

Current physical therapy practices and parental satisfaction for rehabilitation services of cerebral palsy children

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Objective: To find current practice patterns among physical therapists in rehabilitation and to assess parental satisfaction of the physical therapy services for cerebral palsy children.

Methodology: This cross sectional survey included 30 rehabilitation physiotherapists and 30 cerebral palsy children parents selected through a sample of convenience. Only clinical physiotherapists were included. Questionnaire was given as handouts. Physical Therapist's practice patterns and parental satisfaction of physical therapy services was assessed. Data analysis was done by using SPSS 21.0.

Results: There were 16.7% physiotherapists who performed Bobath, 46.7% of Proprioceptive Neuromuscular Facilitation while 36.7% of conventional therapy 36.7% physiotherapists of electrical muscle stimulation, 3.3% of shortwave diathermy, 40% of parallel bar and 20% of gym

ball. The two top most musculoskeletal elements were 20.5% for ROM, 35.9% strength training and 43.6% for posture. Two top most neuromuscular elements were 26.8% for balance, 35.9% of motor learning, 19.5% for motor function and 22% for motor patterns. We found 26.7% parents were dissatisfied, 46.7% neutral and 26.7% satisfied.

Conclusion: Current practices for neuromuscular conditions mostly include Bobath's approach, proprioceptive neuromuscular facilitation and motor control strategies. While musculoskeletal conditions were mostly dealt with ROM exercises, strength training and postural alignment. However, the parents/patients were only moderately satisfied with the rehabilitation services. (Rawal Med J 202;45:586-589).

Keywords: Clinical practice pattern, cerebral palsy children, patient satisfaction.

INTRODUCTION

Cerebral palsy (CP) is a neurodevelopmental disorder due to an injury to the growing brain. It is a common childhood disability with prevalence of 1.5 to 3.8 per 1000 births.¹ There is high rate of unintentional trauma such as road traffic and house hold accidents.²

There is continuous debate in establishing an optimal treatment plan for cerebral palsy children that varies from country to country, even across different institution in one country.³ There is also a perception that practice trends varies from clinician to clinician. The currently practiced protocol also indicates less participation of patients and parents in rehabilitation treatment.⁴ These days, there is an increasing trend to involve patients and caregivers in the treatment. This way, home based supervised plans can be promoted. It resulted

in decreased level of parental stress due to direct supervision.⁵

There is mixed models of practice internationally that can be classified into facility based and approach of procedures being employed. In United Kingdom, extending rehabilitation to home has been advocated.² Both physiotherapists and occupational therapists are in favor of shifting rehabilitation of CP children to home setting.⁶ Unlike other disorders of musculoskeletal domain etc.⁷ neurological disabilities need a judicious use of elements for improvement of strength,⁸ power,⁹ coordination and balance.¹⁰ As there are multiple school of thoughts, the current study aimed to investigate the different approaches being used by physical therapists and parents satisfaction with provided treatment plan.

METHODOLOGY

This cross sectional survey was completed in 4 months from June to September 2017. The data were collected from Fatima Memorial Hospital, Lahore, Pakistan. Convenience sampling was used. A total number of 30 physiotherapists dealing with CP children and 30 parents of CP children were included in the study. All non-working physiotherapists and CP children themselves were excluded. The study was approved by Institutional Review Board of Imperial College of Business Studies and an informed consent was obtained from all participants.

Socio demographic profile of all the participants was recorded. All the information was recorded with the help of a 2-part customized questionnaire which was designed after searching literature with similar objectives, for physiotherapist and parents to assess current physical therapy practice patterns and parental satisfaction of parents of CP children. First part was about practice patterns of Physiotherapists and second part was about Parents satisfaction level.

Statistical Analysis: The data were analyzed by using the SPSS version 21.0. The qualitative data like age was presented as mean and standard deviation. The investigations were analyzed as positive or negative for routine tests and for specialized tests. $p < 0.05$ was considered significant.

RESULTS

There were 5 (16.7%) physiotherapists who performed Bobath, 14 (46.7%) PNF while 11 (36.7%) conventional therapy only (Table 1). Musculoskeletal elements were 8 (20.5%) for range of motion, 14 (35.9%) for strength training and 17 (43.6%) for practicing alignment of posture (Table 2).

