

Parents' Satisfaction About Quality of Physical Therapy Services for Children with Spastic Cerebral Palsy

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ABSTRACT

Background: In healthcare, particularly in physical therapy, patient satisfaction is a vital quality care indicator. It mirrors patient perceptions about service quality. Parents' satisfaction, especially in pediatric rehabilitation, is crucial for child-focused healthcare organization. It encompasses elements like access, service availability, appropriateness, facility quality, staff competence and respectful care. Parental satisfaction levels serve as a reliable proxy for assessing overall healthcare quality.

Aim of study: This study aimed to determine substantial factors that are important for parents satisfaction at both governmental and private clinics.

Methods: Fifty-five spastic cerebral palsy children from both sex were enrolled in a cross-sectional qualitative study. The parents' satisfaction was assessed through direct documentation by utilizing the MedRisk-Instrument Questionnaire for measuring patient satisfaction with physical therapy care (MRPS).

Results: When comparing mean value of total score of MRPSQ between place of survey categories (private rehabilitation centers and governmental hospitals), there was a notably substantial difference among both groups in favor to private rehabilitation centers category ($P < 0.05$). Significant positive correlations were observed between individual items of medrisk as well as current patient state, in addition to the two global items of same questionnaire. The mean value of GMFM in unilateral CP category was 64.88 ± 5.08 , while in the bilateral CP category was 38.69 ± 8.75 . There was a highly significant difference among both categories in favor to unilateral CP category as $P < 0.05$.

Conclusion: Services of physical therapy sessions are better at private rehabilitation centers than those, which served at governmental rehabilitation centers, the less the disability the more the parent satisfaction.

Keywords: Parents satisfaction, Quality, Services, Spastic cerebral palsy, Medrisk.

INTRODUCTION

Satisfaction has been employed as an index to assess the quality of service provided in the healthcare industry, including the field of physical therapy ⁽¹⁾. According to the prevailing agreement, satisfaction is a measure of how patients perceive the quality of the treatment they have received ⁽²⁾. As a conceptual framework, it encompasses a wide range of influences, including the interactions between therapist and patient, socio-cultural values, and the environmental context of the service. In the field of physical therapy, the connection between therapists and patients is typically more intense compared to other healthcare professions. This is because physiotherapeutic treatment is divided into numerous scheduled sessions, therefore the satisfaction of patients can be directly influenced during these sessions ⁽³⁾.

Cerebral palsy (CP) refers to a number of disorders marked by impaired motor function resulting from non-progressive brain injury that occurs in early childhood. Typically, there are concurrent disabilities along with emotional and social challenges within the family. The severity can vary from complete dependence and immobility to the ability to do self-care tasks independently and engage in activities such as walking, running in addition to other skills, but there is some clumsy actions ⁽⁴⁾.

Cerebral palsy influences around 2.6 children in each 1000 and is one of the most widely recognized reasons of disability in children ⁽⁵⁾. It is classified to five types including spasticity, dyskinesia, ataxia, hypotonic and mixed; with spastic type being 75% of all the cases ⁽⁶⁾. Children with spastic CP experience challenges with motor movement, which lead to communication impairments ⁽⁷⁾.

Patient satisfaction is progressively used to screen patient opinions of the quality of healthcare facilities ⁽⁸⁾. At first glance, it would appear surprising that a questionnaire utilized at an outpatient pediatric practice only interviewed parents ⁽⁹⁾. Nevertheless, research that compares self-assessments of children with assessments conducted by their parents reveals a strong correlation among these two measures ⁽¹⁰⁾.

The involvement of parents is a vital source of information required for the organization of child-oriented healthcare. Total quality management is based on the idea that both customer satisfaction and attainment of organizational objectives are closely related. This matter can be achieved by developing excellence and continuous improvement of organization processes involved in providing services ⁽¹¹⁾.

Presently, quality management as well as certification procedures in healthcare facilities, which

include hospitals as well as rehabilitation centers, necessitate the completion of parent questionnaires to assess satisfaction and the effectiveness of care. Standardized written surveys, such as the MedRisk tool, have proven effective in quality management by documenting and evaluating parental satisfaction and healthcare settings ⁽¹²⁾.

Pediatric rehabilitation services play an important role to increase level of satisfaction among parents regarding these services ⁽¹³⁾. Parents satisfaction with physical therapy is used as an outcome variable. Common elements that lead a parent towards satisfaction/dissatisfaction about pediatric rehabilitation services are: satisfaction/dissatisfaction with access, availability, appropriateness of services, physical facilities, competence, respectful and supportive care ⁽¹⁴⁾.

