



Review Article

The psychosocial impact of congenital talipes equinovarus (CTEV) in India: Challenges and future directions

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Abstract

Congenital Talipes Equinovarus (CTEV), or clubfoot, is a prevalent congenital musculoskeletal deformity in India, affecting 1–2 per 1,000 live births. While the Ponseti method has improved treatment outcomes, the psychosocial impact on patients and families remains a significant challenge, particularly in rural areas. Children with untreated or residual deformities often face stigma, bullying, and social exclusion, leading to low self-esteem, anxiety, and depression. Parental distress, especially among mothers, is exacerbated by societal blame, misinformation, and financial strain due to treatment costs and long-term follow-ups. Limited awareness and inadequate psychological support further hinder early intervention and adherence to treatment. Studies from India indicate that integrating psychological counseling with orthopedic care, strengthening community outreach, and addressing cultural misconceptions can alleviate the psychosocial burden. NGOs like Cure India and MiracleFeet have played a crucial role in improving access to treatment and reducing stigma, yet gaps persist in mental health support and social reintegration. A multidisciplinary approach involving public awareness campaigns, community-based rehabilitation, and comprehensive psychosocial support is essential to improving the overall quality of life for CTEV patients and their families in India.

Keywords: Orthopaedic, Social, Psychosocial.

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1. Introduction

Congenital Talipes Equinovarus (CTEV), commonly known as clubfoot, is one of the most prevalent congenital deformities affecting the musculoskeletal system. This condition is characterized by an inward and downward rotation of the foot, making walking difficult if left untreated.¹ While medical interventions such as the Ponseti method have significantly improved treatment outcomes,² the psychosocial impact of CTEV, particularly in the Indian context, remains an area of concern. Societal stigma, cultural beliefs, economic constraints, and accessibility to quality healthcare all contribute to the psychological and social challenges faced by children with CTEV and their families. Understanding these psychosocial aspects is crucial for developing a holistic approach to CTEV management that ensures not only physical rehabilitation but also emotional and social well-being.³

CTEV affects approximately 1 to 2 per 1,000 live births globally, with a similar incidence in India. However, given India's large population, this translates to tens of thousands of new cases annually. The condition can present in one or both feet and, if untreated, leads to severe disability and impaired mobility. The Ponseti method, which involves serial manipulation and casting, is the gold standard for treatment. This approach has proven effective in correcting the deformity when implemented early and followed by proper bracing.⁴

Despite the availability of treatment, significant disparities exist between urban and rural regions. Rural areas often lack trained healthcare professionals, specialized orthopedic centers, and adequate awareness about CTEV and its treatment. These disparities lead to delayed intervention, higher recurrence rates, and an increased psychosocial burden on affected individuals and their families.

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2. Psychosocial Impact on Patients

2.1. Social stigma and exclusion⁵

Children with untreated or poorly treated CTEV often experience social stigma. In many parts of India, physical deformities are misunderstood and sometimes associated with myths or superstitions. As a result, children with CTEV may be isolated from peer groups, subjected to bullying, and face difficulties in school settings. Social exclusion can hinder their confidence, leading to long-term psychological effects such as anxiety and depression.

2.2. Academic and career limitations⁶

Physical challenges associated with untreated CTEV can limit a child's ability to attend school regularly or perform tasks that require extensive mobility. This, in turn, affects their academic progress and future career opportunities, especially in physically demanding professions.

2.3. Emotional and psychological well-being⁷

Children with CTEV may struggle with low self-esteem due to their physical limitations and societal perceptions. The inability to participate in normal activities such as running, playing sports, or walking without difficulty may contribute to feelings of inferiority and helplessness. Adolescents with residual deformities may experience heightened self-consciousness, making them more susceptible to mental health issues.

3. Psychosocial Impact on Families

3.1. Parental guilt and emotional distress⁸

Parents of children born with CTEV often experience significant emotional distress. Many mothers, in particular, blame themselves for their child's condition, leading to feelings of guilt and self-doubt. Studies have shown an increased prevalence of anxiety and depression among mothers of children with congenital deformities, including CTEV.

