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Hippotherapy Capstone

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CHAPTER 1

INTRODUCTION

Therapists work with many children with many different diagnoses. One of the most prevalent diagnosis is Autism Spectrum Disorder (ASD). According to recent statistics, available from the Centers for Disease Control and Prevention (CDC), 1 in 68 children are diagnosed with ASD; which is a developmental disability that can cause social and behavioral challenges (CDC, 2016). ASD can also be defined as a complex group of neurodevelopmental disorders characterized by deficits in social interaction and verbal and nonverbal communication, as well as restricted, repetitive interests (APA, 2016). Therapist also work with individuals who have other diagnoses and deficits, including but not limited to, cerebral palsy (CP), developmental delay, genetic syndromes, and intellectual disabilities (ID).

When looking at the multiple deficits that could exist in children, employment of multiple treatment strategies and interventions is important. Occupational therapy services work towards enhancing client participation in performance of activities of daily living (ADLs), instrumental activities of daily living (iADLs), education, work, leisure, play, sleep, and social participation (AOTA, 2015). Occupational therapists focus on the goals that parents have for their children (Schaaf, 2015). The input of the parent and collaboration between the therapist and the parents is very valuable making the treatment not only client-centered, but family centered.

Parents pursue both traditional and non-traditional treatment strategies in order to improve function in their children. The child is directly affected by the vast amount of needs, but the parent is also indirectly affected, as they need to provide the services and fulfill the needs

of their child. Parents of children with ASD report more parenting stress symptoms than those parents of typically developing children (Lai, 2015). Parents need a treatment strategy that will help their children meet functional milestone and develop into independent young adults.

Hippotherapy (HPOT) is a treatment strategy that utilizes purposeful manipulation of equine movement to engage multiple systems in order to achieve functional outcomes (AHA, 2016). Speech language pathologists as well as occupational and physical therapists are licensed to practice hippotherapy utilizing the horse as a treatment tool. Research has been conducted supporting the efficacy of hippotherapy as part of an integrated treatment program. HPOT is a treatment strategy that addresses many of the deficits observed in children. Equine-movement facilitates developmental milestone achievement and motor coordination including balance and coordination through core strength (Ajzenman, 2013). Additionally, HPOT targets sensory needs by providing skilled sensory input to reach optimal levels of arousal and creating neurological pathways employing both sides of the brain while completing functional tasks astride the horse (AHA, 2016).

Problem Statement

Parents have identified the benefits of HPOT and many travel from long distances in order to bring their child to treatment. Research suggests hippotherapy addresses a number of deficits seen in children; it is equally important to understand what is important to the parent. There is little evidence of the perceived benefits of hippotherapy for the parent.

There is currently a gap between evidence stating the actual benefits of hippotherapy and what the parent reports is a benefit. Parents may focus on the enjoyment their child gets from HPOT and does not realize the other functional benefits associated with treatment. In order to address this gap, researchers must first understand what is important to the parent, and what they

perceive as the benefits of HPOT. Only at this point will the researcher be able to tailor areas of inquiry to see if the perceived benefits have coinciding measurable outcomes.

Rationale

Therapists design treatment based on evidence and focus on meaningful client and parent generated goals, all of which have measurable outcomes. In order to do this effectively, the therapist must first inquire into those areas most important to the parent. Bringing together client centered therapy with evidence is both a challenging and essential path for future research in HPOT. It is expected that studies of this nature will require multiple iterations and take time. This research study is designed to address the first step on this path. The research will start with gathering information regarding perceived benefits of the parent and then phase two will consist of interviewing the parent to gather more detailed information. Therefore, the problem statement is that there is a gap between the parents' perception of hippotherapy benefits and empirical data surrounding these perceptions. Data has to be collected in a sequential nature in order to build upon the HPOT treatment. The research question is "To what degree to parents see improvements in the child's motor, process, and social interaction skills?"

CHAPTER 2

REVIEW OF THE LITERATURE

Due to limited sample sizes, empirical studies are somewhat limited, although the body of evidence is growing surrounding hippotherapy. The search for the literature has to be broad in order to touch on data from many different aspects of the populations being addressed in conjunction with the interventions. Therefore, the literature review includes animal-assisted therapies with an emphasis on equine-assisted therapies. The research that does exist highlights benefits associated with hippotherapy. This review of the literature shows the evidence surrounding animal-assisted therapy and hippotherapy and their effects on children with many different diagnoses.

Various Diagnosis of Children

Occupational therapists have a distinct role in working with children and youth. Occupational therapy practitioners work with children, youth, and their families to promote active participation in activities or occupations that are meaningful to them. Occupation refers to activities that support the health, well-being, and development of an individual (American Occupational Therapy Association, 2014). Therapist work with individuals that have a variety of diagnoses and deficits, including but not limited to, cerebral palsy (CP), developmental delay, genetic syndromes, multiple sclerosis (MS), and intellectual disabilities (ID).

