Original Article

Assessing Parental Understanding of Congenital Talipes Equinovarus (CTEV): Implications for Patient Education and Support

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Abstract

Objective: To assess the understanding and knowledge of parents regarding Congenital Talipes Equinovarus (CTEV), commonly known as clubfoot, to identify potential areas for improved patient education and support.
Study design: A cross-sectional study design employed to evaluate parental understanding of CTEV.
Place and duration of study: The study was conducted in City Care Hospital, RWP from July 2023 to January 2024.
Material and Methods: Parents of children diagnosed with CTEV were included in the study. The questionnaire encompassed various aspects of CTEV, including its etiology, clinical presentation, treatment options, and long-term implications. Parental knowledge was assessed using a scale of poor, satisfactory, and good knowledge, in addition to the PCQ.

Results: The study involves 24 fathers and 18 mothers of children diagnosed with Congenital Talipes Equinovarus (CTEV), varying levels of parental knowledge about the condition were observed. Fathers had a mean age of 39 ± 4 years, while mothers had a mean age of 27 ± 3.7 years. Among fathers, 20% had poor knowledge, 40% had satisfactory knowledge, and 40% had good knowledge of CTEV. Among mothers, these percentages were 30%, 40%, and 30%, respectively. These findings underscore the need for targeted educational interventions to address knowledge gaps and facilitate informed decision-making regarding CTEV management.

Conclusion: There is a diversity in parental understanding of CTEV, with varying levels of knowledge observed among fathers and mothers of patients. This underscores the need for targeted educational interventions to address knowledge gaps and promote informed decision-making regarding the management of CTEV.

Keywords: Clubfoot; Knowledge of CTEV; Congenital Talipes Equinovarus; Education

1. Introduction

Congenital talipes(1) equinovarus (CTEV), commonly known as clubfoot, stands as one of the most prevalent lower limb congenital defects observed at birth. With a prevalence of approximately 1 in every 1000 live births, CTEV poses significant challenges in both diagnosis and management.(1) The gold standard treatment for CTEV is the Ponsetti method of casting, a non-invasive approach that focuses on the biomechanical properties of biological tissues.(2) This method involves a series of gentle manipulations followed by casting, aiming to gradually correct the deformity at foot. An integral aspect of the Ponsetti method is the Achilles tendon tenotomy performed prior to the final casts, which facilitates optimal correction of foot.(1)(3)(9)

The exact cause of CTEV remains unknown, although various factors, including genetic predisposition and intrauterine positioning, are believed to contribute to its development.(4)

While the condition is typically identified at birth during routine physical examination, prenatal ultrasound may sometimes detect signs of CTEV in utero.

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In cases where conservative measures are ineffective, surgical intervention may be necessary to achieve optimal alignment and function of the foot and ankle.**(5)(10)(11)**

Additionally, the use of orthoses and bars is employed to maintain the corrected position, while a tibialis anterior transfer may be considered for dynamic supination at a later stage of treatment. **(6)**

While the Ponsetti method does not result in anatomically normal feet, it consistently yields cosmetically pleasing and functional outcomes, ensuring comfort and mobility for affected individuals.**(1)**

CTEV exhibits a predilection for males, affecting males twice as frequently as females. Bilateral involvement is observed in approximately half of all cases, with a slight right-sided predominance in unilateral presentations.**(7)**

The majority of CTEV cases are classified as idiopathic (ICTEV), while approximately 20% are associated with other congenital malformations.**(8)**

Previous literature reviews have highlighted the importance of assessing parental understanding of pediatric orthopedic conditions to identify areas for improved patient education and support. Studies have shown that parental knowledge plays a crucial role in the management and treatment outcomes of congenital conditions like CTEV. Additionally, local studies conducted in Pakistan and the region have shown that unique cultural beliefs and socioeconomic factors influencing parental perceptions and attitudes towards congenital conditions.