3.2. Financial burden

Although the Ponseti method is a cost-effective treatment, additional expenses related to transportation, follow-up visits, and corrective bracing can be burdensome for low-income families. For families in rural areas, traveling long distances to specialized centers increases financial strain, sometimes leading to treatment discontinuation.

3.3. Societal and cultural perceptions⁹

In some patriarchal societies, congenital disabilities are often unfairly blamed on the mother, leading to domestic tensions and emotional abuse. Additionally, girls with CTEV may face added discrimination, as physical disabilities can be perceived as barriers to marriage prospects. This societal pressure often results in emotional distress for both the child and the family.

4. Challenges in Psychosocial Support^{10,11}

4.1. Lack of awareness and education

Many parents, especially in rural India, are unaware that CTEV is a treatable condition. Misconceptions about the cause of CTEV, including superstitions attributing it to divine punishment or astrological factors, further prevent timely intervention.

4.2. Inadequate healthcare infrastructure

The limited availability of trained orthopedic specialists and pediatric rehabilitation services in rural areas results in delays in diagnosis and treatment. This lack of access exacerbates both the physical and psychosocial burden on affected individuals.

4.3. Absence of psychological counseling

Psychosocial support and counseling services for families dealing with CTEV are often lacking in Indian healthcare settings. Without proper guidance, parents may struggle to cope with emotional stress, leading to poor adherence to treatment protocols.

4.4. Role of NGOs and community programs

Organizations such as Cure India and MiracleFeet have played a significant role in mitigating the psychosocial impact of CTEV. Their initiatives include:

1. Raising awareness about CTEV treatment options to dispel myths and stigma.
2. Providing free or subsidized medical treatment and support services.
3. Offering logistical assistance to families, such as transportation to treatment centers.
4. Implementing community-based rehabilitation programs to reintegrate treated patients into society.

4.5. Research evidence of psychosocial impact on children

Studies in India have documented the psychosocial benefits of early and effective CTEV treatment. **Table 1**

Table 1: Summarizing studies on the psychosocial impact of Congenital Talipes Equinovarus (CTEV) on patients.^{7,12,13,14,15}

Study	Authors & Year	Study Location	Sample Size	Psychosocial Findings	Key Conclusions
Psychosocial Aspects of Clubfoot in Indian Children	Iqbal MS (2021)	India (Multicenter)	150 children & parents	Children faced social stigma, bullying, and reduced participation in sports; Parents experienced guilt and anxiety	Psychosocial interventions and parental counseling improve quality of life
Quality of Life and Emotional Impact in Children with CTEV	Sharma P, Verma N (2021)	Uttar Pradesh, India	120 patients	Adolescents with untreated/residual deformities had lower self-esteem and increased risk of depression	Early treatment enhances self-confidence and integration into society
Challenges in CTEV Treatment in Rural India	Agarwal A, Gupta N (2020)	Bihar & Jharkhand	200 families	Lack of awareness and superstitions led to treatment delays, worsening social isolation	Public awareness campaigns can reduce stigma and increase adherence to treatment
Parental Perspectives on Clubfoot Treatment and Social Impact	Pinto D (2022)	Karnataka, India	100 parents	Mothers often blamed for child's condition; Financial burden impacted treatment adherence	Support groups and financial assistance programs can alleviate stress
Impact of NGO Interventions on CTEV Psychosocial Outcomes	UNICEF Report (2023)	India (Nationwide)	500 cases across states	NGO-driven awareness programs led to better treatment outcomes and improved social acceptance	Community-based rehabilitation models are crucial for holistic patient care

Key findings include:

1. Children who receive timely Ponseti treatment show better integration into society, improved self-esteem, and higher academic achievements.
2. Parental education plays a crucial role in ensuring treatment adherence and reducing stigma.
3. Lack of early intervention leads to increased psychological distress among both children and parents, emphasizing the need for accessible treatment services.

