Parent Perceptions on the Benefits of Equine-Assisted Activities with Children:

Three Case Studies

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Abstract

This paper presents the findings from a qualitative case study, which included three parents of four children participating in equine assisted activities at an equine-assisted program in Alabama. Interview data were collected from the children's parents to explore benefits and possible negative outcomes the children have received from equine- assisted activities. Results showed in all three cases the children positively benefitted from the program's activities. Findings indicated equine-assisted activities impacted the participants physically, emotionally, and socially and the benefits were reported to generalize to other environments and activities in the children's lives. Occupational therapists have the opportunity to incorporate horses and other animals as aids to positively influence clients during therapy sessions.

Introduction

Equine-assisted activities (EAA) are becoming an increasingly popular mode of therapy used to address children's' physical, emotional, social, and body structure/body function concerns. They are defined by PATH International (2015), are "any specific center activity such as, therapeutic riding, mounted or ground activities, grooming and stable management, shows, parades, demonstrations, etc., in which the center's clients, participants, volunteers, and instructors and equines are involved." The interaction between horses and children through equine-assisted activities have been shown to improve physical abilities, self-worth, confidence, independence, self-esteem, and general self-efficacy (Hauge, 2014). The purpose of this study was to explore parent perceptions regarding the benefits of an equine-assisted program for their children who participated in a therapeutic riding program.

Literature Review

A number of studies have addressed the impact of both hippotherapy and therapeutic riding, which are specific equine-assisted interventions, on gross motor skills such as postural control, balance, and gross motor function in children with various disorders (autism, cerebral palsy) using a variety of outcome measures (Ajzenman, Standeven, & Shurtleff, 2013; Kastrin & Zadnikar, 2011; Sterba, Rogers, France, & Vokes, 2002). Such studies have found that therapeutic riding positively affects vestibular and movement functions, and postural stability in children. Changes in the horse's gait speed appear to facilitate righting and equilibrium responses, which can enabled the development of postural stabilization and postural control. As well, significant changes in overall adaptive behavior and participation in daily activities, such

as self-care, low-demand leisure, and social interaction, were observed post therapeutic riding treatment. These improvements were shown to carry over into daily activities, independence, and quality of life (Ajzenman, Standeven, & Shurtleff, 2013; Kastrin & Zadnikar, 2011; Sterba, Rogers, France, & Vokes, 2002).

Other non-motor outcomes have been included in studies using both horseback riding and other animal interventions. Bass, Douchowny, and Llabre (2009) evaluated the effects of therapeutic riding on social functioning in children with autism and found improved direct attention, social motivation, sensory sensitivity, and decreased inattention and distractibility after the 12-week therapeutic riding treatment. Sams, Fortney, and Willenbring (2006) investigated the difference in language use and social interactions in children with autism when comparing standard therapy intervention in the school system to animal-assisted therapy. They found that children with autism demonstrated significantly more social interactions and more frequent use of language during animal-assisted therapy. Hauge, Kvalem, Berget, Enders-Slegers, and Braastad (2014) examined the effect of a four month intervention using horses to increase perceived social support, self-esteem, and general self-efficacy among participants 12-15 years of age and found increased participants' perception of social support.

Holm, Baird, Kim, Rajora, D'Silva, Podolinsky, Mazefsky, and Mishew (2013) explored whether therapeutic riding influenced parent-nominated target behaviors (echlalia, mouthing objects, and pushing hands in nose) of children with autism spectrum disorder. All parents reported a carryover of the positive effect on targeted behaviors after the intervention, as well as increased consistent verbalization at home.

Summary. Equine-assisted activities, including therapeutic riding and hippotherapy, are becoming a popular mode of therapy for children with various disorders. Research has shown positive effects of this mode of therapy with improvement in client factors including: gross motor, vestibular, and movement functions for children with various disorders. Other factors influenced by therapeutic riding and other animal assisted therapies include: improved adapted behavior, social functioning, self-esteem, and general self-efficacy. Considering these findings from various studies, equine and animal-assisted therapy should be used as an effective therapy treatment for children with different health conditions. To date studies have addressed autism spectrum disorder and cerebral palsy, however given the positive changes seen in these populations it is likely children with other conditions could benefit as well.