Table 1. Treatment options for cerebral palsy children.

Treatment Options	Frequency	Percentage
Bobath	5	16.7
PNF	14	46.7
Conventional	11	36.7
Total	30	100.0

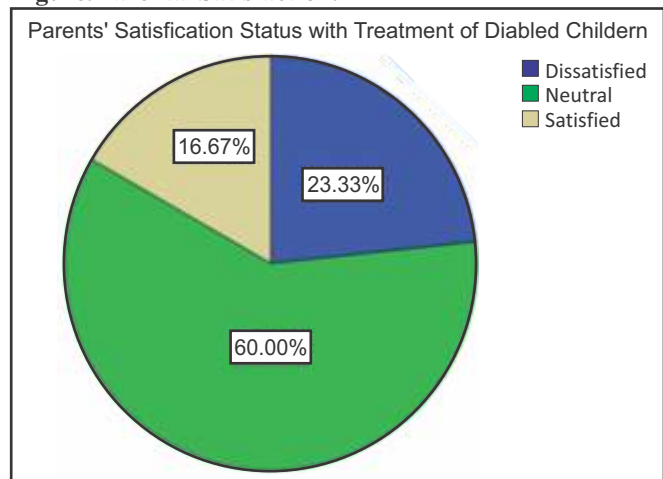
Table 2. The top most musculoskeletal elements in practice for cerebral palsy children.

Musculoskeletal Practice Elements	Number	Percentage
Range of Motion	8	20.5
Strength Training	14	35.9
Alignment of Posture	17	43.6
Total	39	100

Table 3. The top most neuromuscular elements in practice for cerebral palsy children.

Neuromuscular Practice Elements	Number	Percentage
Balance	11	26.8
Motor Learning	12	29.3
Motor Function	8	19.5
Motor Tone	1	2.4
Motor Patterns	9	22.0
Total	41	100.0

Figure. Parental Satisfaction.



Neuromuscular elements were 11 (26.8%) for training of balance, 12 (35.9%) for motor learning, 8 (19.5%) for practicing motor function and that of 9 (22%) for motor patterns (Table 3). Parents' satisfaction with treatment showed that there were 7 (23.3%) parents/guardians who were dissatisfied, 18 (60%) were neutral and 5 (16.7%) were completely satisfied (Figure).

DISCUSSION

The fact that most physical therapists were from public sector made a little uncertainty about findings

in a way that private sector physical therapists may have different but advanced patterns of practice due to marketing forces and competition in these sectors regarding provision of health care services. Other such element was experience of dealing with CP children. It seems that despite being otherwise experienced in physical therapy field, experience with CP children would make a difference in their opinions regarding practice patterns for rehabilitation of CP children.

Also, there were fewer specialist physical therapist of Neuro-muscular Physical Therapy.⁷ In this era of specialization, it would make a difference regarding practice behaviors and preferences for managing CP children. Although Bobath has its proven name in the management of CP children, yet its utilization was limited may be due to complexity of its application.¹¹ However, other means were well aligned to evidence regarding care of CP children.¹²

Regarding equipment use, electrical muscle stimulation and parallel bar were found most frequently in use. Other equipment found in use was gym ball. Most physical therapists said that hospitals and community based centers would be right placement for rehabilitating CP children. Internationally, community based centers, are the placement in consideration for CP children.⁷ Community based centers would be best places because rehabilitation of CP children mainly involves functional training.¹³

Practice patterns of musculoskeletal management reported by physiotherapists were alignment of posture, strength training and range of motion.⁷ Practice of international guidelines for musculoskeletal management was found to be poor.¹¹ Main focus remains on alignment of posture which would not be a good treatment line when basic architecture of body is affected. Neuromuscular was focused around balance therapy. Cardiovascular management was compromised at most of its levels. Most of the parents were not clear about the services provided to their kids which is in line with the literature.¹⁴

Limitation of study was small sample to generalize facts. Future studies should be done with the specific disabilities and should compare the standards/protocols with the current practices.

CONCLUSION

Current practices for neuromuscular conditions mostly include Bobath's approach, proprioceptive neuromuscular facilitation and motor control strategies. While musculoskeletal conditions were mostly dealt with ROM exercises, strength training and postural alignment. However, the parents/patients' are moderately satisfied with the rehabilitation services.

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