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THERAPISTS' AND TEACHERS' VIEWS ON THE EFFECTS OF HIPPO THERAPY

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Abstract

Lifelong learning and training of persons with severe intellectual disabilities (ID) involve a suitable rehabilitation programme. They include different neurotherapeutic methods and procedures. Hippotherapy has recently been recognized as one such method of medical treatment that might be useful for this purpose. In this study, we were interested in the views of various professional workers (special education and rehabilitation teachers, work therapists, speech and language therapists and physiotherapists) on hippotherapy. These professionals were all engaged in education and training of persons with special needs, mainly persons with ID and motor impairment. Results showed the general difference between professional workers in evaluating the effects of hippotherapy (improvement of perception, sensory integration, attention, concentration, speech and language, as well as broader social communication, motor skills, relaxation, self-concept, emotional expression). Statistically significant difference was determined in teachers' evaluation of the effects of hippotherapy. We can conclude that the positive effects of hippotherapy are better recognised by the teachers who are in direct day-to-day contact with the observed students.

Key words: hippotherapy, attitude of professional workers towards hippotherapy

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Introduction

Education and training of persons with special needs (especially those with multiple disabilities) have been enriched with additional rehabilitation contents. Public institutes in Slovenia which, in addition to education, implement rehabilitation of persons with special needs, provide hippotherapy as part of the primary or complementary health care activities. Health professionals (mostly therapists) distinguish between the activities performed with a horse, on a horse etc. from the professionally guided and medically indicated hippotherapy. In Slovenia there are two institutes (Cirius Vipava and Cirius Kamnik) which provide education for motor impaired persons with special needs and include children from all over the country. Both institutes are among the first to have started implementing hippotherapy as part of medical rehabilitation and are making efforts to have the activity covered by the health insurance.

The paper presents the results of the research conducted by Cirius Vipava, where hippotherapy is part of the therapeutic programme, significantly enriching the primary therapeutic activity (Žgur, 2017: 74-91). Cirius Vipava implementing different primary school programmes for persons with special needs in accordance with the Placement of Children with Special Needs Act (2011). It implements: the adapted education programme with lower educational standards (includes students with mild ID); special education programme (includes students with moderate, severe and profound ID) (ZOUUP, 2011). Students attend daily or institutional education and therapeutic programmes.

Cognitive and other accompanying disabilities in students with special needs

Both education programmes are intended for students with special needs, having different intellectual, motor and sensory disabilities. Intellectual disabilities are defined as significant limitations in individual's intellectual functioning and their adaptive skills (Carr and O'Reilly, 2017). The latter include: communication and social skills, ability of integration, organization of work, leisure time and independent life (Definition of Intellectual Disability, AAIDD, 2015). Deficits in adaptive skills are mainly reflected in individual's overall functioning (Kodrič and Stropnik: 41-50) as insufficiency to meet the basic developmental and wider socio-cultural expectations (generally accepted social norms); in relation to individual's autonomy (ability to provide for themselves and their vital needs). With suitable educational and other supportive processes (social integration, cooperation with non-governmental organizations, etc.) people with ID gradually develop the skills of major social responsibility (Hebel and Persitz, 2014: 46-49). The processes of education and

training are also focused on the quality of social contacts, which reflects in their more mature attitude towards other persons, the community in which they live, study or work (Rutar et al., 2015; Žgur, 2018: 87-103). Due to the deficits in adaptive skills, these persons have enormous difficulties to fulfil their own and social expectations without continuous professional help and support from the wider society (Vovk Ornik, 2015). They face difficulties related to adaptive skills even after the conclusion of their formal education (in personal life, home and work environment). They encounter a series of problems in finding suitable forms of occupation (occasional employment) and with self-realization. Limitations in adaptive behaviour can be defined in terms of conceptual, social and practical content (Vovk Ornik, 2015). Conceptual skills include speech communication and vocal expression; reading and writing ability; numerical, time and money concept; regulation of one's own behaviour. Among them we list all those skills we use for every day social communication. This includes the ability to act independently, of self-advocacy, of empowerment. Social skills are vital in interpersonal communication (establishing and maintaining appropriate and respectful interpersonal relationships) and are a reflection of one's age or maturity (McEvoy, 2017: 827-830). An important role is also played by one's self-concept and their social skills (feeling of social responsibility with regard to others or the community) and the ability to understand and follow formal/ informal rules of behaviour in different social interactions. Suitable interpretation of social situations is also very important; with gradual assumption of responsibility for one's decisions (Filipčič and Jerman, 2019: 9). Practical life skills include one's ability to perform every day activities (Linehan Christine and Noonan Walsh, 2017: 660) such as feeding, dressing, moving, personal hygiene, caring for one's health and well-being, maintaining one's household, using telephone, money management, ability to travel, etc.. Major autonomy is obtained by occupational qualification (role of vocational orientation). All these contents are closely intertwined in the primary education programme, especially at higher levels of special education programme. This programme, implemented in Slovenia by educational and social institutions, enables even persons with more prominent ID to be adequately trained for life and work. Education in this programme is organised in 6 levels, the first three are compulsory, while the last three are optional (Portal MIZŠ, 2019). Education is not equally long and can last up to 26 years of. The programme gives students an opportunity for a more active, independent and less »monitored« life. The focus is on living in small residential units, in a familiar home environment, enabling them a more equal social inclusion.