Method

This research consisted of three case studies carried out using qualitative methods. The qualitative case study method was selected in order to develop an understanding of the parents' perception of their children's experiences and the program impact, including therapeutic riding activities, carried out at an equine-assisted program.

Participants. The participants in this study were three mothers whose children take part in an equine-assisted program in Leeds, Al which offers both therapeutic riding and other kinds of equine-assisted activities. Participants were recruited through email and phone requests of these parents who were purposively selected because their children have diagnosed physical, emotional or social needs. The students participate in group or private sessions incorporating equine activities, both riding and non-riding, in order to meet individual needs.

Procedures. Data were collected using qualitative interviews. The open-ended questions for the interviews were developed by the researcher to elicit information on the benefits and challenges therapeutic riding and equine-assisted activities have given the children participating in the program. A faculty advisor reviewed and revised the questions. Individual interviews were conducted with each of the three mothers at the therapeutic riding facility. Each participant gave consent to record the interview and it took place in a quiet room with only the interviewee and the interviewer present. The interviews were guided by the prepared questions but the interviewee was allowed to direct the conversation as long as the topic remained relevant to the study purpose. Once the interviews were completed, the audiotapes were transcribed verbatim. The author had no previous relationship with the participants.

Data analysis. The data were analyzed using qualitative analysis methods, specifically content analysis. The interviews were transcribed verbatim and were read and reread to examine the data throughout the three interviews. The data were then sorted into categories that were defined. The information from the three transcripts was color coded for each different category. The categories were then combined into themes, which included: behavior changes in participants, the therapeutic riding facility environment, and parent goals for the future.

Results

In keeping with the case study method, each of the three cases are presented separately. The children in case one and case two have the same mother and the information was gathered via one interview, therefore, three interviews were recorded and transcribed but four cases are reported.

Case one first child. The child in case one is a six year-old male with an unknown genetic disorder, emotional disorder, attention deficit hyperactivity disorder, obsessive-compulsive disorder, and sensory issues. At the time of the interview, Sarah (pseudonyms are used throughout) said her son J.C. had been involved with group therapeutic riding lessons at the equine-assisted facility for two years. His behavior before participating in the program involved extreme emotional lability, aggressive physical behaviors, issues with gross motor coordination, decreased muscle tone and strength, and high levels of stress and frustration. Sarah reported that "some days he wakes up extremely emotional and there is nothing I can do to change his behavior." The inability to regulate his emotions seemed to facilitate the aggressive behaviors, and the more stressed he felt, the more his gross motor coordination decreased. Sarah said, "When he gets upset he looses coordination and starts tripping and falling. When he is extremely emotional there is nothing we can do to change it."

When asked to describe this child's experiences at the equine-assisted facility his mother said, "one day he came to the therapeutic riding activity emotional and being physically aggressive, his brother had beat him to the gate. Once he began an equine-assisted activity (grooming the horse) he immediately calmed down. It usually takes hours to calm him down. Once he was finished riding, he was a different child." This improved behavior carried over into his home and school environment for three days, in which Sarah voiced he was calm and seemed at peace.

The participant described the environment of the equiine-assisted facility as peaceful and comforting. She found the staff members are knowledgeable about different

health conditions and able to do what is best for each child. The staff members at the barn strive to accommodate each child to work on specific skill sets he or she needs.

When asked if the program staff had made any special accommodations for her child, Sarah reported, " My child is very weak. His instructor turned him around backwards on the horse. She said it stimulated his spinal canal and gave him deep shoulder compression. His coordination improved some after this 30 minute lesson."

