

THERAPEUTIC RIDING AS A METHOD FOR CHILDREN WITH DISABILITIES

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Abstract: Horseback riding as a therapeutic method has been used for centuries to improve the physical and mental health of individuals with disabilities. This professional paper explores various aspects of therapeutic riding, including hippotherapy, special pedagogical riding, recreational and sports riding, and equine-assisted psychotherapy. The aim of this study is to highlight the significance of this method, its indications, contraindications, and its contribution to children with disabilities by enhancing motor functions, emotional stability, and social integration.

Keywords: therapeutic riding, hippotherapy, children with disabilities, physiotherapy, psychotherapy

1. INTRODUCTION

The first records of using horses for rehabilitation date back to ancient times when the Greeks and Romans recommended horseback riding for the recovery of the wounded [4]. However, the modern practice of therapeutic riding began to develop in the mid-20th century in countries such as England, Germany, and the Scandinavian states. Today, therapeutic riding encompasses numerous methods, including hippotherapy, special pedagogical riding, and equine-assisted psychotherapy. The international organization FRDI currently brings together 51 member countries and promotes standards for this type of therapy.

2. AIM OF THE STUDY

The aim of this study is to analyze various forms of therapeutic horseback riding and their effects on children with disabilities. The focus is on defining the primary methods, their indications and contraindications, as well as understanding the role of the horse in the process of physical and psychological rehabilitation.

3. FORMS OF THERAPEUTIC HORSEBACK RIDING

Therapeutic horseback riding, or horseback riding for individuals with disabilities, refers to a group of activities that involve both people with disabilities and horses. The goals can range from improving overall quality of life to achieving specific therapeutic objectives. The main concept of therapeutic riding encompasses hippotherapy, recreational and sports riding, special pedagogical riding and driving, as well as equine-assisted psychotherapy, each with distinct aims and specialized professionals who implement these methodologies

In recent times, the term "Equine-Assisted Therapy" has also been introduced, referring to a more specific set of activities primarily conducted by professionals in humanistic and medical fields, focusing mainly on therapeutic goals. What all these methods share is the fundamental positive impact that horses have on individuals with disabilities, as well as on people in general.

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3.1. Hippotherapy

Hippotherapy is a method that utilizes the horse's three-dimensional movements to stimulate the rider's motor skills [1] & [1]. The horse's movements are transferred to the patient's body, mimicking walking and enabling muscle strengthening and improved balance. According to research [14], regular hippotherapy sessions for children with cerebral palsy result in significant improvements in trunk stability and movement control.

Hippotherapy and therapeutic riding are often confused, but hippotherapy is a much narrower concept that primarily refers to physiotherapy using horses, focusing specifically on the physical aspect of individuals with disabilities. It is conducted by physiotherapists and physiatrists who have received specialized training in hippotherapy. A prerequisite for conducting hippotherapy is knowledge of methods such as [1], Vojta therapy, and PNF, along with expertise in horseback riding and horse care [17]. In the United States, hippotherapy can also be practiced by occupational therapists and speech therapists who use horses to achieve goals aligned with their respective fields [5]. These professionals apply hippotherapy techniques to support patients' motor, cognitive, and communication skills [10], [19].

The foundation of hippotherapy's therapeutic effect, as with all forms of therapeutic horseback riding, lies in the three-dimensional movement of the horse's back at a frequency of 90 to 110 steps per minute, which corresponds to the rhythm of human walking. When the rider maintains the correct posture, this movement transfers from the horse's back to the rider's torso and indirectly to the entire body. According to [9], the rider's back mimics the movements of walking, including lateral flexion (side bending of the torso), rotation (alternating rotation of the back to the left and right), and anterior-posterior tilt (flattening and arching of the back). These movements help the rider maintain a neutral sitting position, reduce muscle spasms, increase stability, and enable thigh adduction, which is particularly important for patients who use wheelchairs. Some patients experience the ability to sit independently for the first time while on a horse [18]. Hippotherapy thus serves as a powerful tool in improving motor skills, posture, and balance for individuals with disabilities.