Autism Spectrum Disorder

According to the research by Stewart et al, children with ASD also have sensory abnormalities, which are among the most common clinical symptoms, affecting the auditory, visual, tactile, taste, and olfactory sensory modalities. Children with ASD who have a high score on the Sensory Profile in the sensory-seeking quadrant tend to exhibit more of difficulty in

auditory processing (Stewart, 2016). Many children with ASD also have a sensory processing disorder (SPD). Studies suggest that school-aged children with ASD frequently present with subtle to significant motor delays (Pan, 2009). Many children with ASD also have other symptoms associated with different diagnosis including attention deficit hyperactivity disorder (ADHD) along with deficits in social participation (Sanz-Cervera, 2015).

Animal-Assisted Therapy

O’Haire et al conducted a systematic review of the literature on animal-assisted interventions for people with ASD. They found that there were many benefits, mostly in the areas of increased social interaction and communication as well as decreased problem behaviors, autistic severity, and stress. Despite all the positive outcomes, most studies had limitations leading to weak methodology. There is a baseline and starting off point for research in animal-assisted therapies; however more empirical data needs to be collected (O’Haire, 2012).

Equine-Assisted Activities

There are different equine-assisted activities including but not limited to adaptive riding, hippotherapy, equine-assisted psychotherapy, adaptive vaulting, and adaptive carriage driving. One note of clarification, there is a difference between therapeutic riding and hippotherapy. Therapists work on functional goals and riding instructors adapt riding for the special needs population in order to work on horseback riding skills. Although there is a difference, much of the literature is focused on therapeutic riding (TR) and other equine-assisted activities since there can be larger sample sizes and greater populations of those participating in therapeutic riding. According to Ward et al, there are benefits to TR. The clients with ASD significantly increased their social interaction, improved their sensory processing, and decreased their symptoms associated with ASD following TR (Ward, 2013).

In a study by Lanning et al, quality of life assessments were used to determine the behavioral changes of children diagnosed with ASD who participated in equine-assisted activities. Parents noted significant improvements in their child's physical, emotional and social functioning following the first 6 weeks of treatment. The children participating in the non-equine program also demonstrated improvement in behavior, but to a lesser degree (Lanning, 2014).

Hippotherapy

Hippotherapy (HPOT) is a treatment strategy that utilizes purposeful manipulation of equine movement to engage multiple systems in order to achieve functional outcomes (AHA, 2016). Hippotherapy is different than therapeutic riding in that a licensed therapist carries out HPOT and a riding instructor does therapeutic riding. Evidence suggests that HPOT improves both motor control and participation in the ASD population (Ajzenman, 2013). There is research that parents report that their child has improved motivation and attention during hippotherapy as opposed to a traditional clinical setting. The participants made gains in both the traditional and non-traditional thereapy when looking at the quantitative data, but the qualitative showed more changes in the hippotherapy (Macauley, 2004).

There is also research surrounding the efficacy of hippotherapy in various areas of performance including motor skills and movement functions. Improvement of gross motor function and postural control was noted in children with down syndrome (Champagne, 2010). Social interaction skills are another important aspect when therapists are working with children and youth. Self-esteem, eye contact, and socialization are noted to improve with HPOT intervention with children with special need (Granados, 2011).

CHAPTER 3

METHODOLOGY

In order to address the research question, the research needs to be conducted in multiple parts. The first part was done using quantitative measures. In the future, the quantitative strand of the research will inform the qualitative strand. This research was conducted under the supervision of GW faculty. A GW OTD student conducted the research. The quantitative data was collected through the use of a survey (Appendix A) developed by the researcher. This survey includes general questions about the parents perceived benefits of HPOT. The researcher chose to utilize a likert scale. This was chosen in order to quantify the data and gather initial evidence. The questions were asked on a scale of 1-5 with 5 being strongly agree, 3 being neutral, and 1 being strongly disagree. Questions included certain performance skills of the clients including balance and coordination, social skills, attention, mood, and behaviors. These surveys were administered by parents of children who already attend regular weekly hippotherapy sessions. Descriptive statistics were used to analyze the data.

Participants and Recruitment

Institutional Review Board (IRB) approval was received prior to the start of the recruitment and data collection. Study participants were recruited from the client database at Ride-On-Ranch Equine Assisted Therapies, LLC in Lovettsville, VA. Participants were recruited through the existing clientele list at Ride-On Ranch. There are approximately 25 active clients on caseload at Ride-On Ranch. The current clients range in age from as young as 3 years old to 34 years old. All parents were invited to participate in the survey. However, the direct clients of the primary researcher were not included in order to reduce bias and to avoid a conflict of interest. Clients had to be currently receiving therapeutic services at Ride-On Ranch in order to be

included. An anonymous survey was conducted in Google Forms. No identifying information was collected. Completion of the survey assumed consent to participate. The data was collected electronically and was protected with passwords on hardware. The link to the survey was sent via email to the current clients at Ride-On Ranch.

