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The Ponseti Method for Clubfoot Treatment in Low and Middle-Income Countries: A Systematic Review of Barriers and Solutions to Service Delivery

Background

Use of the minimally invasive Ponseti method has been increasing in low and middle-income countries, where most of the world's children with clubfoot are born. This method requires a system of service delivery involving screening, serial casting with or without a tenotomy to achieve correction, and long-term use of an orthosis to maintain correction. The goal of this systematic review is to evaluate the barriers to service delivery and the solutions that have been proposed or implemented to address these barriers.

Methods

A literature search of Medline, Embase, and SCOPUS produced 3251 results. Twenty-four papers were selected for final review. Barriers and their attempted solutions were organized into a previously described health barrier model. We reported on high-impact, sustainable solutions that are feasible for organizations to implement, as opposed to solutions that require major policy or country-wide infrastructure changes.

Results

Common barriers found to have the most impact on patient care included financial

constraints, transportation, difficulties with brace and cast care, self-perceived health status, lack of physical resources, and provider's lack of knowledge and skill. The most common solutions detailed were education of the provider or patient and financial assistance for patients.

Conclusions

Recognizing that contextually relevant solutions to the challenges of setting up a system for clubfoot service delivery are required, several common barriers have emerged within this systematic review of papers from multiple countries, including spatial accessibility, affordability, and availability. Programs can best prepare for challenges by placing clinics close to population centers and/or allocating funds to subsidize transportation, ensuring that an adequate supply of materials are available for the casting and tenotomy, and enhancing the education of families and health providers. Strengthening communication and establishing partnerships between individuals and organizations promoting the Ponseti method will improve systems for service delivery.