Indications: Cerebral palsy, multiple sclerosis, traumatic brain injuries, rheumatoid arthritis.

The indications for hippotherapy include the following diagnoses: cerebral palsy, multiple sclerosis, consequences of cerebrovascular accidents (strokes), consequences of traumatic brain injuries, rheumatoid arthritis, spina bifida, muscular dystrophy, and amputations [12]. These conditions are commonly treated through hippotherapy due to its ability to improve motor functions, balance, and coordination.

Contraindications: Scoliosis over 30°, severe osteoporosis, uncontrolled epileptic seizures.

Contraindications for hippotherapy include spinal deformities greater than 30%, spinal instability, hip arthrosis and dislocations, severe osteoporosis, pathological bone fractures, hemophilia, open wounds (such as pressure ulcers), uncontrolled epileptic seizures, cerebrovascular disorders caused by aneurysms or angiomas, and the use of medication affecting blood coagulation [6]. These conditions pose risks that could compromise the safety and effectiveness of the therapy.

Horses Used in Hippotherapy:

Horses selected for hippotherapy must be highly trained and tolerant, with movements that allow for precise therapeutic stimulation. Unlike other forms of therapeutic riding, ponies are not used in hippotherapy because their walking rhythm is too fast, which prevents achieving the desired therapeutic effect [2]. Hippotherapy horses undergo specialized training to ensure safe and stable movement, crucial for effective treatment. The therapy is conducted individually, with a therapist walking beside the rider while a handler controls the horse. Special attention is given to the quality of the horse's movements, as they have a direct impact on the rider-patient. This is why ponies, with their quicker gait, are unsuitable for hippotherapy [10]. The combination of a skilled horse, trained professionals, and carefully controlled conditions ensures maximum therapeutic benefit for the patient.

Hippotherapy Equipment

The equipment used in hippotherapy includes surcingles with or without handles, saddle pads of varying thicknesses, and various accessories such as balls and hoops, which are used to achieve specific therapeutic goals, especially for children [11]. The surcingles (wide straps placed around the horse) can have one, two, or no handles, allowing for flexibility based on the needs of the therapy session. Additional aids such as balls, hoops, and other toys are incorporated to target specific developmental and therapeutic objectives, particularly in pediatric sessions. Hippotherapy sessions are conducted individually and may involve the therapist either sitting behind the rider (a method known as tandem riding) or walking beside them. In tandem riding, the therapist sits directly behind the rider on the horse, a technique that can only be performed by a certified hippotherapist in a highly controlled and safe environment, often with the assistance of three helpers. Alternatively, the therapist can walk alongside the rider, providing hands-on guidance and support. Control of the horse is maintained by a horse handler, typically a riding instructor, who leads the horse using long reins while walking either behind or beside the horse. The horse almost exclusively moves at a walking pace, as this rhythm ensures both stability and optimal therapeutic stimulation [5].

Goals of Hippotherapy

The primary goals of hippotherapy are therapeutic, with a strong focus on physiotherapy objectives. These include:

- Improving balance and postural control
- Enhancing muscle tone by reducing spasms or increasing tone in hypotonic muscles
- Expanding the range of motion
- Increasing muscle strength and endurance
- Maintaining overall muscle function [3]

Horses used for hippotherapy undergo specialized training to ensure safe and stable movement, which is crucial for the success of the therapy. Each session is carefully tailored to the individual needs of the patient, ensuring a supportive and effective therapeutic environment. The controlled walking rhythm of the horse not only promotes physical benefits but also provides sensory stimulation that aids in improving coordination, motor planning, and cognitive engagement, making hippotherapy a comprehensive rehabilitative approach for individuals with disabilities.