MATERIAL AND METHODS

Study Design: This cross-sectional qualitative study, was carried out from January 2020 to May 2021, explored the level of satisfaction that parents experienced when their children received physical therapy for spastic CP.

Participants: The study included native Egyptian parents (biological mothers and fathers) of varied educational and socioeconomic backgrounds from both rural and urban areas. Their children, diagnosed with spastic CP, aged from birth to six years, of both genders and having received at least twelve therapy sessions, were included.

Assessment Procedures:

MedRisk Parent Satisfaction Instrument (MRPS): The questionnaire evaluated parental satisfaction with the physical therapy services provided. The assessment comprised of 13 items evaluated using a 5-point Likert scale, covering aspects of therapist-parent interaction, convenience, efficiency and patient education ⁽³⁾.

Gross Motor Function Measure-88 (GMFM-88): This observational instrument was utilized to measure changes in gross motor functions of children with CP. The assessment covered a total of 88 items, categorized into five dimensions: lying & rolling, sitting, crawling & kneeling, standing, & walking, running as well as jumping ⁽¹⁵⁾.

Ethical Consideration: The Ethical Committee of Faculty of Physical Therapy, Cairo University

approved the study. Hospitals and rehabilitation centers provided agreements for conducting the research. Parents gave informed consents before participating. The study adhered to the Declaration of Helsinki through its conduct.

Statistical analysis

Descriptive statistics were employed to characterize the sample as well as respondent characteristics of the survey forms. The mean as well as the standard deviation were used to describe the MRPS. A relationship among both independent and dependent variables was determined by calculating Pearson correlation coefficients. The characteristics of patients, which potentially predict complete satisfaction were analyzed using linear regression models. The data analysis was conducted using the Statistical Package for Social Science (SPSS) version 24 software program.

RESULTS

A total of 55 children participated, comprising 26 with unilateral CP and 29 with bilateral CP. Demographically, the children in both groups were comparable in terms of age and gender distribution. The mean age for unilateral CP children was 28.53 months, with an equal number of boys and girls. Bilateral CP children had a mean age of 27.72 months, with a slightly higher proportion of boys. Analysis of parents' demographic data, including age and family size, revealed no significant differences between the two categories.

The study also examined frequency distributions such as gender, diagnosis of CP, parents' area of residence, level of education and employment status. These distributions showed no significant differences between the unilateral and bilateral CP categories, suggesting a uniform demographic profile across the groups. In examining the MedRisk Parent Satisfaction Questionnaire (MRPSQ) outcomes, the research revealed no notable differences in the individual and global items of MRPSQ between the unilateral and bilateral cerebral palsy groups. However, a significant variance was noted when analyzing the three primary components of MRPSQ – Interpersonal, Convenience as well as Efficiency, in addition to Patient Education. Despite these variations, the aggregate MRPSQ score was marginally higher for the unilateral CP group, yet this difference wasn't statistically significant. These findings are detailed in tables (1 and 2).

Table (1): Comparison of individual and global items of MRPSQ between unilateral CP and bilateral CP categories

No.	Assessed Items	Unilateral CP (n=26)	Bilateral CP (n=29)	Mean Difference (MD)	t-value	p-value
1	The receptionist was polite	3.70 ± 0.68	3.76 ± 1.10	-0.06	-0.27	0.80
2	The registration process was adequate	4.08 ± 0.74	4.00 ± 0.93	0.07	0.34	0.74
3	The waiting room was comfortable (lighting, temperature, furniture)	4.00 ± 0.90	3.62 ± 0.82	0.38	1.64	0.107
4	My physiotherapist treated me respectfully	4.58 ± 0.50	4.55 ± 0.51	0.02	0.185	0.854
5	The staff at the clinic were respectful	4.62 ± 0.49	4.48 ± 0.57	0.13	0.94	0.366
6	The clinic and its facilities were clean	4.15 ± 0.78	3.90 ± 0.90	0.26	1.12	0.266
7	The opening hours of the clinic were convenient for me	4.23 ± 0.82	3.89 ± 0.94	0.33	1.40	0.17
8	My physiotherapist explained to me carefully the treatments I received	4.23 ± 0.95	4.10 ± 0.81	0.13	0.53	0.57
9	My physiotherapist answered all my questions	4.42 ± 0.70	4.14 ± 0.78	0.28	1.40	0.165
10	My physiotherapist advised me on ways to avoid future problems	4.00 ± 1.02	3.69 ± 0.96	0.31	1.16	0.252
11	My physiotherapist provided me with detailed instructions on my home exercise program	4.27 ± 0.83	4.17 ± 0.71	0.09	0.47	0.634
12	In general, I am completely satisfied with the services I received from my physiotherapist	3.96 ± 1.07	3.72 ± 1.13	0.23	0.79	0.43
13	I would return to this clinic for future services or treatment	4.03 ± 1.11	3.72 ± 1.13	0.31	1.04	0.304

Data are presented as Mean ± SD; MD: Mean difference; t-value: Independent sample t-test; p-value: Probability value.