2. Materials & Methods

This study was conducted at City Care Hospital, RWP. A total of 42 parents were selected after their consent using convenience and voluntary response types of non-probability sampling technique.

A total of 42 parents (24 fathers and 18 mothers) of children diagnosed with CTEV participated in the study. Participants were recruited from Orthopedic Ponsetti Clinic in Benazir Bhutto Hospital. Inclusion criteria included being a parent or legal guardian of a child diagnosed with CTEV.

Depending upon the score calculated into percentage, patients was labelled with good, satisfactory and poor knowledge according to following; (Table 1)

Knowledge Level	**Scoring**
Good	If Score is Greater Than 70%.
Satisfactory	If Score is Between 50-70 %.
Poor	If Score is Less Than 50%.

Table 1

To find out specific aspects of parental understanding, perceptions, and experiences related to clubfoot Ponsetti Clubfoot Questionnaire (PCQ) was used. (Table 2)

Parents of Patients were requested to participate in the study, 20-30 minutes were required to fill the questionnaire.

The data of study was entered and analyzed as frequency, percentage and mean using SPSS version 25.0. Descriptive statistics were presented using tables, graphs, and texts. Chi square test was used.

Table 2

1	What do you know about (CTEV)?
2	Have you heard of the Ponsetti method for treating CTEV?
3	What do you believe causes CTEV?
4	How did you first learn about your child's diagnosis of CTEV?
5	What treatments or interventions have you pursued for your child's CTEV?
6	How satisfied are you with the information provided by healthcare providers regarding CTEV treatment options?
7	What concerns do you have about the long-term implications of CTEV for your child?
8	Have you sought out additional information about CTEV from sources other than healthcare providers?
9	Have you sought out additional information about CTEV from sources other than healthcare providers?
10	How important do you believe it is for parents to be involved in the treatment decision-making process for CTEV?

3. Results

The study involved 42 parents of children with CTEV, 43% fathers and 57% mothers participating. Out of 42 participants (54.80%) were from urban backgrounds, while 45.20% came from rural areas. Regarding education levels, 42.9% of parents had a Matric level education, 38.1% had Intermediate education, and 19.0% had attained a bachelor's degree. (Table 3)

Table 3

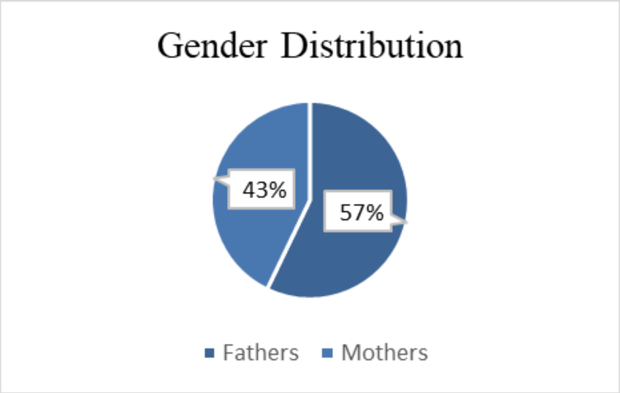
Parameter	**Variables**	**Frequency & Percentage**
1. Gender	Male (Father)	24 (43%)
	Female (Mother)	18 (57%)
2. Background	Rural	19 (45.20%)
	Urban	23 (54.80%)
3. Education Level	Matric	18 (42.9%)
	Intermediate	16 (38.1%)
	Bachelors	8 (19.0%)

The distribution of parental knowledge levels regarding CTEV among fathers and mothers shows that 20% of fathers and 30% of mothers had poor knowledge, 40% of both fathers and mothers had satisfactory knowledge, and 40% of fathers and 30% of mothers had good knowledge about CTEV. (Table 4)