When asked if Sarah was satisfied with experiences at the equine-assisted facility she stated, "yes, extremely satisfied." In this case, Sarah reported improvement in motor coordination, independence, leg and core strength, and emotional regulation. "The longer J.C. was on the horse the more independent he seemed…I've never seen him show independence and he was trying to hold on with his legs and control his horse." J.C., per parent report, demonstrated improvements in emotional and physical factors from therapeutic riding. Sarah was asked what goals she wanted to see her child achieve from equine-assisted activities and she said, " I would like to see him show more independence, be able to control his emotional highs and lows, not get so upset when he cannot do something but take the time to slow down and figure it out, and strengthen his muscles while riding."

Case one second child. E.C. is an eight year-old male, diagnosed with Asperger's, attention deficit disorder, and anxiety disorder and brother to J.C. The information from the child in Case One and the child in Case Two were from the same mother and interview. When Sarah was interviewed E.C. had been participating in equine-assisted activities for four months. He was having extreme anxiety in school and other social activities; as his anxiety increased, speech stuttering increased, and he was

also struggling with self-abusive behavior (pulling his hair and eye lashes out). Sarah reported one such incident, “He gets anxious, speech starts stuttering, he pulls his hair out; and this was one of those days where he needed the barn.” Some difficulties with Asperger’s are poor social participation and often learning disabilities. Sarah reported, “He works very slowly and that creates more anxiety because he cannot keep up. By the end of the year he was having up to seven panic attacks during the school day, which was disrupting his classroom time and putting him even more behind. We had to cut his hair because he was pulling it out even in his sleep and there was nothing I could do to stop it.” states E.C.’s mother.

E.C started the equine-assisted program and his behaviors changed dramatically within four months. Sarah said, “We came out to the barn and even his speech therapist later that day noticed a difference. She was asking what we did to make E.C. seem less anxious and compliant with therapy. Even his teacher the next day asked why he was so calm and focused during his school tasks.”

The environment at the facility was described as comforting and Sarah states it helps the children experience a peace within themselves. She stated, “ We call the barn our “magic place.” You step out here and it is peaceful and calm. My child is relaxed, anxiety is decreased, and everyone here is so nice.” Furthermore, she added, “ The barn is a calming thing for him. He is very relaxed when we get here. He normally does not do new things or new people and I was shocked at how welcoming he was to the barn staff. E.C. talked with the staff members and he usually withdraws. He was even talking to his horse! I think it would be beneficial if we could just come to the property and walk around. Being here is the one tool that creates an immediate improvement.” Within four

months of participating in equine-assisted activities E.C. was reported to show significant differences in behavior that generalized into the school environment. Sarah affirmed this significant differences stating, " By the time he finished riding he was not stuttering and was talking more smoothly. His speech teacher noticed he was not pulling his eyelashes out and his twitches subsided. His school teacher said he was a different child and was able to focus and get his work finished." Another benefit E.C. received through equine-assisted activities, as reported by Sarah, was decreased panic attacks. As his anxiety decreased, he was able to function better in his activities of daily living, including schoolwork. Per Sarah's report, "He did not have any panic attacks the next day at school after being at the barn the day before."

When Sarah was asked what goals she would like to see from participating in the equine-assisted activities she listed, "improve communication, see E.C. start taking the initiative during tasks, show more independence, increase emotional stability, and learn coping skills for anxiety."

Case two. P.T. is a thirteen year-old male diagnosed with autism. He initially became involved in equine-assisted activities to improve gross and fine motor skills, improve attention, increase body awareness, and improve social participation skills. He continues to work on these factors, but as he is becoming a teenager, his mother feels he needs more responsibility, self-worth, and self-esteem building opportunities. His mother, Tara, reported, " He is a developing young man and needs to get life skills from barn activities that he is not in a position to get, as other kids his age might."

Tara understands that when P.T. is an adult he will have to initiate social interaction with people and create relationships in the work place. "We have always

realized that when he is an adult it's going to be a whole different story than the school environment. Their behaviors are what normal kids do and they understand when behaviors are appropriate and P.T. does not understand that. It either causes him stress and negative behaviors and then he gets in trouble and is confused. It's like every second there is something he is doing that isn't right," voiced Tara. Participating in the therapeutic riding program allows him an opportunity to improve his understanding of social interactions and gives him positive social experiences to prepare for the future. "He is able to come to a place where it is good emotionally and interpersonally. He always comes away from the barn feeling good about himself. That's a big part of what the barn gives us."