Table (2): Key factors influencing parental satisfaction

Factor	Unilateral CP (n=26)	Bilateral CP (n=29)	Mean Difference (MD)	t-value	p-value
Interpersonal (Sum of Q1 to Q6 scores)	25.12 ± 3.50	24.31 ± 4.18	0.80	0.77	0.445
Convenience & Efficiency (Sum of Q7 to Q9 scores)	12.88 ± 2.06	12.14 ± 2.22	0.75	1.29	0.203
Patient Education (Sum of Q10 & Q11 scores)	8.27 ± 1.75	7.86 ± 1.57	0.41	0.91	0.370
Global Items (Sum of Q12 & Q13 scores)	8.0 ± 2.17	7.44 ± 2.26	0.55	0.92	0.362

Data are presented as Mean ±SD; MD: Mean difference; t-value: Independent sample t-test; p-value: Probability value

Regarding the GMFM-88, the study showed that children with unilateral CP scored significantly higher compared to those with bilateral CP, suggesting superior motor function in the former group. This crucial outcome is documented in table (3). Additionally, no significant disparity in GMFM scores was observed between children attending private rehabilitation centers and those at governmental hospitals. Intriguingly, a significant positive correlation was identified between the overall MRPSQ score and certain demographic factors, such as the onset date, the initiation date of physical therapy since birth, and the GMFM score, further reinforcing the nuanced insights of the study.

Table (3): Mean scores of GMFM (scores) and total score of MRPSQ

	Unilateral CP (n=26)	Bilateral CP (n=29)	MD	t-value	p-value
GMFM-88 (score)	64.88 ± 5.08	38.69 ± 8.75	26.2	13.36	0.0001*
Total score of MRPSQ	54.27 ± 8.82	51.75 ± 9.56	2.51	1.01	0.318

Data are presented as Mean ±SD; MD: Mean difference; t-value: Independent sample t-test; p-value: Probability value

The correlation analysis in the study revealed significant positive correlations between the MedRisk Parent Satisfaction Questionnaire (MRPSQ) total score and several key factors: Regarding date of onset, there

was a significant positive correlation among the MRPSQ overall score as well as the date of onset, with a correlation coefficient (r) of 0.280 and a p-value of 0.038. Concerning starting date of physical therapy since birth, a significant positive correlation was also found between the MRPSQ total score and the starting date of physical therapy since birth, with a correlation coefficient (r) of 0.297 and a p-value of 0.028. About gross motor function measure (GMFM), a notable positive correlation existed between the MRPSQ total score and the GMFM, with a correlation coefficient (r) of 0.635 and a p-value of 0.0001. These correlations are illustrated in table (4).

Table 4: Correlation between GMFM, MRPSQ and all demographic data

Demographic data	GMFM (score)	MRPSQ (total score)
Child's age (months)	R = -0.07, p = 0.611	R = 0.227, p = 0.096
Date of onset (months)	R = 0.081, p = 0.557	R = 0.280, p = 0.038*
Starting date of P.T since birth (months)	R = 0.059, p = 0.667	R = 0.297, p = 0.028*
Parents' age (years)	R = -0.067, p = 0.630	R = 0.051, p = 0.709
Number of family members	R = 0.094, p = 0.496	R = 0.222, p = 0.104
GMFM (score)	---	R = 0.635, p = 0.0001*

GMFM: Gross motor function measure; MPRSQ: MedRisk Parent Satisfaction Questionnaire r: Correlation coefficient; * Significant at P<0.05

Discussion

The effectiveness of rehabilitation hinges on patient satisfaction, reflecting the quality of medical services and influencing adherence to treatment plans. The satisfaction of patients not only improves their quality of life, but also offers vital information for healthcare organizations to determine financial allocations and accredit medical institutions. The therapist-patient relationship, external factors and societal values contribute significantly to this dynamic. Higher patient satisfaction correlates with better health outcomes, emphasizing its role in evaluating healthcare service quality.

