (paranoia, confusion, ruminations) and emotions (anger, sadness, fear). Other times, sensory strategies may be used to help people feel calm, soothed, and comforted, and to promote feelings of safety and security. Sensory strategies may be used for compensatory purposes or to promote leisure and social participation. In addition, sensory strategies can be used to help decrease the incidence of agitation, aggressive behaviors, and the use of restraints.

In summary, this book provides a general overview of the different types of dementia, and an introduction to sensory integration and processing, the sensory systems, and how the functioning of the sensory systems may change as people age. Additionally, the Sensory Modulation Program (SMP) is presented as a comprehensive, non-pharmacological framework that may be used when caring for or working with people with dementia. The SMP is the most helpful when wanting to implement the use of a sensory-based approach in a comprehensive manner. For the purposes of this publication, the SMP has been adapted specifically for use with people with dementia.