According to Tara the equine-assisted facility where the research took place stands out from other facilities because of the individuality and the opportunity for family bonding. P.T. has a younger brother and Tara is starting to see the younger brother struggle because he has to play the older brother role. The equine-assisted facility allows the younger brother to participate in some of the program activities in order to feel a connection with P.T. "Equine-assisted activities have given the brothers something to do together and help our family dynamics."

Tara believes his instructor is very knowledgeable about autism and has taken the time to understand P.T. With this knowledge, she is able to accommodate the session in order to create an environment where he can succeed. "She is good at recognizing he needs time to think through and process things. For example, to help him learn expectations she will use a white board to write down the tasks he is expected to complete before his session is over."

According to Tara's perceptions the staff members are able to redirect the session to meet P.T.'s needs for each day. " Some days he will come into the barn stressed or upset and the staff members know maybe he just needs time with the horse. They will change their plans because they know he gets peace from touch and pressure of the horse. They know and appreciate he has senses and feelings."

She believes the riding portion has helped him to understand body awareness while riding. "His instructor suggests ways he can move his body in order to put it in the correct riding position; he is directed in ways he can understand."

Along with social and emotional benefits, P.T. also improved in physical factors and actual horseback riding skills. His mother was excited to report, "He rode on his own one day! We could not believe it. His instructor and I were both tearing up because I would have never thought he could control the horse on his own." Through therapeutic riding P.T. learned the steps of horseback riding and understood that he has other skills he must perfect before moving to the next big step.

Equine assisted activities have given this family a hobby for their son. "It helps us as a family because we get to see him have something. Where other families say they have soccer or football games, we can say we have the barn. We never had that before coming to the barn."

The equine-assisted facility gives opportunities for individuals with special needs to continue improving work and life skills. Tara stated, "When he turns fourteen he can start going through volunteer training. He has expressed a desire that he wants to work here and help out, and of course he can." When asked what goals she has for him while continuing at the therapeutic riding facility she said, " I am hopeful that by the 9th grade

he can have time out of school to co-op and work at the barn. Also, learning responsibility and learning to control his gross motor and fine motor skills to tip the rake into the bucket and shake the shavings out of the rake while cleaning a stall would all be huge goals for us. Lastly, I want him to become more independent."

Case three. M.F. is a twelve year-old male diagnosed with cerebral palsy. He has spasticity in his hip adductors and hamstrings that cause him pain and make daily activities difficult. He had participated in another therapeutic riding program when he was younger but when the family moved he did not show interest in finding a new place until recently. His mother, Lori, said he struggles with confidence. She indicated he loves animals and equine-assisted activities give him a chance to be around a huge gentle animal. Lori stated, "He loves animals. He loves horses. He does enjoy the riding and he has done very well. Since we had done a horse therapy program before, I knew what to expect. But here I feel like they do a little more as far as working with the kids and the social part, and grooming, and teaching the kids about horses."

In one lesson M.F.'s muscles in his legs were too tight for him to get onto the horse and the lesson was accommodated for him in order to prevent him from being disappointed. As with the common themes of the other cases the staff members at the therapeutic riding facility individualized his session for what he needed that day. In regards to this Lori stated, "I think it's a good idea that there is a plan of action when it does not work because you never want the kids to feel disappointed. So to be able to handle that with allowing him to spend time with his horse is great. Which is what he wants to do anyway, just hangout with the horse. He loves that just as much as riding and

I think it is great that he has that option here and that they can just switch gears in a second."

Lori has noticed improvements physically and emotionally with M.F. She reported, "His confidence has greatly improved. Even though we just started, I think he does feel more confident and he is in a great mood when we leave the barn." The equine-assisted program incorporates a classroom learning activity, as well as a riding portion. During the classroom activity the students are taught different life skills and are paired into groups with the intention to elicit discussion and social participation. Lori perceives this as being a confidence builder for M.F. because he is able to answer all the questions and participate in the group discussion. She said, "I think he understands the socialization piece and he likes it because he is able to verbalize and talk about things. He can answer a lot of the questions and that makes him feel good about himself."

