

USE OF YOGA TOOLS THAT PROMOTE SENSORY INTEGRATION FROM OCCUPATIONAL THERAPY

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Abstract: Sensory Integration is one of the factors that influence human development. Understanding how Sensory Integration works and knowing how to recognize when there is an alteration in the processing of information helps us to delve into the reason for our behavior and to know how we function. The high demands that we have experienced today as societies, mean that as professionals and adults we are responsible for developing and implementing tools that favor living harmoniously with high demands. This paper aims to describe how the implementation of specific Yoga strategies could favor the Occupational Performance of people with sensory processing disorders, improving their Occupational Balance. Improvements are observed in all areas of development, be it sensory, physical, emotional, cognitive, spiritual, and social. In particular, and in turn, improvements are observed at the level of organization of behavior, interaction with the environment, progress in stages of development and learning. Yoga considers the human being in a holistic way, being an integrative discipline that offers concrete tools that, when used for therapeutic purposes, prove to have benefits for human development. The discipline of Yoga, as well as Occupational Therapy, share a common objective: self-realization, also including the spiritual context that guides people's lives regarding what inspires and motivates us, promoting states of Health.

Keywords: Human development, Sensory Integration, Learning, Yoga, Health, Occupational Performance.

This work is oriented to publicize key concepts from Occupational Therapy, Sensory Integration Theory and Yoga Philosophy and their contribution when applied in therapeutic interventions for Human Development.

To understand Occupational Therapy, it

is important to know about the occupational sciences, which perform an analysis of human behavior, in order to develop a systematic basis that describes and understands participation in occupations, emphasizing the critical role played by occupations by affecting the health and well-being of people.

Among others, the role of Occupational Therapists is to promote occupation through the implementation of habits, routines and roles, improving not only the situation or specific health condition of people, but also contributing to the promotion of Health through the implementation of healthy lifestyles.

To understand the Sensory Integration Theory, Dr. Ayres, Sensory Integration (SI) refers: "*A neurological process that organizes the sensation of one's own body and of the environment and makes it possible to use the body effectively in the environment.* Ayres, (1989).

All the information that our senses receive is sent to our brain, receiving, processing and responding in an adapted way (or not) through gestures, behaviors and expressions. This process is Sensory Integration.

An optimal reception, modulation and integration of sensory information is necessary for us to develop.

In relation to the Human Development process, from 6 months of gestation to the first years of life, the organization of the Central Nervous System is presented; corresponding to progressive maturational processes, such as dendritic arborization, and the increase in synapses, and to regressive maturational processes such as apoptosis (Poch-Olivé, 2001; Avaria, 2014).

It is worth mentioning that the magnitude with which these phenomena occur depends on the stimulation that the person has received before 7 years of age, becoming a key factor in the maturation of their central nervous system.

The more varied and adequate stimulation, the better neural connections the child will present (Ostrosky, s.f.).

Brain development begins in childhood and is a determining factor in health, learning, and behavior throughout life (Mustard, 2000); in the long term, developmental disorders are related to low performance and school dropout (Manterola & Avendaño, 1989), psychiatric, emotional and behavioral disorders, as well as deficits in social skills (Schonhaut, Rojas & Kaempffer, 2005).

The maturation of the central nervous system consists of the changes that its structure and functions undergo as the human being grows and develops (Ostrosky, s.f.). Follow a hierarchical order; It first occurs in sensory-motor areas and then in the areas responsible for integrating different stimuli. It consists of various progressive and regressive changes, where the higher centers regulate the lower ones. Many areas of the brain act simultaneously at all levels, in order to produce more sophisticated behaviors.

To introduce ourselves to Yoga, we will begin by referring to the fact that the word Yoga derives from the Sanskrit word 'Yug' which literally means 'join' or 'join'. According to the ancient Hindu scriptures of India, Yoga was an integral system of life. This is how the discipline of Yoga, as well as Occupational Therapy share a common objective: the Self-Realization of people, considering both the spiritual context; which, based on the Occupational Therapy Framework, is defined as "the fundamental orientation of a person's life, which inspires and motivates the individual, morality". AOTA (2002), for which it is possible to refer that both disciplines consider the human being holistically.

Regarding Yoga tools, most people practice them as a self-regulatory tool, which generates changes at the brain and body level, at the level of posture, consciousness and body schema

contributing to self-perception.

Yoga in turn provides structure and commitment to the well-being that people need as a basis to be able to develop skills and progress in stages of development, which, when incorporated as a habit, directly promotes the improvement of people's Occupational Performance, being an adaptable and generalizable.

How the implementation of specific Yoga strategies could favor the Occupational Performance of people with sensory processing disorders?

Every sensory experience has the potential to shape a person's brain, where sensory experiences help to understand the challenge to be faced. People, based on their interests, have an intrinsic motivation to overcome increasingly complex challenges, and the continuous challenge increases development.

"To understand the functioning of Sensory Integration and knowing how to recognize when there is or approximate an alteration in information processing, helps us to better look at the behavior of the person, know how we work and that we can count on specific yoga strategies to improve these states". Amber Ramsey Ms, otr/l, Cyt. (2017).

The Sensory Integration Theory works with three main Sensory Systems when carrying out treatments that favor sensory processing, which are: Vestibular, Proprioceptive and Tactile Systems, which in turn begin to function very early in life, even before of birth.