3.2. Special Pedagogical Riding and Vaulting

This method combines elements of horseback riding and gymnastics on horseback to improve coordination, concentration, and group interaction [16]. Research [7] highlights that special pedagogical riding helps children with Attention Deficit Hyperactivity Disorder (ADHD) develop skills in focus and responsibility. The English terms for this method are Remedial – Educational Vaulting and Riding, and a similar concept is known as Developmental Riding. Vaulting is a form of gymnastics performed on horseback and is an Olympic discipline where vaulters perform group routines on a horse in canter. When working with children with disabilities, this discipline is modified and adapted for children with minimal physical difficulties, psychomotor challenges, and cognitive issues [15]. This form of therapy is conducted by special education teachers, psychologists, social workers, and other professionals with additional training in special pedagogical vaulting [8].

Indications

Special pedagogical vaulting is indicated for children with:

- Down syndrome, Attention deficit disorders, Learning difficulties, Hyperactivity, Developmental delays (mild intellectual disabilities), Behavioral problems, Mild forms of autism, Mild motor impairments, Victims of child abuse

Contraindications

Contraindications for special pedagogical vaulting include:

- Atlantoaxial instability in children with Down syndrome, Children under the age of four, Aggressive behavior toward the horse or staff, Inability to control the child's behavior, Inability to organize or safely conduct the therapy session

Vaulting Horses and Equipment

The horses used in vaulting are specially trained, and the instructor controls the horse from the ground using a lunge line (approximately 8 meters long) and a whip. The equipment includes a vaulting surcingle with multiple handles, allowing riders to mount the horse while in motion, maintain different positions, or support multiple children on the horse at the same time [5].

Therapy Sessions

The sessions are usually conducted in groups, lasting up to 30 minutes, involving up to four children with one horse and one instructor. During the session, children practice various figures, such as sitting, kneeling, and standing on the horse while it moves at a walk, trot, or canter [2].

This approach encourages not only physical development but also social skills, teamwork, and confidence, making it an engaging and holistic therapeutic method for children with special needs.

Treatment Goals

The goals of special pedagogical vaulting include:

- Encouraging teamwork and developing a sense of responsibility for others, Improving concentration, Learning to offer and accept help, Promoting desirable social behaviors, Increasing self-confidence and communication with others, Developing body awareness and spatial orientation, Enhancing the sense of symmetry

The treatments are conducted in groups, where children, through games and exercises, develop a sense of security, responsibility, and teamwork.

3.3. Recreational and Competitive Horseback Riding

This method aims to integrate individuals with disabilities into sports activities. The primary goal is to develop horseback riding skills that enable participation in competitions, including the Paralympic Games. According to [13], competitive riding for children with motor impairments contributes to increased strength and flexibility, as well as social inclusion.

3.3.1. Recreational and Competitive Horseback Riding

This approach focuses on integrating people with disabilities into equestrian sports, promoting skill development that allows participation in events, including the Paralympics. Research by Sterba [18] highlights that horseback riding positively influences the development of gross motor skills in children with cerebral palsy, while [2] and colleagues emphasize its significant impact on social interaction in children with autism.

3.3.2. Recreational and Competitive Horseback Riding for Individuals with Disabilities (Therapeutic Riding in the Narrow Sense)

This form of therapeutic riding is the most common and is designed for a wide range of riders. It represents horseback riding as an activity, adapted for individuals with disabilities, achieving therapeutic benefits even though that is not its primary goal. According to [5], therapeutic riding integrates individuals with disabilities into activities commonly pursued by able-bodied people, with a focus on learning riding skills. The goal is to enable riders to participate in competitions, from national to international levels, including the Paralympic Games in dressage for riders with disabilities. In addition to dressage competitions, carriage driving competitions are popular abroad, and in recent years, show jumping events for people with disabilities have also gained attention [13].

Indications

Recreational and competitive horseback riding is suitable for individuals with various disabilities, including:

- Physical impairments such as cerebral palsy, multiple sclerosis, consequences of cerebrovascular accidents (strokes), traumatic brain injuries, spina bifida, muscular dystrophy, amputations, rheumatoid arthritis, and arthrogyrosis, Visual and hearing impairments, Down syndrome, autism, intellectual disabilities, attention deficit hyperactivity disorder (ADHD), behavioral problems, and post-traumatic stress disorder (PTSD)

Contraindications

The contraindications for recreational and competitive horseback riding include:

- Severe scoliosis (>30°), Uncontrolled epileptic seizures, Severe osteoporosis, Pathological bone fractures, Atlantoaxial instability (particularly in individuals with Down syndrome), Aggressive behavior towards the horse or staff, Inability to control behavior or safely organize sessions

This form of riding serves not only as a sport but also as a powerful tool for social inclusion, physical development, and psychological well-being.