Importance of educational processes in the development of autonomy

In the process of education and lifelong training of people with ID, achieving autonomy is an important factor, especially for those persons whose disabilities limit them in everyday activities. In achieving »autonomy«, an important role is played by the therapists who, using different neuro-motor techniques, stimulate individual's motor development and help them meet the developmental motor milestones. Autonomy enables them to be in control of their own life, so that they do not depend on or need other people's help. How fast will an individual become autonomous within a particular field depends on age, life experience, skills, abilities, personal characteristics, and encouragements received on their way to independence (Lesar and Smrtnik Vitulić, 2013: 5-11). Autonomy acquired during therapeutic programmes is equally important for one's life. Persons with ID become independent very slowly and on average reach a lower level of independence. Acquisition of skills which the majority of children adopt spontaneously by imitation, can represent a major problem for a person with ID. In helping to develop their autonomy and independence we can take advantage of special educational processes.

Integrative role of special education and therapeutic activities

In optimal educating and training people with multiple disabilities is important to consider the fact that the expected developmental functions are the result of harmonious functioning of central nervous system (Libertus and Hauf, 2017: 1-4). This awareness should be taken into account by teachers and therapists during the implementation of special education and therapeutic work forms. Positive effects of joint treatments are generally recognised and they work on the basis of summing the sensory information along the reflex neural pathways. Findings from neuroeducation show that the neurons when activated simultaneously are also interrelated (Tancig, 2014: 23). Interrelated, associative connections of neurons enable a major transformation of information, transmitted through the neuro-motor system. The role of the joint special educational and therapeutic treatment may be more significant, since they apply mutually supportive techniques. Such treatments may be more intensive and provide better results. Joint and complementary (in individual elements) guided special educational and therapeutic treatment effectively influence the transformation of developmental functions (Žgur, 2014: 467-478). This way of work requires a good collaboration between different experts. Hippotherapy is an example of such team work. In addition to the therapeutic components, these treatments include numerous educational contents. Adequate special educational treatment, supported by various therapeutic activities,

ensures an overall progress of persons with ID. This form of treatment involves mutually complementary developmental processes which stimulate child's motor development and spontaneous and voluntary motor function. Numerous developmental tasks in the field of cognitive reasoning get improved: ability of observation, imitation, memorising, concentration, repetition, gesticulation, as well as the speech and language skills (Žgur and Batista, 2017: 77-91). Hippotherapy represents a motivationally effective therapeutic and learning tool for the development of different social interactions.

Activities with horses and hippotherapy

The origins of therapeutic riding in Slovenia date back to 1989, when the Topolšica Spa started therapeutic riding for people with multiple sclerosis. Hippotherapy was then introduced in various educational, social and other institutions for the people with special needs. Therapeutic riding provides numerous therapeutic effects which cannot be achieved only by riding on horseback, but rather working with the horse and beside the horse (Žun, 2013: 10). There are different subgroups of therapeutic riding: hippotherapy, horse-assisted ergotherapy, (special) pedagogical riding, equestrian vaulting and sport riding for people with special needs (Predan and Demšar, 2007: 59-68). The choice of the form of therapeutic riding depends on the purpose for which one participates in therapeutic riding, professional qualifications of the therapeutic riding instructor and horse training (Bordjan, 2010: 69-79). Therapeutic riding which includes the medical treatment is called hippotherapy. It is a form of physiotherapy, working on neurophysiological basis and is performed with and on the horse (Koca Tulay and Ataseven, 2015). It is prescribed by a medical specialist, usually by a physiatrist. It is carried out by a physiotherapist with additional professional qualification (trained for neuro-developmental treatment, with horseback riding license and hippotherapy license (Zadnikar, 2015: 15). The movement is transferred from the horse's back to the rider's pelvis, dynamic stability of the trunk is established and consequently the suitable righting and equilibrium reactions (Zadnikar, 2010: 23-29). Medical use of therapeutic riding mainly exploits the physiological effects of the therapy: normalization of muscle tone, development of postural movement and coordination reactions, improvement of body symmetry, muscular strength, increase of joint mobility and improvement of cardiovascular system (Žgur, 2017: 77-91). The studies of several authors confirm the positive effects of hippotherapy on cognitive and conative aspects of development. (Lechner et al., 2007; Lee et al., 2014; Gomes Moraes et al., 2016). (It makes it possible to improve individual's motor functions, well as their

