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Parent Satisfaction Across the Environment of Pediatric Physical Therapy Treatment

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PARENT SATISFACTION ACROSS THE ENVIRONMENT OF PEDIATRIC PHYSICAL
THERAPY TREATMENT

By

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Abstract

Pediatric physical therapy treats a diverse population of children with varying needs and diagnoses. Parent satisfaction surveys have found the therapist-patient relationship very important to therapy, but research has been limited in surveying the physical setting that may impact the children receiving therapy. The aim of this study was to explore the parent satisfaction of the physical therapy environment. A parent satisfaction survey was created containing eleven likert and five open-ended questions, an adapted version of the VSQ-9 study. Eleven parents of children receiving pediatric physical therapy filled out the survey. Parents highly value the relationship with the physical therapist during pediatric physical therapy. The physical amenities had the lowest satisfaction scores and a significant correlation with overall satisfaction 0.756. The environment of physical therapy is impactful to parent satisfaction with the physical amenities in clinics consistently needing improvements.

Introduction

Approximately 7% of children have an impairment that prohibits normal daily activity (Perrin, Bloom, & Gortmaker; 2007). Physical therapists aim to promote proper development while allowing children suffering from chronic illness to participate in daily activity (Brown, Effgen, & Palisano; 1998). Physical therapy is often facilitated multiple times a week, or in coordination with other types of therapy, and therefore it is important that treatment is given in the most effective manner with the time available and spent in therapy (Bailes, Reder, & Burch; 2008).

Parents hold a position of expertise on their child's needs, this knowledge expands to their child's therapy needs (Crom, et. al; 2020). Parent satisfaction has examined the therapeutic alliance, the relationship between therapists, children, and parents. Parents highly value the therapeutic alliance, especially the importance of trust in the therapist and willingness to treat with family centered care (Crom, et. al; 2020). Parents have valued the relational ability of pediatric physical therapists greater than their technical skills (Crom, et. al; 2020). A survey of pediatric physical therapy evaluated parent satisfaction as well as discerned the positive and negative aspects of therapy, finding that the most commonly praised item was professionalism (O Mir, et. al; 2019). Parent satisfaction has been studied mostly in the aspect of the therapeutic alliance knowing it is valuable and discerning what aspects are most important.

In addition to the therapist relationship the physical environment may also play a role in parent satisfaction. With this growing practice, there is little research that has been done exploring the parent satisfaction of the environment for an outpatient physical therapy clinic. The closest parent satisfaction survey obtaining environmental feedback did not have questions targeted about the environment. Instead, the largest section of comments about therapy

improvements were regarding the physical structure and amenities (O Mir, et. al; 2019). Without specific questions regarding the physical environment, both the opportunity and need for a survey is presented. A differing VSQ-9 survey had also been used to confirm positive feedback in a new physical therapy environment for adults (Kennedy, Robarts, & Woodhouse; 2010). Ensuring that the elements in the environment are conducive to children may be a way to help facilitate more effective physical therapy as it has already shown to impact parents. It is worthwhile to understand the satisfaction of the environment in conjunction with meeting a child's therapy needs. Therefore, to understand the environment children receive therapy in, both the physical setting and relational dynamic in the environment must be examined.

Environment is composed of the surrounding conditions, things, and influences in the space physical therapy is provided in. Some impairments or diagnoses that affect daily activities can also cause children to be more sensitive to the sensory environment (Reynolds & Lane; 2008). Pediatric physical therapy often addresses motor ability for children with genetic disorders, muscle conditions, and delays in development and therefore is often used to treat children with the prior impairments who can have sensory sensitivity. Research has been done on very selective parts of the physical environment of healthcare treatment. Sensory elements and visual cues have been found to be beneficial for children with Autism (Martin; 2016) as well as setting goals with in-school therapy treatment (Chiarello, et. al; 2016). However, this is not the environment that many receive pediatric outpatient physical therapy. This research can only relate to select patients, not the vast population of children in an outpatient physical therapy clinic.