The interaction between systems is complex and necessary to accurately interpret a situation and make the appropriate response. Sensory integration is called this organization that our nervous system has of the senses to be able to use them effectively and efficiently.

Some contributions of each System to the development and specific tools of Yoga that could favor Sensory Integration are described below.

VESTIBULAR SENSE

The vestibular system is a fundamental support to occupational performance. It is the sense of movement and balance. In the inner ear is the vestibule, which is a sensory organ that detects the movements of the head and its position when the body moves, allowing us to know where our body is in space and if we are moving or the environment, indicating us the direction of movement of the body and its speed. It is the sense of movement of our body, providing spatial orientation, maintenance of a stable visual field, bilateral motor coordination, anticipation of how to move in space in changing situations, facilitating orientation, physical and emotional security through the connection with the force.

In turn, it favors the regulation of alert levels of the nervous system, muscle tone, postural, motor control and attention, since it presents a direct connection of Integration in the Reticular Formation at the level of the Brain Stem, which are areas located in the brain. At the same time, it contributes to the reflexes and responses that make it possible to control the force of gravity, such as the head in an upright position, extension against gravity, and postural maintenance control against gravity.

In the following image, a sequence of two postures of the Yoga asana system called: "Cat - Cow" is shown, which when executed together it is possible to receive benefits that feed the Vestibular sense, argued in the movements that it has of head, picked up by receptors in the middle ear. It must be noted that each Yoga tool or posture to be used in a treatment and obtain its benefits must be previously chosen and analyzed by the treating professional based on clinical reasoning and evaluation made to the client, so that, this way the challenge of the proposed activity be chosen considering the person's capabilities, limitations and thus achieve

the challenge that facilitates their personal development. In turn, this tool when used for therapeutic purposes must be guided by the professional, referring to doing it gradually in relation to the speed of movement and accompanied by breathing when inhaling and exhaling air in order to promote an adaptive response, which is defined as: Satisfactory response to environmental challenges. Ayres, A.J. (1979/2005).



PROPRIOCEPTIVE SYSTEM

The Proprioceptive System processes information related to the contraction and stretching of the muscles, movement of the joints since its receptors are at the muscular-articular level. This sense indicates whether or not your body is moving, how much effort it requires, where the various parts of the body are located in relation to each other, ie Position. This information is associated with muscle tone and tendon stretching that gives rise to sensations and unconscious knowledge

about the position of the body and each of its members in space.

When the person receives proprioceptive sensory stimuli, the development of dexterity and motor coordination is facilitated, facilitating the fluidity and precision of the movements, modulating and controlling them when they act in medium ranges. It also contributes to reflexes that mediate the alignment of the trunk, head, and other parts of the body.

Next, the following image is presented, of the posture of the Yoga asana system called: “The Chair” which, when executed, it is possible to receive benefits that feed the Proprioceptive sense, argued in the stretching of tendons and muscular contraction exerted through level of compromised joints when performing the posture captured by the receptors at the muscle-articular level. This Yoga tool or posture must be executed gradually and maintained at different times depending on the age and health condition of the person who performs it and accompanied by breathing when inhaling and exhaling air in order to generate an adaptive response, which as referred to above is the main objective in a Sensory Integration treatment.



TOUCH SYSTEM

The receptor organ is the skin, through touch we feel textures, temperature, pressure -Vibration. It is also related to the way in which we relate / link with others. It contributes to the formation of attachment bonds, emotional development, body schema and skills to move the whole body. Also in oral, motor and manual skills. It also allows the detection and protection of potentially risky stimuli.

Yoga impacts our brain through sensory inputs and their processing, impacting our body in different ways, such as digestion, strength, body awareness, muscle elasticity, flexibility of body and mind.

It must be noted that, within the central principles in the Sensory Integration intervention based on A. Jean Ayres, PhD, OT, the sensory experience added to the adaptive response in a playful context is necessary, fed by a Watchful Therapist, who must be attentive moment by moment if the challenge of the experience is “just right”, in an environment that supports the provision of sensory experiences. “The more internal motivation drives commitment to what you’re doing, the greater the potential for enhancing the neurological organization of incoming sensory experience.” Candler, C. (2003).

To implement specific Yoga tools in therapeutic treatments of people who present an alteration in sensory processing favors Modulation in the person defined as: “Ability to regulate and organize the degree, intensity, and nature of responses to sensory input in a graduated and adaptive manner. This enables the individual to achieve and maintain an optimal range of performance and to adapt to the challenges of daily life.”. Miller & Lane, (2000). Facilitating this way the processes of self-regulation and Mental Health.

In conclusion, to achieve Occupational Balance, it is necessary to integrate habits into the routines of daily life that nourish

the different areas of our being, whether at a sensory, motor, emotional, cognitive, social, bonding, relational, social, spiritual level. By incorporating Yoga tools how to care for themselves, people could see improvements in their Occupational Performance, specifically in the different areas in which they operate, such as: Playgrounds in the case of children, referring that in general they apply from the age of 3, since they could better follow the instructions and productivity in the case of adults, among others.

By applying Yoga tools in a Sensory Integration approach from Occupational Therapy with people who present sensory processing disorders, the development of maturational stages, body and postural alignment is facilitated, favoring processes of self-regulation, attention, concentration and superior cognitive abilities, increase at the level of consciousness and body schema, self-concept, behavior organization, interaction with the environment and social relationships, which will affect the progress of states of development, learning, health and well-being.

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