Table 4

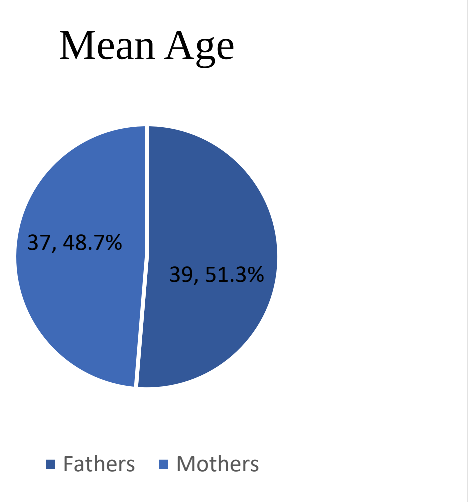
Knowledge Level	Fathers	Mothers
Poor Knowledge	20%	30%
Satisfactory Knowledge	40%	40%
Good Knowledge	40%	30%

The gender distribution among participants revealed that out of the total sample size, 24 participants were fathers, constituting approximately 57.14% of the total participants. Additionally, 18 participants were mothers, accounting for approximately 42.86% of the total participants. (Graph 1)



Graph 1

The mean age of fathers in the study was 39 years with a standard deviation of ± 4, while the mean age of mothers was 37 years with a standard deviation of ± 3. (Graph 2)



Graph 2

The results of chi- square test are shown in Table 5

	Relation Between Factors	Chi Square Test Results
1	Awareness of Treatment Method	Dependent
2	Source of Initial Information	Independent
3	Beliefs about CTEV Causes	Dependent
4	Knowledge about child's diagnosis of CTEV	Independent
5	Pursued Treatments or Interventions	Dependent
6	Satisfaction with Healthcare Provider Information	Dependent
7	Concerns about Long-term Implications	Dependent
8	Seeking Additional Information	Independent
9	Importance of Parental Involvement in Treatment Decision-making	Independent

Table 5

4. Discussion

The distribution of parental knowledge levels revealed that a significant portion of both fathers and mothers exhibited satisfactory to good knowledge about CTEV. This suggests that a considerable proportion of parents are adequately informed about the condition and its management options. We also found that the mean age of fathers was slightly higher than that of mothers, indicating potential differences in the age distribution of caregivers seeking information about CTEV.

Comparing our findings with existing literature, we found consistent evidence highlighting the importance of parental education in the management of pediatric orthopedic conditions, including CTEV. Studies have emphasized the role of comprehensive patient education initiatives in improving treatment adherence and outcomes. Our results align with these findings and underscore the need for ongoing efforts to enhance parental understanding and involvement in the care of children presenting with CTEV.

Our findings have significant implications for patient education and support initiatives targeting families affected by CTEV. By identifying knowledge gaps and barriers to information access, healthcare providers can develop targeted interventions to address these challenges. These initiatives may include the provision of educational materials, access to support groups, and opportunities for shared decision-making between healthcare providers and parents. By empowering parents with accurate information and resources, we can improve treatment adherence, enhance patient outcomes, and promote family-centered care for children with CTEV.

Conclusion:

The study highlights the importance of parental education and support in the management of congenital talipes equinovarus (CTEV). By identifying knowledge gaps and addressing barriers to information access, healthcare providers can enhance the quality of care for children with CTEV and their families. Moving forward, continued efforts are needed to develop targeted interventions that meet the diverse needs of caregivers and promote informed decision-making in the treatment of CTEV. Through collaborative efforts between healthcare providers and families, the outcomes can be improved and the best possible care for children with CTEV can be ensured.

Limitations of the study:

The sample size taken was relatively small, limiting the generalizability of our findings. Additionally, our study focused primarily on parental knowledge levels and did not explore other factors that may influence treatment decisions or outcomes, such as psychosocial factors or caregiver stress. Future research should aim to address these limitations by conducting larger-scale studies with diverse populations and exploring additional factors contributing to parental understanding and decision-making in the context of CTEV.

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Disclosure & Conflict of Interest:

The authors declare that they have no conflicts of interest to disclose.

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