If the environmental setting of pediatric physical therapy does have an impact on treatment, modifying the environment could result in more effective and improved physical

therapy outcomes for children. The purpose of this study was to explore the parent satisfaction of the physical therapy environment by surveying parents' perception and experience of treatment in their therapy clinics across the United States. It was hypothesized that parents who perceive the pediatric physical therapy environment to be conducive and tailored to children will have greater satisfaction in physical therapy treatment.

Methods

Participants were parents of children, 17 years of age or younger, who currently were receiving or had received pediatric physical therapy in an outpatient setting. Participation was voluntary by all parents. This study was exempted from the Institutional Review Board (IRB) approval based on a minimal risk in Category 2: Surveys, interviews, educational tests, public observations (*Office for Protection of Research Subjects*).

Recruitment of participants happened in two main ways. Handouts with the survey information and its purpose were given to parents after their child's treatment at the Leaps and Bounds pediatric physical therapy clinic in Columbia, South Carolina. To gain a broader selection of participants, the survey was also distributed via Social Media to spread throughout the research and physical therapy community. Instructions for completion were given before the start of each section of questions. For any further questions or concerns, participants were given my email address. The survey was online through Redcap and all data was collected online at this site. Data was collected from March 4th, 2021 through March 19th, 2021. All participant information was kept confidential.

The survey used was an adapted version of the Visit-Specific Satisfaction Instrument (VSQ-9) survey. It has been used to analyze parent satisfaction in pediatric Advanced Practice

Physical Therapy (APP) clinics (O Mir, et. al; 2019). It is composed of nine questions which are answered on a likert scale. The scale ranged from 1 (*poor satisfaction*) to 5 (*excellent satisfaction*). The questions asked about wait time, length of time with physical therapist, questions answered by physical therapist, explanation of results, advice/ information about treatment, the technical skills of the therapist, the personal manner of the physical therapist, and the overall visit. The question about contacting the clinic by phone was removed as it was not directly related to the clinic. It was adapted with the addition of open-ended questions. The modified VSQ-9 has been found valid in both a pediatric APP setting as well as a comparison between an APP and surgical clinic in an adult population. (Kennedy, Robarts, & Woodhouse; 2010). This adapted VSQ survey was found to have high reliability and was internally consistent. Both the individual questions were compared to themselves, as well as a total average satisfaction, found by averaging the satisfaction of each question (Kennedy, Robarts, & Woodhouse; 2010).

This present study adapted the survey to gain satisfaction of environmental factors by adding three items relating to the environment: The state of the physical resources and amenities available and used during treatment, factors of noise levels in the treatment space, and the factors of lighting levels in the treatment space.

Five open-ended questions, as seen in *Table 1*, inquiring about the environment, or qualifying the participants answers of the likert scale were also added.

Table 1: Open-ended Survey Questions

Please provide any further comments or explanations regarding your experience and satisfaction of the physiotherapist's treatment.
Please provide any additional comments or justification of your satisfaction of the physical resources available.
Please provide any additional comments or justification of your satisfaction in the noise and lighting of the treatment space.
Are there other factors of the environment or facility that positively impacted your child's treatment?
Are there other factors of the environment or facility that negatively impacted your child's treatment?

All closed ended questions were required, but open-ended questions were left as optional. Comments left in open-ended boxes were aligned with the corresponding question they matched for comparison.

Demographic data was collected about the parents' age, gender, race ethnicity, marital status, and employment information. Demographic information was collected about the children receiving therapy, including age, gender, and diagnosed conditions. Information was also collected regarding the city and state that the child received therapy and whether parents consider insurance coverage when choosing a clinic.

Statistical Analysis

In the demographics section, frequencies and means were calculated from the given characteristics. Multiple diagnosed conditions were put for some of the children and every diagnosis, was counted regardless of if they were on a response for one child.

Spearman correlations were used to analyze the survey questions answered on the likert scale. The parents' overall satisfaction rating was compared to each of the three environment questions. The p value was set at 0.05. $P \leq 0.05$ is considered significant.

