

Children Living in Rural Areas are at Highest Risk of Severe Infections and Complications following Traditional Bonesetter Treatment in Ethiopia

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INTRODUCTION: In Ethiopia, where modern orthopaedic services are limited, Traditional BoneSetting (TBS) remains commonly used to treat children for various musculoskeletal complaints despite a poor understanding of the complications and risk factors. Our study sought to identify risk factors for complications in children presenting for orthopaedic care after initially receiving TBS.

METHODS:

Over 9 months, we enrolled 460 children who received TBS before presenting to 8 tertiary hospitals across Ethiopia. Patient demographics, injury, and TBS-treatment details, and complications including bone complications (malunion, nonunion, delayed union, avascular necrosis), severe infection (chronic osteomyelitis, septic joint, chronic dislocation, septicemia), and severe complication (missed compartment syndrome, Volkmann's contracture, gangrene) were analyzed. Bivariate and multivariate analyses were subsequently performed to identify risk factors for complications.

RESULTS:

Median age was eight, 75% were males, 52% urban residents, and 69% impoverished. In total, 75% were injured after falling. Injuries were soft tissue only (15%), closed fractures (79%), or open fractures (6%). Children were immobilized (76%) and/or massaged (59%) during TBS. Bone complications were most common (37.6%), followed by severe infection (13.9%) and severe complication (11.3%), with 26 children requiring major amputation. Bone complications were commonest after wrist injuries (OR 3.43; 95% CI 1.12 - 10.52) and delayed presentation: 31-60 days (OR 11.78 95% CI 6.15-22.54), >60 days (OR 11.94; 95% CI 6.78-21.03). Severe infection odds increased with rural residence (OR 5.51, 95% CI 1.97-15.39), visiting health facilities before TBS (OR 3.24 95% CI 1.24-8.45), soft tissue injuries without fracture (OR 6.01 95% CI 2.11-17.10). Severe complication odds increased with rural residence (OR 3.85, 95% CI 1.90 -7.78), soft tissue injuries without fracture (OR 2.77; 95% CI 1.23-6.26).

DISCUSSION AND CONCLUSION: Ethiopian children from rural areas were at highest risk of severe infections and complications after TBS. Measures should be explored to understand the underlying reasons and protect this vulnerable population.