5. Discussion

The psychosocial impact of Congenital Talipes Equinovarus (CTEV) in India extends beyond the physical deformity and its treatment, influencing the emotional, social, and economic well-being of both patients and their families. While advancements such as the Ponseti method have significantly improved functional outcomes, the burden of stigma, mental health concerns, and financial strain remains largely unaddressed.

5.1. Social stigma and psychological distress

One of the most profound challenges faced by individuals with CTEV is social stigma, especially in rural and socio-economically disadvantaged communities where congenital deformities are often misunderstood. Many societies still associate physical disabilities with superstitions, considering

them a curse or punishment for past deeds. This perception leads to social exclusion, bullying, and reduced opportunities for children in school settings. Adolescents, in particular, struggle with self-esteem issues as they experience restrictions in sports, peer interactions, and career choices. Research from India suggests that children with visible residual deformities are at a higher risk of developing anxiety and depression, with many exhibiting withdrawal behaviors and a lack of confidence in social situations.

5.2. Parental distress and family burden

Families, especially mothers, experience considerable emotional distress due to societal blame and misinformation regarding the condition. In patriarchal settings, the birth of a child with CTEV may be wrongly attributed to maternal negligence, leading to marital conflicts and psychological distress among women. Many parents report feelings of guilt and helplessness, especially when they struggle to access timely and appropriate treatment. The financial burden of long-term treatment, frequent hospital visits, and transportation costs adds to their stress, particularly in low-income households. Despite the Ponseti method being a cost-effective solution, associated indirect costs such as lost wages and extended caregiving responsibilities create additional hardships.

5.3. Barriers to treatment and lack of psychosocial support

Access to timely treatment remains a major challenge in India, particularly in rural regions where healthcare infrastructure is inadequate, and trained specialists are scarce. Many children remain untreated due to a lack of awareness, leading to permanent disability and lifelong psychological consequences. Additionally, psychological counseling is rarely integrated into CTEV management, leaving both patients and families without adequate support to cope with the emotional toll of the condition. Unlike other chronic illnesses, orthopedic clinics seldom provide mental health services, leaving a critical gap in comprehensive patient care.

5.4. Role of NGOs and community interventions

Several non-governmental organizations (NGOs) such as Cure India and MiracleFeet have played a crucial role in bridging these gaps by increasing awareness, providing free or subsidized treatment, and offering emotional and logistical support to affected families. Community-based rehabilitation programs have also been successful in reintegrating treated children into society, helping them regain confidence and participate in normal social activities. However, these efforts are still limited in scale and need greater governmental and institutional support to expand their reach.

5.5. Need for a multidisciplinary approach

To effectively address the psychosocial impact of CTEV, a multidisciplinary approach that combines medical treatment with psychological counseling, social support, and public awareness campaigns is essential. Healthcare providers should be trained to recognize and address the emotional challenges faced by patients and families, incorporating mental health services into orthopedic clinics. Additionally, large-scale awareness programs can help reduce stigma, dispel myths, and encourage early treatment-seeking behavior. School-based interventions and community outreach programs can further support social reintegration and improve quality of life for affected individuals.

5.6. Future directions

There is a need for further research to assess the long-term psychosocial effects of CTEV treatment in different socio-cultural contexts across India. Longitudinal studies examining the impact of early intervention on mental health outcomes and social integration can provide valuable insights for policymakers and healthcare providers. Furthermore, strengthening collaborations between orthopedic specialists, mental health professionals, and social workers can ensure that CTEV treatment is holistic and patient-centered.

6. Conclusion

While advancements in CTEV treatment have significantly improved physical outcomes, addressing the psychosocial aspects remains a crucial challenge. A multidisciplinary approach that integrates psychological counselling, parental

education, and community engagement is essential for reducing stigma, enhancing treatment adherence, and improving the overall quality of life for affected individuals and their families. Collaborative efforts between healthcare professionals, NGOs, policymakers, and local communities will be instrumental in ensuring that children with CTEV receive not only medical treatment but also the social and emotional support necessary to thrive.

7. Source of Funding

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8. Conflict of Interest

None.

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