Results

A total of 11 participants started to fill out the survey. Of the 11 started surveys, 8 were completed. Five of the completed surveys also had additional written responses. The parent participants had an average age of 42 ± 8.7 years. As seen in *Table 2*, the parents were 87.5% white and 87.5% of the parents were females. Half of the participants were employed full-time. It was reported that 87.5% of parents would only go to a clinic that accepts their insurance. All the participants heard about the study through a physician or physical therapist referral.

Table 2: Demographics of Parent Participants

Characteristic	Parent Participant
Age, mean (SD)	42 (8.73)
Female, n (%)	7 (87.5%)
White, n (%)	7 (87.5%)
Black, n (%)	
Ethnicity, n (%)	1 (12.5%)
Hispanic or Latino	
Not Hispanic or Latino	0 (0%)
Marital Status, n (%)	8 (100%)
Married	
Divorced	6 (75%)
Separated	1 (12.5%)
Education, n (%)	1 (12.5%)
Some College (Less than 4 years)	
Graduate or Professional education	3 (37.5%)
College/ University Degree	2 (25%)
Employment Status, n (%)	3 (37.5%)
Full Time Employed	
Unemployed/ not looking for work	4 (50%)
Unable to Work	1 (12.5%)
Retired	1 (12.5%)
Other	1 (12.5%)
Household Income, n (%)	1 (12.5%)
Less than \$25,000	
\$25,000- \$49,999	1 (12.5%)
\$50,000- \$99,999	1 (12.5%)
\$100,000-\$149,999	2 (25%)
\$150,000- \$199,999	2 (25%)
Insurance Coverage	2 (25%)
Would ONLY go to a clinic that accept insurance	7 (87.5%)
Does not consider insurance when choosing clinic	1 (12.5%)
Referral to Study, n (%)	
Physical or PT Recommendation	8 (100%)

The range of children who received therapy was 3 to 16 years old with the average age being 8.1 ± 5.91 years. As seen in *Table 3*, children received therapy for a multitude of conditions including Down Syndrome (12.5%), Cerebral Palsy (25%), Spina Bifida (12.5%), and

developmental delays (25%). Most participants, 62.5%, received physical therapy in South Carolina, the other 37.5% participants received physical therapy in Wisconsin.

Table 3: Demographics of Children Receiving Therapy

Characteristic	Child
Age, mean (SD)	8.13 (5.91)
Female, n (%)	3 (37.5%)
Diagnosed Conditions, n (%)	
Down Syndrome	1 (12.5%)
Cerebral Palsy	2 (25%)
Hypotonia	1 (12.5%)
Developmental Delays	2 (25%)
Nonspecific Seizures	1 (12.5%)
Spina Bifida	1 (12.5%)
Chiari Malformation	1 (12.5%)
Torticollis	1 (12.5%)
Frequency of Therapy, n (%)	
Once per week	5 (62.5%)
Twice per week	3 (37.5%)
State Receiving Therapy, n (%)	
South Carolina	5 (62.5%)
Wisconsin	3 (37.5%)

The original items on the survey, not the added environment questions, had every participant score them as a 5, *excellent* satisfaction except for overall satisfaction. When parents ranked their own overall satisfaction, the responses had an average score of 4.875 ± 0.35 . The correlation coefficient was not calculated between the original VSQ questions and the parents' reported overall satisfaction since there was no variation in the original questions.

For the new items on the survey, seen in *Table 4*, the state of the physical resources and amenities had an average score of 4.5 ± 1.07 . The noise and lighting level questions also received an average score of 4.75 ± 0.46 . As seen in *Table 5*, the state of the physical resources and amenities had a positive correlation of 0.756. This was significant, $p \leq 0.05$.