Lori said another benefit from the equine-assisted facility was a sibling day camp. In this camp, siblings of the participants are allowed to come ride and try to understand what equine assisted-activities involve. This allows the siblings to discover empathy for their brother or sister. Lori expressed this was a wonderful experience for their family. "We did a sibling day so both children came out. M.F. has a twin brother and I think his brother got a ton out of it. Riding with his brother was amazing. It helped because M.F.'s condition affects his brother too, it affects all of us, and I think it really helped," stated Lori. When asked what physical improvement she has noticed with her child, she reported "The last couple of times he has ridden he does seem to have less tightness. The last couple of time he has ridden his hips seem to open up more. But with his diagnosis he goes back and forth."

Lori stated her goals for her son while participating in equine-assisted activities, which included, “I really want his hips to open up and stay open. That’s where he has the most trouble, in his hips and running down his hamstrings. I feel like if he can get out here and ride it does help loosen him up and make him not so rigid. The other goal is confidence. I want M.F. to be more confident with his abilities.”

Discussion

Previous research has demonstrated that equine-assisted activities, including therapeutic horseback riding and hippotherapy, are becoming recognized as effective methods of therapy for children with various disabilities (specifically autism spectrum disorder and cerebral palsy). The literature is lacking in quantity, however positive results are replicated across studies.

These results suggest that equine-assisted activities help to improve physical, emotional, and social factors. The physical factors influenced include: diminished impact of spasticity in leg muscles, improved postural control, improved body coordination, and stronger core and leg muscles (Kastrin & Zadnikar, 2011). One of the parents interviewed noticed her child demonstrated improved body coordination after thirty minutes of therapeutic riding. Another parent reported her child’s spasticity in his hip adductor muscles seemed to be lessened after participating in the therapeutic riding session.

Children with autism spectrum disorder have shown positive changes in social behavior including: improved interpersonal skills, social engagement, social motivation, social awareness, self-initiation, and social vocational skills (Bass, Duchowny, & Llabre, 2009). Other studies have shown improvements in emotional stability, self-esteem, self-

efficacy, and confidence (Hauge, Kvalem, Bente, Enders-Slegers, & Braastad, 2014). The findings from this study are similar to these literature results, in which one parent reported the first time she saw her child demonstrate independence was during an equine-assisted activity. All three parents from this study reported they each noticed their children gaining confidence in abilities after participating in the therapeutic riding program. In acquiring confidence they also gained self-esteem and the feeling of self-worth, as reported by the parents interviewed in this study.

The parent perceptions of benefits their children have received through equine-assisted activities may be a result of a variety of factors. According to Bass, Duchowny, and Llabre (2009), it is possible that exposure to the horse, as a multisensory stimulating technique may be directly associated with the child's natural movement and thus is perceived as a rewarding stimuli. An example of the horse as a multisensory stimulation in this study is the child J.C. His mother reported he was acting physically aggressive before the equine-assisted activity, then she said after he was finished with his session (including grooming the horse and therapeutic riding) he was calm, seemed at peace, and his body coordination improved. Another example is when the child P.T. was feeling stressed his equine assisted activity would be to lay over the horse and feel the pressure and rhythmic breathing of the horse. His mother reported this would calm him down and she could see the positive change on his face.

