MULTI-SENSORY ROOM IN NURSING CARE OF A CHILD WITH CEREBRAL PALSY – REVIEW

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Abstract
The contribution presents the literature review that deals with the application of multi-sensory room in the nursing care of a child diagnosed with cerebral palsy. At present it is a modern trend that helps the child progress in the areas of motor, mental and cognitive functions. Our aim was to find out the potency of multi-sensory rehabilitation on the health condition of a child diagnosed with cerebral palsy during five meetings of exercises with an eleven-year old boy. Rehabilitation in the multi-sensory room has positive effect on the gross motor and fine motor development, then on verbal and non-verbal communication, and also on interpersonal relationships.

Keywords: Multi-Sensory Room. Snoezelen. Nursing care. Child with Cerebral Palsy. Case study.

1 Introduction

Our objective was to find out how the multisensory room therapy affects the health of a child with cerebral palsy (further CP) during five meetings and how multisensory room affects nursing care of a child. In the multisensory room we applied a game therapy, bibliotherapy and music therapy, which were focused on fine and gross motor skills, verbal and non-verbal communication. Compared to foreign research studies, we came to the similar conclusion that therapies performed in a Snoezelen room positively affect the child´s mental, physical and social condition.

The basic expression of CP is movement disorder, muscle tension disorder, and finally muscle hypertonus or hypotonus. Clinically, we distinguish three basic forms of cerebral palsy: Spastic, pyramidal, extrapyramidal and a mixed one [1]. A child diagnosed with CP generally requires special nursing care. Therapeutic procedures and processes aim to relieve the symptoms of the disease. Interdisciplinary co-operation is inevitable. The treatment includes the following: Pharmacotherapy, rehabilitation, orthopedic treatment, surgical treatment, and complementary and alternative treatments [1]. A full motor deficit can be visible after 3-4 years of life. Intellectual, behavioral, and sensory deficiency disorders may accompany CP, although they are not included in diagnostic criteria [2]. Some peculiarities of this disease result from the immaturity of a child´s brain [3].

To set up a nursing plan and treatment programme, it is important to know what exercises a child is able to perform. The nurse´s assessment of a child should thus include the observation of activity and his or her development according to the age norm. Nursing roles in rehabilitation care are as follows:

- Helping the patient in obtaining and maintaining good health.
- Prevention of complications that arise from the disease.
- Assisting in maximizing recovery of damaged features.
- Helping patients with adaptation to new life situations.
- Helping patients to be able integrate into society.

Nursing care processes in rehabilitation help the patient and his or her family to get over the problems associated with disability. They help them to gain and maintain control over all the aspects of their lives. The aim of the process is not only to develop the skills necessary for independent life, but also to find possibilities to be implemented within society [4]. Nurses should support the recommendations of physiotherapists aimed at day-to-day exercises and the range of movements, stretching exercises, and at a child´s regular positioning [5].

The founders of Snoezelen (pronounced `snuzelen´) are Ad Verheul and Jan Hulsegge [6]. The word is created by combining Dutch words: `snuffelen´ → sniff, explore and `doezelen´ → slumber, relax [7, p. 13]. The main aim of Snoezelen is to improve the quality of life and personal development of people with disabilities. In a child diagnosed with CP the attention is devoted to a multisensory room, mainly on the client´s motor function, and the attention needs to be paid also to emotions. A nurse tries to correct or eliminate motor problems with the help of intentional and meaningful use of motor functions. Every successful movement helps patients to fix the connection between emotion, purpose and between the sequence of motor functions is fixed [7].

The problem we deal with in the contribution can be expressed by the two questions:

- *How does multisensory room therapy improve the health of a child with cerebral palsy?*
- *What is the potency of a multi-sensory room to improve fine motor skills, verbal and nonverbal communication of a child with cerebral palsy?*

The following table 1 summarises the literature review and interesting results in the field of the surveyed problem.