Table 4: Parent Satisfaction of Environmental Questions

Modified VSQ Questions	Mean Response, (SD)
The state of the physical resources and amenities available and used during treatment.	4.5 (1.07)
The factors of noise levels in the treatment space.	4.75 (0.46)
The factors of lighting levels in the treatment space.	4.75 (0.46)

Table 5: Correlations Between Overall Visit and Environment Questions

		The state of the physical resources and amenities available and used during treatment	The factors of noise levels in the treatment space	The factors of noise and lighting levels in the treatment space
The visit overall	Correlation Coefficient	.756*	.655	.655
	Sig. (2-tailed)	.030	.078	.078

*Correlation is significant at the 0.05 level (2-tailed)

There was one comment in the questions regarding the physical therapist. Relating to the interaction with the physical therapist a parent commented, “[Our physical therapist] is the best therapist ever. She has wonderful communication skills and breaks everything down for the parents.” Referring to the physical amenities of the clinic one comment was left reading, “more equipment”. Positive factors that impacted a child’s treatment included comments: “PT understood the root of his issues and addressed that versus just pushing him through exercises”, “Our therapist has worked to develop a compassionate, caring, yet supportive and encouraging relationship with our daughter since she started seeing her at four months old. She takes the time

to learn the interests/likes of our child and bases their activities off of some of those interests to keep her entertained at the same time working hard”, “Friendly and professional”, and “Friendly staff, flexible therapy styled”. Comments regarding negative impacts of the environment and needed improvements for therapy both noted “better parking”.

Discussion

This survey explored parent satisfaction in pediatric outpatient physical therapy clinics. Parents were asked about their satisfaction of the clinic including domains of the physical therapist they saw and physical setting of the clinic. Parents reported extremely high satisfaction with the ability and character of the physical therapists with all rankings a five, excellent. The added environment related questions produced more variation in scores. Parents were mostly satisfied with a few fair, or very good scores, instead of excellent. There was a strong positive correlation between the physical amenities and overall satisfaction. All improvements or negative comments pertained to the environment related subjects.

The first notable finding of this study is the high satisfaction of the survey questions that referred to the patients’ relationship with their physical therapist. Parents rated the time spent with the therapist, their communication with the patient, the therapist’s technical skills, and their personal manner with courtesy and sensitivity as excellent. High satisfaction with patient interaction with their physical therapist has been found to correlate with a high overall satisfaction in previous studies with adults (Beattie, et. al; 2002). Positive therapeutic alliances have been found to have a positive effect on outcomes in rehabilitation practices (Hall, et. al; 2010) as well as a close link with patient engagement in their own healthcare (Higgins, Larson, & Schnall; 2017). It is even thought in the profession of physical therapy that the patient-therapist relationship is the most important aspect to treatment success (Stenmar & Nordholm;

1994). Having high physical therapist satisfaction, would be very beneficial and likely contribute to high overall satisfaction.

In addition to the high satisfaction of the physical therapist interaction, all positive comments mentioned praise of a physical therapist. A study with a pediatric population agreed with these findings as their participants placed high importance on the physical therapist relationship during therapy (O Mir, et. al; 2019). Across patient demographics and physical therapy settings, the therapeutic reliance has been highly valued. Parents' satisfaction surveys repeatedly commented on these values further validating their importance in physical therapy satisfaction. With support for the physical therapists' communication and relationship skills in therapy, it could be beneficial to understand in what ways these traits are taught in the clinic or classroom setting and how to effectively create physical therapists with these qualities.

The second set of notable data is that pertaining to the environmental factors that were surveyed. The state of the physical resources, lighting level, and noise level all received ratings lower than excellent satisfaction. All the comments in the open-ended section were pertaining to aspects of the environment, specifically needing more parking and more equipment. Both parking and the state of the physicality were listed as needed improvements in another pediatric survey (O Mir, et. al; 2019). It has also been found that nonclinical factors, such as location and price greatly influence satisfaction (Roush & Sonstroem; 1999) and have accounted for 36% of variance in overall parent satisfaction (Barr, et. al; 2000). Parking and facilities may be influenced by location as it took rural citizens 31.4% longer to reach a medical facility than urban citizens (Probst, et. al; 2007). In addition, there are healthcare disparities in rural areas as Medicaid spends less on rural patients than equal urban counterparts (McManus, et. al; 2016). This discrepancy in financing may have a noticeable effect on satisfaction in the ways finances

help equip a clinic. Urban patients often do have had to pay steep prices for parking at a medical facility, also an opportunity to influence satisfaction (Lee, Shah, & Chino; 2020). However, this is not consistent across all literature as studies have found non-patient care concerns not as impactful to satisfaction (Beattie, et. al; 2002). When compared to the patient-therapist interaction, the physical attributes of the clinic were a weaker predictor of overall satisfaction (Hush, Cameron, & Mackey; 2011).

