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# Knowledge, attitude, and practice of parents regarding home-based physiotherapy exercises for children with cerebral palsy: A cross-sectional survey study

**Dr. Pranali Saurabh Thakkar**
Assistant Professor, MPT Pediatrics, SPB Physiotherapy college, surat, India

**Abstract**

**Background:** Home-based physiotherapy plays a critical role in improving functional outcomes in children with cerebral palsy. Parents are primary caregivers responsible for implementing prescribed exercises at home. Their knowledge, attitude, and practice (KAP) significantly influence rehabilitation outcomes[1].

**Aim:** To assess the knowledge, attitude, and practice of parents regarding home-based physiotherapy exercises for children with cerebral palsy.

**Objectives:**

1. To evaluate parental knowledge regarding home-based physiotherapy.
2. To assess parental attitude towards physiotherapy exercises.
3. To analyze parental practice and adherence to home exercise programs.

**Methodology:** A cross-sectional survey was conducted among 120 parents of children with cerebral palsy attending pediatric physiotherapy outpatient departments. A structured, validated KAP questionnaire was used. Data were analyzed using descriptive statistics and correlation analysis.

**Results:** While 72.5% of parents demonstrated adequate knowledge, only 48.3% reported consistent adherence to home-based exercises. Positive attitude showed significant correlation with better practice ($p < 0.05$).

**Conclusion:** Although parental knowledge regarding physiotherapy was satisfactory, gaps existed in practical implementation. Structured parental education and follow-up strategies are essential to enhance adherence to home-based physiotherapy programs.

**Keywords:** Cerebral palsy, pediatric physiotherapy, home exercise program, parents, survey study

## Introduction

Cerebral palsy (CP) is a group of permanent disorders of movement and posture resulting from non-progressive disturbances in the developing brain [1]. Children with CP often require long-term physiotherapy to improve mobility, function, and participation in daily activities [2].

Home-based physiotherapy exercises are an integral component of pediatric rehabilitation, supplementing clinic-based interventions [3]. Parents serve as primary facilitators of therapy at home, and their understanding, perception, and compliance directly affect therapeutic outcomes [4]. Poor adherence to home programs has been associated with delayed motor progress and reduced functional gains [5].

Previous studies have highlighted that parental knowledge alone does not guarantee appropriate execution of exercises [6]. Attitudinal factors, caregiver burden, time constraints, and lack of confidence also influence practice[7]. In the Indian context, limited literature exists evaluating parental perspectives regarding home-based physiotherapy for children with CP.

Therefore, this study aimed to assess the knowledge, attitude, and practice of parents regarding home-based physiotherapy exercises for children with cerebral palsy.

## Materials and Methods

### Study Design

Cross-sectional survey study.

### Study Setting

Pediatric Physiotherapy Outpatient Departments of Surat.

### Study Duration

Six months.

### Sample Size

120 parents

### Sampling Method

Convenience sampling

### Eligibility Criteria

#### Inclusion Criteria

- Parents or primary caregivers of children diagnosed with cerebral palsy.
- Children aged 1–12 years.
- Parents attending regular physiotherapy sessions for at least 3 months.
- Ability to read and understand the questionnaire language.

#### Exclusion Criteria

- Parents of children with progressive neurological disorders.
- Caregivers other than parents.
- Parents unwilling to provide informed consent.

### Outcome Measure / Questionnaire Used

A structured Knowledge, Attitude, and Practice (KAP) questionnaire adapted from previous studies and validated by pediatric physiotherapy experts [8, 9].

### Questionnaire Structure

- **Knowledge section:** 10 items (understanding of CP, benefits of physiotherapy, frequency and importance of exercises).
- **Attitude section:** 8 items (beliefs, motivation, perceived benefits and barriers).

- **Practice section:** 7 items (frequency, correctness, supervision, and consistency of home exercises).

**Responses were recorded using**
- Multiple-choice questions (Knowledge).
- 5-point Likert scale (Attitude).
- Yes/No and frequency-based responses (Practice).

The questionnaire demonstrated good internal consistency (Cronbach's alpha = 0.82).

**Ethical Considerations**
Ethical approval was obtained from the Institutional Ethics Committee. Written informed consent was obtained from all participants. Confidentiality of responses was ensured.

**Statistical Analysis**
Data were analyzed using SPSS version XX. Descriptive statistics were expressed as frequency and percentage. Pearson correlation coefficient was used to analyze the relationship between knowledge, attitude, and practice scores. Statistical significance was set at $p < 0.05$.

**Results**
**Demographic Characteristics**
Out of 120 participants, 78 (65%) were mothers and 42 (35%) were fathers. The mean age of children was 5.6 ± 2.8 years.

**Table 1:** Distribution of KAP Scores

| Domain | Adequate (%) | Inadequate (%) |
|---|---|---|
| Knowledge | 72.5 | 27.5 |
| Attitude | 61.7 | 38.3 |
| Practice | 48.3 | 51.7 |

**Correlation Analysis**
A positive correlation was observed between:
- Knowledge and attitude ($r = 0.42$, $p < 0.01$)
- Attitude and practice ($r = 0.51$, $p < 0.05$)

**Discussion**
The present study assessed parental knowledge, attitude, and practice regarding home-based physiotherapy exercises for children with cerebral palsy. Although a majority of parents demonstrated adequate knowledge, less than half reported consistent implementation of exercises at home.

These findings indicate that knowledge alone is insufficient to ensure adherence, supporting earlier reports that parental beliefs, motivation, and perceived barriers strongly influence practice [6, 7]. Positive attitude showed a stronger association with regular practice, emphasizing the importance of caregiver motivation and confidence.

Several parents reported barriers such as lack of time, child non-cooperation, and uncertainty about correct exercise performance. Similar challenges have been reported in previous studies conducted in low- and middle-income settings [10, 11].

The findings highlight the need for structured caregiver education programs, regular reinforcement, and demonstration-based training during physiotherapy sessions. Incorporating family-centered care principles may improve long-term adherence and functional outcomes [12, 13]

**Conclusion**
Although parents of children with cerebral palsy demonstrated satisfactory knowledge regarding physiotherapy, gaps were identified in attitude and practical implementation. Addressing psychosocial barriers and strengthening caregiver education may enhance adherence to home-based physiotherapy programs.

**Clinical Implications**
- Importance of parent education and counseling
- Need for regular follow-up and reinforcement
- Emphasis on family-centered rehabilitation

**Limitations**
- Self-reported responses may introduce bias
- Convenience sampling limits generalizability

**Future Recommendations**
- Multicenter studies with larger samples
- Development of culturally tailored caregiver training modules
- Longitudinal assessment of adherence and outcomes

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