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Title: Rationale and Design of A Controlled Quasi-Experimental Study Testing The Efficacy of A Rheumatic Heart Disease Education Program in Babati, Tanzania

Authors: Jessica Abrams, Clement Kabakama, Mark Engel, Liesl Zühlke, Pilly Chillo

Background & Aims: Rheumatic heart disease (RHD) is a public health concern in Tanzania. Lack of awareness in the community and limited knowledge among primary health care workers (HCWs) are critical barriers to early diagnosis and a successful RHD prevention program. We aim to test and evaluate the efficacy of a HCW education program and school-based awareness campaign in improving knowledge and practice towards Group A Streptococcus (GAS) sore throat, Rheumatic Fever (RF), and RHD among primary HCWs and the community in Babati, Manyara.

Methods: We will conduct a controlled pretest-posttest quasi-experimental study involving 8 wards, evenly split into intervention and control groups. The HCW education package will include a 5-day in-class course on GAS/RF/RHD, an RF management algorithm, and an RHD patient education flipchart. Community awareness materials will comprise a GAS/RF/RHD community awareness flipchart, RHD coloring books, posters, and flyers. HCWs in the control group will be reminded of the currently available national guidelines on the management of GAS/RF/RHD. Pre-intervention knowledge surveys will be done 1-month prior, and post-intervention surveys will be completed immediately after the intervention, then at 3-, 6- and 12 months, in both the intervention and control groups. Repeated measures analysis of variance (ANOVA) test will be conducted to determine changes in knowledge over time. Facility-level outcomes will include the number of children correctly diagnosed, treated, and referred for GAS/RF/RHD.

Results: The anticipated results of the study are twofold. Firstly, it is expected that the intervention group will exhibit improved knowledge scores compared to the control group. Secondly, the number of correctly diagnosed, treated, and referred cases of GAS/RF/RHD may be higher in the intervention wards.

Conclusions: This work is expected to document the efficacy of a health education package in improving knowledge and practice towards GAS/RF/RHD in the community and primary healthcare settings in Babati, Tanzania, with possible future scale-up of the intervention to the rest of the Manyara region and the country.