This study investigated parental satisfaction with physical therapy services given for children diagnosed with spastic CP in both governmental and private settings. Factors affecting satisfaction include the level of disability, rehabilitation center type, and parents' employment status. The MedRisk questionnaire and

GMFM-88 were employed to assess satisfaction as well as disability levels, respectively.

Comparing unilateral and bilateral CP categories revealed no significant differences in demographic data for children and parents. Employment status showed no significant impact on satisfaction levels. However, the study revealed a substantial difference in parental contentment among private rehabilitation centers as well as governmental hospitals, aligning with previous research highlighting higher satisfaction levels in private healthcare settings.

Analyzing MedRisk questionnaire items, there was no significant differences among studied categories. However, when assessing the three main factors (Interpersonal, convenience & efficiency and patient education) and global measures, differences emerged. Notably, the total MRPSQ score showed no significant distinction between unilateral and bilateral CP categories.

Regarding GMFM-88, a highly significant difference favoring unilateral CP was found compared to bilateral CP. However, no significant difference was observed between private rehabilitation centers and governmental hospitals.

In comparison with previous research, our study aligns with findings of **Hasan et al.** ⁽¹⁶⁾, which emphasized the significance of the educational level of parents as well as their caregivers in community-based rehabilitation (CBR) programs. This association reflects the broader impact of educational background on parental satisfaction with rehabilitation services. Conversely, our results diverge from **Dambi et al.** ⁽¹⁷⁾ study on hospital-based along with community-based approaches to CP rehabilitation, where no significant differences were found in the educational status of parents as well as their degree of satisfaction. The nuanced nature of these relationships highlights the need for context-specific considerations.

Furthermore, our findings are in line with **Setyawan et al.** ⁽¹⁸⁾ study that was conducted on the correlation between patient contentment as well as loyalty across primary health care emphasizing significantly higher satisfaction levels in private healthcare settings compared to public ones. This resonates with our observation of higher parent satisfaction in private rehabilitation centers compared to governmental hospitals. Understanding these parallels and deviations from prior research contributes to a more comprehensive comprehension of the intricate factors influencing satisfaction in healthcare settings, specifically in the context of pediatric rehabilitation among children suffering from spastic CP.

These findings emphasize the nature of parent satisfaction in pediatric rehabilitation, highlighting the impact of disability levels, employment status and

facility type. Understanding these factors can guide improvements in service quality, ultimately enhancing patient satisfaction and treatment effectiveness.

Clinical Implementations:

The insights gained from this study hold practical implications for the clinical domain, particularly in pediatric rehabilitation among children suffering from spastic CP. The identification of factors influencing parent satisfaction, such as the level of disability, rehabilitation center type and employment status, can guide healthcare providers in tailoring services to meet the unique needs of each family. The significance of the therapist-parent relationship and the impact of facility type on satisfaction underscore the importance of fostering positive interactions and considering the environment in which rehabilitation occurs. Additionally, the utilization of validated tools like the MedRisk questionnaire and the GMFM-88 can enhance the evaluation of satisfaction and disability levels, aiding in the development of targeted intervention strategies. Overall, these clinical implications emphasize the need for a patient-centered approach, acknowledging the multifaceted nature of satisfaction in pediatric rehabilitation.

LIMITATIONS

Despite the valuable insights gained, this study has inherent limitations. The limited sample size of fifty-five children who have spastic CP may restrict the capacity to apply the findings to a larger population. Moreover, the dependence on data provided by parents themselves adds the possibility of response bias. The study's cross-sectional design limits the capacity to demonstrate causation or evaluate temporal changes. Furthermore, the study focused primarily on parent satisfaction, potentially overlooking the perspectives of the children receiving therapy. The use of the MedRisk questionnaire, while widely accepted, might not capture the full spectrum of factors influencing satisfaction. Future research with larger and more diverse samples, longitudinal designs and inclusion of child perspectives could address these limitations and offer a more extensive comprehension of satisfaction in the field of pediatric rehabilitation.

CONCLUSION:

In conclusion, the results of this research illuminated the intricate dynamics of parent satisfaction in pediatric rehabilitation for children suffering from spastic cerebral palsy. Factors such as the level of disability, rehabilitation center type and employment status significantly influence satisfaction levels. Comparisons with previous research highlight both consistencies and deviations, contributing to a nuanced

understanding of satisfaction determinants. Despite limitations, the findings offer valuable insights for clinical practice, emphasizing the need for personalized, patient-centered approaches. As we navigate the complex landscape of pediatric rehabilitation, incorporating these insights can pave the way for improved service quality and heightened satisfaction, ultimately enhancing the overall effectiveness of rehabilitation services for children suffering from spastic cerebral palsy.

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