

Hippotherapy in Pain Management: Situation of Turkey

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ABSTRACT

Hippotherapy is also called ‘Horse-assisted therapy’ is a special physiotherapy method that is modified technical of riding a horse for specific therapeutic purposes which become very popular in recent years. Hippotherapy or horse-assisted therapy, pain and pain management keywords are used to scan there searches which are published until December 2016 by using Medline database. Hippotherapy is a tool which is used in therapeutic process by using horse-riding. It is believed hippotherapy improves neuromuscular coordination of riders through him pulses of walking horse which is carried to central nervous system. This situation provides patient’s transmission which contributes to cure postural control and balance and decrease spasticity. There are five situations which hippotherapy is useful to cure patients. They are namely spinal cord injuries, functional scoliosis, cerebral palsy, avoiding fall of olds, psychological in abilities. Although there are not a lot of proves, hippotherapy is advised as alternative treatment method for decreasing psychical back and neck pains. Utilization of hippotherapy is not enough for patients who have pain and other diseases in Turkey.

Keywords: Disease, Hippotherapy, Horse-assisted therapy, Pain, Treatment.

INTRODUCTION

Pain which is known ever since the mankind’s existence still continues despite today’s rapid and great advances in medical science and is one of the major complaints that push individuals to seek help from health professionals. Because millions of people around the world are applying to the health care and treatment institutions with pain based on various reasons. However, it is reported that the controls taken against to pain are inadequate and the pain in the majority of patients is not eliminated, impaired quality of life due to pain process, prolonged length of hospitalization duration and increase in the death rate. [1, 2]

In recent years, the hugely popular “Equine Assisted Therapy” also called “Hippotherapy” is a special physical therapy

modified to riding techniques for specific therapeutic purposes. [3] The word hippotherapy has been formed by the combination of the words ‘hippo’ which means ‘horse’ in Greek and the word ‘therapy’. Equestrian therapy, which means Hippotherapy, is specific area of treatment with horses. Although the first therapy with horses is known as practiced by the Romans and Greeks in around the year of 460, it was began to be applied mainly in 1940s in Europe, West Germany and a part of Switzerland. [4]

In 1950s, British therapists discovered that equitation is a treatment method that can be applied to all kinds of handicapped people. Since 1952 in Europe, Hippotherapy (therapy with horse) centers were started to be opened. Hippotherapy

centers became widespread in Europe, Canada and United States in the 1960s. At the same time, Germany, Australia and Switzerland by following developments created their own models. In 1969, with the support of the royal family in England 'Riding for the Disabled Association (RDA)', in America 'North American Riding for the Handicapped Association, Inc. (NARHA)' were established. Thus, Hippotherapy began to spread in many countries of the world. Certification programs and trainings began to be organized on Hippotherapy. Therapists signed new methods and works by following recent advances in therapy with horses. It is known that there are currently over 600 'Hippotherapy Center' across the United States and Canada. [4]

Because of the horse's movement forces the patients to adapt, it is thought that hippotherapy has function on balance and coordination neural circuits. It is believed that the hippotherapy promotes the patients' neuromuscular coordination by the transferred impulses occurring from the movement of horse which is stimuli to the central nervous system. It was proposed that hippotherapy method as a treatment, uses the iterative movement section of the horse imitating the walking of humans. [3,5]

Objective

The aim of this literature review is to present the situations where hippotherapy is used in for treatment especially in pain in the direction of literature.

MATERIALS AND METHODS

The studies in English published until December 2016 in Medline database were found with "Hippotherapy" or "therapy with horses", "pain", "treatment method" and "illness" keywords and reviewed.

"Hippotherapy as a Treatment Method"

North American Riding Association defines hippotherapy as an integrated programme which uses the movements of horses as a means in treatment of a handicapped individual to reach functional results. [6,7]

One of the important reasons of using horses in therapy is that rhythmic movements of horses are very similar to humans' movements. Hippotherapy uses horses as basic dynamics to improve physical dynamism and to strengthen articular. Back-forward, up-down and lateral rhythmic movements of horses awake nervous system of the patient and thus they provide a natural awareness. The awake of nervous system enables patient to use his/her tongue better and improves planning and movement ability automatically. This improvement ensures nervous system to function more efficient and regular. Thus, the patient excitedly responds to this controlled and naturally developed enjoyable training which is away from clinical environment. [4]

Therapy with horses could be divided into two categories as Recreational Horseback Riding Therapy (RHRT) and hippotherapy. RHRT is performed with horse trainer and trained horses and focuses on progressive protection of balance and posture of horses during slow and stable walks. On the other hand, hippotherapy is performed by rehabilitation team in company with horse trainer. [6] In the literature, it is revealed that hippotherapy provides positive treatment effects in symptoms of neurologic diseases, musculoskeletal system diseases and in the symptoms related to other diseases [3,8-13]

"Hippotherapy in Pain Management"