social and academic development (Corral Granados and Fernández Agís, 2011; Park et al., 2016).

We observe different psychological effects: improved motivation, concentration and focus, improved physical and spatial visualization, sense of comfort, improved self-confidence and self-esteem (Zadnikar and Kastrin, 2011: 684-691; Ajzenman et al., 2013). Some important sociological effects include improved social interaction (following the instructions, following the group, interaction with peers and environment (Corral Granados and Fernández Agís, 2011).

How do we formation our views

Dictionary of Slovenian Literary Language (2016) defines a view as a criterion for judging something. It represents an important psychological concept which involves a complex interdependence of the human psyche and its social reasoning. There is a difference in forming a belief or a view. The belief is based on individual's intellectual functioning, while in forming one's view, an important role is played by one's emotions and active component. Our views can have a significant impact on our mental readiness to react in a certain way (Pretnar, 2012). They can have an indirect impact on how we perceive things, how we experience certain situations and events, the way we think about them and react to them emotionally. Our views focus our attention, thus they influence the selectivity of perception (Ule, 2004). Forming and changing views are importantly influenced by the following factors:

group membership: mainly primary and reference groups (family, friends, all those we appreciate),

information and knowledge: educational institutions, media,

personal characteristics: experience, self-esteem, needs and desires.

Aim and goal

The aim of the research was to determine the views of the professional workers working at Cirius Vipava, on the effects of hippotherapy. Hippotherapy is a therapeutic activity which has been carried out by the institute for several years. Our aim was to determine whether there is a significant difference between different professional workers (special education and rehabilitation teachers, work therapists, speech and language therapists and physiotherapists teachers and therapists), as regards their views on the effects of hippotherapy.

Research hypothesis

The basic hypothesis was set up:

H1: There are significant differences between teachers and therapists, as regards their views on the effects of hippotherapy on child's cognitive and motor improvement.

Sample

The research involved 21 professional workers who are directly involved in hippotherapy treatment (implementing hippotherapy or preparative activities) or indirectly (through educational contents). A Likert-type questionnaire was completed by 14 therapists (7 neuro physiotherapists, 4 work therapists, 3 speech therapist) and 7 teachers (special and rehabilitation teachers). The sample included all the therapists working at Cirius Vipava and one third of teachers. The composition of the sample: 95% of women, 5% of men; 5% up to 30years of age, 29% up to 40years of age, 52% up to 50 years of age and 14% over 50 years of age; 52% with professional diploma (the majority of therapists), 38% with academic degree, 5% with specialisation and 5% with master's degree.

Procedures of collecting data

Views on hippotherapy were analysed by the Likert-type scale, with 19 questions regarding the effects of hippotherapy. Professional workers completed the Likert-type scale at the beginning of the academic year and after an intensive 3-month hippotherapy. The research included all the therapists, and those teachers whose students were involved in the research. The respondents could choose between 4 statements: I agree (4 points), I partly agree (3 points), I don't know (2 points), I disagree (1 point). The questionnaire included statements about hippotherapy which has effects on: development, sensory-perceptual cognition, sensory integration, attention, motor skills and abilities, movement, speech, communication with adults and peers, expressing feelings, self-esteem, more acceptable forms of behaviour, correction of unwanted forms of behaviour, improvement of learning, relaxation, establishing social contacts, getting familiar with the immediate environment, positive perception of oneself and others.

Methods

We used the research method of repeated measures (quantitative analysis). The results were statistically analyzed, using the SPSS software. Descriptive statistical analysis (percentage, minimum and maximum value, arithmetic mean, standard deviation) and inferential statistical analysis (paired t-test and independent-samples t-test) were made.