Contraindications

Contraindications for recreational and competitive horseback riding include the same factors as those for hippotherapy and special pedagogical vaulting, with additional caution due to the fact that these programs are led by sports and recreation professionals rather than medical personnel [18]. Children under the age of four are not allowed to participate, and participation must be approved by a medical specialist.

3.3.3. Horses and Equipment

Horses used in therapeutic riding programs must be well-trained, obedient, and exhibit correct gaits. According to [9], the selection of the horse plays a crucial role in achieving both therapeutic and sporting goals. The equipment is adapted to the specific needs of each rider and includes a variety of surcingles, saddles, and reins to ensure safety and facilitate the learning of riding skills [17]. Special attention is given to using safety gear such as riding helmets and customized saddles to maximize comfort and security for the rider.

3.3.4. Organization of Treatment

Treatments are typically conducted in groups, where each rider has their own horse and the support of one or more volunteers. The sessions include exercises, games, and riding skill development. For riders with competitive ambitions, individual training sessions focus on technical skills and competition preparation [11]. The involvement of professionals such as physiotherapists, psychologists, and educators contributes to the success and holistic nature of the program.

Program Goals

Recreational and competitive horseback riding programs aim to achieve three primary objectives:

- Physiotherapeutic Effect – The horse's movements stimulate the rider's muscles, improving balance and coordination [5].
- Psychological Effect – Riding enhances self-confidence, improves concentration, and promotes emotional stability [2].
- Social Effect – Children and adults with disabilities develop social skills and a sense of belonging through interactions with therapists, instructors, and volunteers [20]. The motivation felt by riders, especially children, makes this activity both appealing and effective, as they unknowingly undergo physical therapy while enjoying play and learning. An added benefit of these programs is the reduction of social prejudice against individuals with disabilities and their integration into the community.

Indications:

Cerebral palsy, Amputations, Autism spectrum disorders, Attention and behavioral disorders

Contraindications:

Children under four years of age, Physical conditions that compromise stability on horseback

Recreational horseback riding has a positive impact on self-confidence and socialization. According to [5], the importance of using appropriate safety equipment, such as riding helmets and specialized saddles, is emphasized to enhance the rider's safety and comfort. Well-designed programs enable individuals with disabilities to develop the skills necessary for recreational and competitive horseback riding while improving their physical and psychosocial well-being.

3.4. Equine-Assisted Psychotherapy

Equine-assisted psychotherapy uses the emotional bond between humans and horses as the foundation for therapeutic work [9]. Horses are sensitive to human emotions, which allows clients to become more aware of their internal feelings and learn how to manage them. According to [12], [2], and their colleagues, forming a connection with the horse significantly boosts self-awareness and emotional regulation, especially in adolescents with low self-esteem. This form of therapy encourages the development of empathy, trust, and emotional resilience by allowing clients to interact with horses in a safe and structured environment. Through guided activities, clients gain insights into their behaviors, strengthen coping strategies, and improve interpersonal skills, making equine-assisted psychotherapy a valuable approach in treating emotional and psychological challenges.

Anger Management and Social Interaction

According to [5], this form of therapy can significantly contribute to the development of emotional stability in individuals with post-traumatic stress disorder (PTSD).