Hippotherapy is proposed as an alternative treatment method especially for the complex physical treatment of backaches and neck pains, not for the treatment of all kind of pains. This kind of treatment method is carried out as Orthopedic Horseback-Riding-Therapy (OHRT). The application of this method depends on rhythmic and three dimensional transmission of horse to the patient. These movements are similar to movements of human pelvis during walking and they are double-sided and symmetrical and continuous so long as horse moves. [3,14]

When the studies related to this topic are examined; Rothhaupt et al. (1997) compared the effectiveness of Orthopedic Horseback-Riding-Therapy in the rehabilitation of lumbar discectomy patients with a control group having the same pathology. This study found that the patients in treatment group indicated an efficient improvement after surgery when compared to control group. Also, the study mentioned that there is a significant decrease in the restrictions resulted from working environment after surgery in treatment group patient. [15]

Hakanson et al. (2009), conducted a research to evaluate the effectiveness of hippotherapy in 24 patients having neck pain and backache causing restrictions to their daily life. They found that hippotherapy provided a relaxing effect on their pain complaints and on other symptoms apart from pains and also it had a therapeutical effect on patients' body image. [16]

Yoo et al. (2014), conducted a research to examine the effects of horseback riding simulator on pain and body power in patients having chronic backache. The study was conducted with the participation of 47 male patients by randomizing patients into treatment and control groups. While the patients in treatment group conducted horseback riding exercise with a horse simulator for three times in a week during 8 weeks period, the patients in control group did not take any physical alternative treatments. Pain evaluation of the patients was carried out via Visual Analog Scale (VAS). After 8 weeks, the pain level of the patients in treatment group decreased more than the pain level of the patients in control group and their isokinetic body movements were improved. At the same time, it was found with measurements that muscle mass of the patients in treatment group has increased more and their fat mass has decreased more than the patients in control group. [14]

In Turkey, there is no study conducted to evaluate the effects of

hippotherapy on pain management. In other countries, the number of the studies examining the effects of hippotherapy on pain managements is pretty low, however there are studies showing the positive effects of hippotherapy on certain types on pain.

“Hippotherapy in Treatment of Neurologic and Musculoskeletal Diseases”

In hippotherapy which means the use of equitation as a tool in the therapeutic process, it is believed that through the moved impulse of walking horse as a stimulus to the rider's central nervous system, neuromuscular coordination is improved. This situation ensures the transmission of stimulus which is improving the patient's postural control and balance and contributing to reduce spasticity. [3]

In recent years, hippotherapy is started to be used as an alternative method in the treatment of neurological and musculoskeletal disorders. In studies on this subject; it was stated that hippotherapy had a healing effect on the supporting the relaxation of the patient with spastic cerebral palsy. [3, 13] Moreover, in literature, it was reported that hippotherapy was improving the postural control and the gross motor functions of patients with cerebral palsy. [6, 17-20]

Şık et al. (2012) conducted a randomized controlled study in which they aimed to reveal the effects of hippotherapy on gross motor functions, balance, coordination and walking in children with cerebral palsy. 23 children with spastic cerebral palsy were included to the study and divided into two groups as hippotherapy and control randomly. While applying the total of two week one-hour sessions conventional physical therapy program to all children in both groups, hippotherapy group also received 30-45 minutes hippotherapy training 1 time per week for 10 weeks. As a result of the study; it was found that the rates of total lying-rolling, crawling-kneeling, standing, gross motor function development scores were

significantly higher than the control group and it was seen that in the kids in this group had statistically significant increase in their walking speed and cadence functions. In the same study, it was stated that the hippotherapy could be evaluated as a useful method to provide additional motor gains in the rehabilitation and treatment of children with cerebral palsy. [6]

In the literature, studies evaluating the effectiveness of hippotherapy on individuals with spinal cord injury are also available. As a result of these studies; it was found that after hippotherapy the decrease in spastic status of individuals with spinal cord injury and increase in positive short-term improvements in their mental well-being. [21-23]

On the other hand, in conducted studies; effectiveness of hippotherapy as an alternative physical therapy in individuals with Multiple Sclerosis (MS) was examined. As a result of the studies; it was determined that hippotherapy had positive results on the balance of individuals with multiple sclerosis and increased their quality of life. [24-26] In a study conducted by Ihara et al. (2012), it was stated that as a result of hippotherapy application in pediatric patients with functional scoliosis status, between 1 and 3 years, their radiographic scoliotic curvature improved up to 17%. [27]

“Hippotherapy in Other Conditions”

In the literature, the researches where hippotherapy used in the purpose of healing therapy on prevention of falls and providing lower extremity strength and balance in older people are available. In the studies conducted in this area, it was reported that 8-12 weeks applied hippotherapy program on elderly individuals provided balance, increased the lower extremity strength and general health perception and prevented falls. [3, 28, 29]

CONCLUSION AND RECOMMENDATIONS

In conclusion, the use of hippotherapy which is specific physical treatment on pain and the other cases is

quite inadequate in Turkey. In order to reach reliable conclusions on the effectiveness of hippotherapy on treatment of spinal cord injuries, multiple sclerosis, scoliosis, cerebral palsy and pain management, more experimental and randomized studies are required.

Conflict of interests

The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this study.

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