Table 1 *Multi-Sensory Room in Nursing Care of a Child with Cerebral Palsy: Literature Review*

Authors	Year	Number of patients	Population	Aim	Results
Hotz et al. [8]	2006	20	Guided multi-sensory stimulation treatment of children with severe brain disorder.	Effectiveness of Snoezelen on physiological, cognitive and behavioural changes in children with severe brain disorder.	Lowered heart rate, decreased muscle tone. The agitation level decreased over time and the overall results of cognitive tests showed a significant improvement when comparing the beginning of treatment with the end of treatment.
Priyadharsini et al. [9]	2014	-	Children with cerebral palsy from 3-11 years.	Potency of applying Snouzelen in children with cerebral palsy.	Improvement in the domain of gross and fine motor skills. Maladaptation was significantly decreased.
Medina et al. [10]	2007	206	Children with cerebral palsy and children at risk of developing neurological disorder.	Compare the neurodevelopmental effects of MERS as the part of EIP in children with quadruple spastic cerebral palsy and in children at risk of developing neurological damage.	There were not found any differences.
Atari [11]	2014	-	Children with cerebral palsy and developmental disorder.	The potency of multi-sensor room in children with cerebral palsy.	"Motivation" – the interest of children with cerebral palsy has been proved.

2 Monitored Multi-Sensory Therapy

This research took place in 2006 in the state of Miami, America and was conducted by G. A. Hotz et al. [8]. Their research goal was to determine the efficacy of using Snoezelen for physiological, cognitive and behavioural changes in children with severe brain disorders. Twenty patients were included in the study, with a severe brain disorder after injury. After the treatments, they found out that their stay in Snoezelen reduced the heart rate and muscle tone of children. The agitation level has decreased over time and the overall results of cognitive tests have shown that therapy in a multi-sensory room has positive effects for children after head injury.

3 Snoezelen Environment and Cerebral Palsy

In 2014 T. Priyadharsini et al [9] investigated, in the state of Mexico, the effectiveness of using Snoezelen in children with cerebral palsy. After the thorough comparison of their resources they obtained the following results: Snoezelen provided as a supplementary enrichment of the environment can arouse interest in children to exercise and improve their fine and gross motor skills. They also found out that therapies performed in the Snoezelen room significantly reduced maladaptation and improved adaptation in children with delayed development.

4 Children with CP and Children at Risk of Developing a Neurological Disorder

In 2007 G. Medina and F. Ostrosky-Solí [10] started research where they compared the neurodevelopmental effects of MERS in 108 children with cerebral palsy with quadriplegia and in 98 children at risk of developing a neurological disorder. The result was unexpected, as they indicated no differences in neurodevelopment between the children with quadriplegic cerebral palsy and the risk group who participated in the regular EIP and those who participated in the MERS as the part of their EIP.

5 Developmental Disorder and Cerebral Palsy

The efficiency of Snoezelen room on children with CP was also studied by R. Atari in 2014 [11]. She found out that children with cerebral palsy who went to a multi-sensory room were more motivated, more interested in therapies that were focused on the treatment of their diagnosis. Children who did not participate in Snoezelen exercises were more passive and were not interested in exercising.

6 Conclusion

CP is a non-progressive but not constant handicap of the brain which is developing. Prevention of cerebral palsy is practically impossible, therefore early identification and regular rehabilitation is important. Multisensory therapy performed in Snoezelen room belongs to the one of the latest therapies and is available in our country.

The aim of our work was to find the potency of the therapy in a multisensory room on the health condition of a child diagnosed with cerebral palsy during five meetings. We also wanted to find out how multisensory room affects nursing care.

We have concluded that multisensory therapy has a positive impact on fine motor skills, verbal and non-verbal communication, and it also improves interpersonal relationships. According to M. Gordon [12], the nurse observes the health of a child with CP and monitors physiological functions, focusing on the areas that range from health promotion, activities and exercises to self-esteem and interpersonal relationships.

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