Equine-assisted psychotherapy offers a unique approach that combines physical activity and emotional interaction with horses, allowing clients to develop a deeper understanding of their emotions—an essential aspect of the therapeutic process [18]. Safety measures, such as supervision by a qualified professional team and the use of appropriate equipment, are also crucial for the success of this method. This form of psychotherapy is a relatively new therapeutic approach that directly builds upon numerous studies about the role of animals in human life. Unlike therapeutic riding, which falls under "movement therapy" and focuses on the physical movement transferred to the human body through the horse's gait, equine-assisted psychotherapy does not require the client to ever ride the horse. The core of this method lies in the emotional connection with the horse, an animal that does not judge or criticize the client. Horses genuinely express their emotions—whether positive or negative—and respond strongly to hidden feelings and motives of the client, acting almost like a mirror reflecting the client's insecurities and fears [9]. According to [20], the horse often becomes a limitless and trusting friend, making it a significant factor in therapy. Literature describes the case of a boy with behavioral issues who was rejected by his parents but overcame his trauma and grew into a functional person thanks to the responsibility and care he showed for a mare and her foal. Similarly, [2] and colleagues describe the case of a schizophrenic patient whose suicide attempt was prevented by the arrival of his horse at the scene. Equine-assisted psychotherapy is conducted by trained psychotherapists (psychiatrists, psychologists, social workers) who have specialized education in this specific field. These therapy sessions focus on horse care and learning non-verbal communication, which helps increase self-esteem and emotional stability.

Indications

Equine-assisted psychotherapy is used for individuals with:

- Depression, Anorexia, Phobias, Addiction, Delinquency, Behavioral disorders, Low self-esteem, Hyperactivity, Attention deficit disorders, Schizophrenia, Family counseling needs, Post-traumatic stress disorder (PTSD), Emotional and behavioral disorders.

Contraindications

Contraindications include the inability to control one's behavior, particularly aggression, which could compromise safety during therapy.

- Uncontrolled impulses, Severe aggression

3.4.1. The Role of the Horse

Horses possess varying temperaments, enabling clients to identify with different types of behavior depending on the therapeutic goal. Their presence can either calm or stimulate the client, offering opportunities to explore a range of emotional states [9].

3.4.2. The Therapy Process

Therapy sessions are primarily individual and can include a variety of activities such as feeding and grooming the horse, learning "horse language," and observing social interactions among horses. According to [5], these activities encourage clients to develop self-control, strengthen assertiveness, boost self-esteem, and realistically assess their own abilities.

Through these interactions, clients gain a sense of responsibility, empathy, and emotional balance, making equine-assisted psychotherapy an effective tool in the treatment of psychological and emotional disorders.

Institutions and Therapeutic Work with Horses

Institutions such as juvenile detention centers incorporate horse-related activities as part of occupational therapy, while in other settings, clients develop emotional and social skills through direct interaction with animals [11].

4. WAYS HORSEBACK RIDING AFFECTS INDIVIDUALS WITH DISABILITIES

Horseback riding impacts individuals with disabilities through physical, emotional, and social aspects, providing a wide range of benefits that improve physical health, emotional well-being, and social inclusion. According to research, therapeutic riding has comprehensive positive effects on the psychophysical health and quality of life of people with disabilities [5]. According to [18], the rhythmic movements of the horse help stimulate motor functions, while [2] emphasizes improvements in emotional regulation and social interaction in children with autism spectrum disorder. Horseback riding affects individuals with disabilities through three key dimensions: physical, emotional, and social.

4.1. Physical Effects

According to [17], the horse's three-dimensional movements stimulate the muscles of the trunk and legs, improving coordination and balance. Hippotherapy is often used for children with cerebral palsy to promote posture control and reduce spasticity. Therapeutic riding has been shown to significantly improve motor functions, balance, and coordination, as the horse's movements simulate human walking, enabling users to develop postural control skills and increase muscle flexibility [17]. Hippotherapy, a specialized form of therapeutic riding, is commonly used to reduce spasticity and strengthen muscle tone in children with cerebral palsy. Popović and colleagues [13] emphasize that regular participation in therapeutic riding can greatly contribute to correcting posture and increasing physical endurance. Research by [17] highlights that the horse's three-dimensional movements activate core and leg muscles, enhancing coordination and balance. In children with motor impairments, hippotherapy encourages better posture control and reduces spasticity. According to [18], therapeutic riding leads to significant progress in gross motor skills for children with motor disabilities, while adults experience improved stamina and overall physical fitness. Furthermore, [13] notes that therapeutic riding helps correct poor posture and strengthens muscles crucial for maintaining stability. Regular horseback exercises help users develop better body awareness and spatial orientation, contributing to improved mobility and physical health.