It is important to note that this study had generally very high satisfaction ratings, both in individual categories and overall. This does not allow a clear line to be drawn as to which factors are greatly, or not at all, affecting the effectiveness of physical therapy. One plausible reason for this is that parents were asked to participate in the survey by their physical therapists and therefore may be more prone to take the therapists request if they think highly of the therapist as to those who do not have a good relationship with their therapist. As the need for physical therapy is growing, this study supports the prioritizing of the patient-therapist relationship in the therapeutic alliance as satisfaction with the therapist has been reported as excellent in each question referring to the therapists' actions. The patient-therapist relationship has positively affected parents with children receiving therapy and has shown to be impactful in the delivery methods of physical therapy. This study also calls the need for a better understanding in what environmental and physical amenities are needed for an effective environment. The amenities have shown to be a negative factor repeated among participants and therefore deserves attention to see if parent satisfaction can be influenced by fixing such complaints. Lighting and noise levels did not elicit any additional comments, of either praise or concern, by parents. Therefore, we are unable to comment on whether these environmental elements are positively or negatively impacting physical therapy treatment. The survey supports further research done in aspects of the

amenities available such as equipment and parking. It is possible both of these factors may allow more patients to access, participate, or be motivated to receive therapy.

Strengths and Limitations

One of the greatest strengths of this survey was the addition of environmental item questions, which gains a first look at the aspects of the environment parents had concerns or impactful experiences with at therapy. Parents have rarely been asked their satisfaction of the environment that their child receives therapy. These additional questions not only prompt parents to think about the environment but allow a space to start gaining knowledge about the environments impact on satisfaction in therapy. The environment of pediatric physical therapy, like most pediatric specialties, has not had much attention in research and this study has created a survey that can go forward in gaining more environment satisfaction feedback. The addition of open-ended questions allowed participants to elaborate on likert style questions allowed for depth to understand the elements that may affect a ranking. In addition, giving space for open-ended responses also allows participants to bring up themes that were not pointedly asked about in the likert style questions. Although it was a small sample, the participants represented diversity in income, education, location, employment, and marital status. There was also some diversity in the children's diagnosed conditions they were being treated for and age. The diversity of children is a strength since this study is analyzing the outpatient physical therapy setting for any patient who receives treatment, not one specific demographic. With the expertise of their children's needs, these parents provided insight to a multitude of the patients in outpatient clinics.

A large limiting factor in these results is the few number of responses that were received. Though the survey was distributed in clinics, on social media, and with physical therapists, the delivery methods did not get a plentiful response rate from parents of children who receive

pediatric physical therapy. The distribution reached physical therapists and researchers easier than parents who were able to participate in the survey. In addition to the small sample size, 27% of those who started the survey did not complete it. This created bias that a group of people who either did not have the time or the answers to the questions were not able to have their experiences recorded as the survey was not finished. With the low response rate, there is a chance of selection bias. Since replies came from two cities in the country, it did not capture the entirety of the population of outpatient pediatric physical therapy clinics in the United States. This is a spot for bias in the select places that had parents participate.

Conclusion

This study has found that parents highly value the relationship with the physical therapist during pediatric physical therapy. The therapeutic alliance is important for high satisfaction in therapy. The environmental amenities have drawn out most of the complaints of parents and lower satisfaction scores. With a large population of children receiving pediatric physical therapy, it is important to serve the populations receiving treatment effectively. One area consistently needing improvement are the physical amenities of the clinics. Future research is needed in a manner that replicates the idea of internal consistency of environmental-themed questions in the modified VSQ-9 survey. Research is also needed to determine how the environmental factors discussed impact the delivery of effectiveness of physical therapy treatment to children.

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