The act of riding the horse alone may account for higher levels of motivation and social engagement. This improvement in social skills for children with autism is essential for school activities, social participation, adapting behavior skills, and vocational skills for the future. Hauge, Kvalem, Bente, Enders-Slegers, and Braastad (2014) reported

improved spontaneous verbalization for children with autism consistently in various environments (home and school). Along with social improvements, emotional stability and control is an important life skill. Anxiety and failure to succeed in school can stem from the inability to stabilize emotions. In this study, one parent reported her child had extreme anxiety, to the point where he was having up to seven panic attacks a day during school hours. He participated in equine-assisted activities and per mother, speech therapist, and teacher report indicated he was a different child at school the next day. His teacher reported his anxiety was decreased so he was able to focus and complete his work during class. Parents reported from other studies positive changes in their children's emotional health after participating in equine-assisted activities, which carried over into the home and school environment (Hauge, Kvalem, Bente-Slegers, & Braastad, 2014; Holm, Baird, Kim, Rajora, D'Silva, Podolinsky, & Minshew, 2013).

Hippoptherapy and therapeutic riding are comprehensive strategies to improve postural control and balance in children with cerebral palsy and autism spectrum disorder and consequently daily activities, independence, and quality of life. In this study, parents reported improved body coordination after 30 minutes of therapeutic riding and improved leg and core muscle strength. Riding backwards on the horse as described in one case seemed to improve the child's coordination because the rhythmic stimuli from the horse's movement relaxed him enough to plan and organize him movements.

Based on these kinds of results, equine-assisted activities have the potential to be used as an effective therapeutic mode to assist children with many client factors and improve overall quality of life and participation in activities of daily living. By improving physical, social, and emotional aspects of the participant's life, the benefits of equine

assisted activities will positively affect the child's life in a holistic manner. For example, in this study E.C.'s school performance improved after participating in equine-assisted activities because his anxiety was decreased and he was able to focus on school tasks more efficiently. Sarah affirmed the significant differences stating, " By the time he finished riding he was not stuttering and was talking more smoothly. His speech teacher noticed he was not pulling his eyelashes out and his twitches subsided. His school teacher said he was a different child and was able to focus and get his work finished." Such results are compelling because equine assisted activities positively impact the participants in multiple ways and the benefits have generalized into the home, school, and community.

This mode of therapy uses equine-assisted activities to improve human factors for the clients served. Therefore, equine-assisted activities are strongly related to the practices and theories founding occupational therapy. Hippotherapy is the use of the horse as a therapeutic modality in occupational, speech, or physical therapy to address various client factors and performance skills. Equine-assisted activities are client centered, goal oriented, and are used to engage the client. The activity of engagement with a horse drives the therapeutic process to improve specific client factors, i.e the dynamic movement of the horse strengthens the client's leg and core muscles without the client having to be in a therapy gym completing typical therapeutic exercises; or another example, the client is more motivated to reach up on the horse's back in order to groom the horse than work on a an elliptical machine in a therapy gym, but both occupations will increase shoulder range of motion and strengthen the client's arm muscles. Occupational therapists would benefit from using equine-assisted activities and/or

animal-assisted therapy in general to increase their clients' motivation, independence, self-esteem, self-efficacy, and consequently improve the clients' quality of life from the enhancement of therapy sessions through the presence of animals.

Limitations. There were no dropouts in this study. A limitation was the small sample size, which was a convenience sample. The study focused on three Caucasian males, so it is unknown if change in ethnicity or gender would influence the results. However, the sample size, though small, represented diversity in the disabilities of each participant. Another limitation is that one of the participants had not been involved in the therapeutic riding program very long.

Conclusion

In conclusion, equine-assisted activities appear to be a beneficial mode of therapy for children with emotional disturbances, physical disabilities, and mental illnesses. Such activities should be individualized and the equine should be used in different ways depending on the client's needs. Equine-assisted activities have multiple therapeutic methods; one client may benefit from therapeutic riding and other may benefit from an equine assisted activity of painting the horse as a calming therapy. Therefore, occupational therapists should become more knowledgeable about animal-assisted therapies and hippotherapy as therapeutic modes in order to increase their clients' daily functioning and quality of life.

Future research on this topic needs to address a larger, more diverse sample. Research in this area would benefit from a control and experimental group for the ability to compare the differences in the affects of equine-assisted activities for multiple children. Lastly, this study revealed broad range of benefits from equine assisted

activities, therefore, a more refined study on specific benefits would help to explore the specific details of the improvements.

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