Results

Research hypothesis, whether there is a significant difference between professional workers, related to their views on the effects of hippotherapy on child's cognitive and motor improvement was accepted. A paired-samples t-test indicated that scores were significantly higher at the end of the therapy ($M = 3.81$, $SD = .21$) than at the beginning of the

therapy ($M = 3.56$, $SD = .45$), $t(20) = -2.43$, $p = .013$. The effect size was medium, $d = .53$.

Results confirmed the statistically significant difference between the professional workers' answers in initial and final state. All of them had positive views on the effects of hippotherapy on child's development from the beginning. Those views were further strengthened at the end of the hippotherapy, but not in both groups. We investigated the differences between teachers and therapists in initial and final state. We determined that at the end of the 3-month hippotherapy teachers strengthened their views on the positive effects of hippotherapy on child's cognitive and motor improvement. A paired-samples t-test indicated that scores were significantly higher at the end ($M = 3.89$, $SD = .20$) than at the beginning of the research ($M = 3.22$, $SD = .54$), $t(6) = -4.18$, $p = .003$. The effect size was large, $d = 1.58$.

At the beginning of the research, therapists' positive views on the effects of hippotherapy were higher than those expressed by the teachers. Their views did not change significantly at the end, that is why the t-test resulted unimportant. A paired-samples t-test indicated that scores were not significantly different: at the end of the therapy ($M = 3.76$, $SD = .20$); at the beginning of the therapy ($M = 3.72$, $SD = .31$), $t(13) = -.45$, $p = .331$. The effect size was small, $d = .12$.

The results of the t-tests thus confirmed the general differences between the professional workers, as regards the initial and the final state. They all had positive views on the effects of hippotherapy, but only teachers' positive consideration of the effects grew significantly at the end of the hippotherapy. We can conclude that teachers managed to better recognise the specific areas of progress in their students. In their view, hippotherapy has an important effect on improving students' motor and cognitive functioning, as reflected in their curricular and extracurricular work. They largely attributed students' active and motivated participation in different educational activities (immediately after the hippotherapy) to the effects of the therapy itself.

Discussion

The research determined a general difference between the two groups of professional workers. The differences in the teachers' views resulted statistically significant. Both groups of professional workers had a highly positive view on the effects of hippotherapy on a child's motor and cognitive development. At the end of the hippotherapy, the therapists' views remained more or less unchanged (however high), while the teachers further strengthened their positive views on hippotherapy. We conclude that the differences between the two groups of professional workers (working within the same educational institution) in evaluating its effectiveness are the result of different factors. We can assume that

during their studies and professional experience, teachers acquired more knowledge regarding the procedures of evaluation. They regularly use the procedures of evaluating students (descriptive, numerical), since they are part of the prescribed school curriculum. Their familiarity with the procedures and the criteria of evaluation may pose a greater subtlety to the evaluation of the effects of hippotherapy. In addition, the group of teachers was more homogeneous (all female, with Bachelor's and Master's degree, aged between 40 and 50 years). The outcome may be the result of the fact that the study involved only teachers whose students were actively involved in the research on hippotherapy. They had the possibility to observe them after each session of hippotherapy. Even though the positive effects might have been momentary, the teachers recognised them more promptly, associating them with the selected therapeutic activity. The group of therapists included all the therapists working at Cirius Vipava, regardless of whether their students participated the sessions of hippotherapy or not. Even the group's composition was less homogeneous (more younger persons up to 40 years of age and more persons over 50 year of ages). The group of therapists was composed by the professionals from different fields: physiotherapists, occupational therapists, speech therapists. Their position regarding the effects of hippotherapy might be the result of their belief that students' progress is to be associated with other therapeutic methods, used by them during their work.

The obtained results are encouraging, as they place hippotherapy as one of the important methods of work with persons with ID. It is necessary to recognise the limitations of the research, since it included only a small number of professional workers, in a short period of a 3-month intensive hippotherapy in a selected population. Further studies include new procedures in evaluating the effects of hippotherapy, with a major number of persons involved. In addition, we are planning to verify the views on hippotherapy of professional workers in all Slovene educational institutes that implement hippotherapy. We believe that the research confirms the important role of hippotherapy as one of neurological physiotherapy method in overall rehabilitation of persons with special needs, as it improves their wider cognitive and motor functions.

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