Timeline

IRB approval was obtained. The survey was open and available to clients for approximately 5 weeks during the beginning of spring hippotherapy sessions at Ride-On Ranch. A session includes a weekly treatment session for 16 consecutive weeks ending in June. The survey was available to 5 weeks with 3 reminders sent to participate via email.. All quantitative data was analyzed in order to provide a knowledge translation dissemination at the end of the research project. This will be disseminated to various social media groups targeted towards families with special needs children. The information is for potential consumers of hippotherapy and their families.

Program Outcomes

Findings from this study will lead to future research designed to target areas of HPOT research that reflect parental perceptions. Additionally, the results will be used to better understand what parent perceive as benefits and what may drive them to travel long distances to seek out hippotherapy. The latter will be measured by survey and interview. Lastly, the results of this study will be to inform an education program. This program will be distributed to local Autism groups via social media. Researchers will inform the public about HPOT. The education program will be tailored to the interests of the parents specifically based on the data collected. The long-term goal would be to inform a future study that will collect empirical data on the

effects of hippotherapy. This data will confirm or disprove the perceptions of the parents using standardized assessments.

CHAPTER 4

RESULTS

Out of the 25 current clients, 11 families responded to the survey. Of the 11 families that responded, 36.4% attend physical therapy hippotherapy, 36.4% attend occupational therapy hippotherapy, and 27.3% attend both physical and occupational therapy hippotherapy. The survey asked if the clients that receive the services were under the age of 7, 8-12 years old, 13-18 years old, and 19 years and older. While many of the clients at Ride-On Ranch are in the 13-18 year old range, none of the families that have a child in that age range responded. Of the respondents, 36.4% were 7 years or younger, 36.4% were 8-12 years old, and 27.3% were 19 years of age and older. For some of the questions, only 10 people responded instead of 11 with one family choosing to leave the question blank.

The questions were asked on a scale of 1-5 with 5 being strongly agree, 4 agree, 3 being neutral, 2 disagree, and 1 being strongly disagree. Descriptive statistics were used to analyze the data. A table of the likert scale results for each question is available for review (Appendix B). For the question regarding the overall perceived benefit of HPOT, the mean score was a 4.8 with the lowest score being a 4 for agree and a 5 for strongly agree. Two other questions also had a mean statistic of 4.8. Those questions were asking if the child enjoys coming to HPOT and is the therapist knowledgeable. A mean statistic of 4.2 was shown for the questions regarding an increase in balance and coordination and an increase in attention following HPOT. The lowest mean was 3.5 and that was the question regarding a decrease in negative behaviors.

CHAPTER 5**DISCUSSION**

It is important to note, that all scores were either neutral, agree, or strongly agree when talking about the various performance skills that parents perceived benefits in. Therefore, it can be deduced that HPOT is an effective treatment strategy to address performance skills in children who receive occupational or physical therapy services. Although further research will need to be conducted with a larger sample size. The next phase is to also include qualitative data in order to conduct a mixed method research study. Upon initial visual analysis of the data there did not seem to be any correlation between perceived benefits and whether the client received OT, PT, or both. There was also no correlation with age and perceived benefits noted.

It is also important to collaborate with the parent to ensure that the goals are well-written for treatment in order to address the goals that are important to the families and client. Collaboration between the families and the therapists is key. Since therapists can write goals and work on functional outcomes that are important to families, it is important to educate families on the various animal-assisted therapies. Particularly, it is important for families, practitioners, and riding instructors to understand the difference between therapeutic riding and hippotherapy so that the performance skills of the client can be best address with the appropriate activity or treatment intervention.

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CHAPTER 6

APPENDIXES

Appendix A

Hippotherapy Parent Survey

Are you the primary caregiver of the child attending hippotherapy sessions? _____

Please circle how many regular sessions has your child attended at Ride-On Ranch, not including camp?

First time

1 or 2 16-week sessions

3 or 4 16-week sessions

4+ 16-week sessions

Based on the item below, Please choose a number from 1 to 5 using the criteria below:

1 – strongly agree 2 – somewhat agree 3 – neutral/no opinion

4 – somewhat disagree 5 – strongly disagree

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Not Observed
1. As a whole, Hippotherapy has been a useful treatment for my child.						
2. My child enjoys coming to Hippotherapy.						
3. I have seen improvement in my child's social skills after HPOT.						
4. I have seen improvement in my child's balance and coordination after HPOT.						
5. I have seen improvement in my child's attention skills after HPOT.						
6. I have seen improvement in my child's mood and attitude.						
7. I have seen decreased negative behaviors in my child after HPOT.						

Appendix B

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
		Statistic	Statistic	Statistic	Std. Error	Statistic
Benefit	11	4.00	5.00	4.8	.12197	.40452
Enjoyment	11	4.00	5.00	4.8	.12197	.40452
Social Skills	10	3.00	5.00	3.9	.27689	.87560
Eye Contact	11	3.00	5.00	3.6	.24730	.82020
Balance	10	3.00	5.00	4.2	.20000	.63246
Attention	10	3.00	5.00	4.2	.20000	.63246
Behaviors	10	3.00	5.00	3.5	.22361	.70711
Therapist Knowledge	11	3.00	5.00	4.8	.18182	.60302
Valid N	10					