The Bangladesh clubfoot project: audit of two-year outcomes of Ponseti treatment in 400 children

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Background

Congenital clubfoot deformity can cause significant disability, and if left untreated, may further impoverish those in developing countries, like Bangladesh. The Ponseti method has been strategically introduced in Bangladesh by a non-government organisation, Walk For Life (WFL). At the time of conducting this audit, WFL had provided free treatment for over 8000 Bangladeshi children with clubfeet, sustained by local ownership, and international support. This audit assessed the two-year results in children for whom treatment began before the age of three years.

Methods

The ten largest WFL clinics, of the 24 across Bangladesh, were pragmatically accessed in this audit availing 1442 subjects meeting the study criteria, from which 400 children were randomly selected and examined. A specific assessment, the Bangla clubfoot tool, was developed and validated.

Results

Results for 400 cases were returned: 269 males, 131 females. Typical clubfeet comprised 79% of cases, and 55% were bilateral. A tenotomy rate of 79%, and brace use after two years of 85%, were notable findings. Functionally, most children could walk independently (99.0%), run (95.5%), squat (93.3%) and manage steps unassisted (93.0%). The ability to squat was the most indicative outcome measure, correlating with: less corrective casts, good and continued brace use, non-varus heel position, good ankle range of motion, good Bangla clubfoot scores, and the ability to walk. Relapsing deformity was suspected with heel varus (18.0% left; 21.5% right). Parental satisfaction was very high, but cost of 3000 Taka ($US 40.00) was deemed unaffordable by 59%.

Conclusions

The outcomes in young children after two years of Ponseti treatment for clubfoot deformity showed that 99% were able to walk independently. WFL has now provided treatment for more than 13,000 children, and the assessment tool developed for this study avails ongoing monitoring. Without the patronage of WFL, most of these children would not have had access to treatment, and would be unable to walk.