4.2. Emotional Effects

The horse, as an emotionally neutral being, allows children to develop trust and empathy. According to [20], horseback riding reduces anxiety and improves mood in children with autism spectrum disorder. The simple act of interacting with a horse promotes the release of “happiness hormones” — serotonin and dopamine. Research by [2] highlights that therapeutic riding can reduce stress in children with autism and improve emotional regulation. Among adult users, therapeutic riding has been associated with increased self-confidence and reduced symptoms of depression [9]. Horses serve as therapeutic partners, offering users the opportunity to develop trust, empathy, and emotional stability. According to [9], interacting with horses reduces stress and boosts self-esteem in people with disabilities. Additionally, [20] notes that horseback riding lowers anxiety levels in children with autism while stimulating the release of serotonin and dopamine. [2] points out that emotional connections with animals can help users overcome traumatic experiences and enhance their overall quality of life. Through these emotional connections, therapeutic riding fosters psychological growth, promotes positive emotional regulation, and provides a sense of comfort and security.

4.3. Social Effects

Participation in group therapeutic activities, such as special pedagogical riding, allows children with disabilities to develop a sense of belonging and improve their communication skills [11]. Additionally, social interaction with volunteers and therapists helps reduce social isolation. According to [12], regular participation in group riding activities strengthens teamwork and cooperation skills, which positively influences social behavior. Participation in competitions, as highlighted by [13], further motivates participants to achieve better results, fostering a sense of responsibility and community belonging. Therapeutic riding enables individuals with disabilities to engage in group activities, thereby enhancing their sense of belonging and improving communication skills. According to [11], participating in group therapy programs reduces social isolation and promotes the development of social skills. Interaction with therapists, volunteers, and other participants creates a supportive environment, while participation in sporting events, such as the Paralympics, further motivates users and boosts their self-confidence [12].

5. CONCLUSION

Therapeutic horseback riding is a valuable tool for the rehabilitation of children with disabilities, offering multidimensional benefits that encompass physical, emotional, and social well-being. Through carefully designed treatments, children can achieve significant improvements in physical mobility, such as enhanced balance, coordination, and postural control, contributing to their independence in daily activities. Emotional stability is achieved through the unique bond between the child and the horse, helping reduce anxiety, boost self-confidence, and foster empathy. Social integration is facilitated through group activities and interactions with therapists, volunteers, and peers, enabling children to develop a sense of belonging, social skills, and effective communication. This method has the potential to significantly improve the quality of life for participants—not only through rehabilitation but also by providing opportunities to enjoy sports and recreational activities, including participation in events like the Paralympic Games. Moreover, therapeutic riding often positively impacts the families of participants by reducing parental stress and offering professional support. Future research and investment in specialized staff, such as certified therapists and specially trained horses, are essential for the continued development of this method. Expanding access to therapeutic riding through the construction of specialized centers and subsidized programs could make this therapy more available to a wider population, including children from remote or underprivileged communities. Further studies on the long-term effects of therapeutic riding, as well as the adaptation of methods to meet the specific needs of different user groups, could enhance the effectiveness and relevance of this therapy. In this way, therapeutic riding could become a standard component of integrative rehabilitation approaches for children with disabilities, offering not only functional improvements but also a more joyful and fulfilling childhood.

6. DISCUSSION

Therapeutic riding provides multiple benefits for children with disabilities. Hippotherapy contributes to physical rehabilitation by improving posture, balance, and muscle tone. Special pedagogical riding supports the development of cognitive and social skills through teamwork and play. Equine-assisted psychotherapy offers emotional support for children who have experienced trauma. However, it is essential to carefully consider contraindications to minimize risks and ensure the safety of participants.

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