

WORLD CONGRESS ON RHEUMATIC HEART DISEASE

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Title: Prevention, Control and Eradication of Rheumatic Heart Disease (RHD) in Ghana, West Africa Echocardiographic heart screening of 5000 school children

Authors: Charles Yankah, Andreas Kaestner, Daniel Asare

Background & Aims: Rheumatic heart disease (RHD) is a preventable fatal condition that is endemic in underserved low-resource global south. Are regular screening for throat infections and penicillin coverage the key to prevention of recurrent streptococcal sore throat and rheumatic heart disease (RHD) among school children?

Methods: Our observational studies on impact of school health education program (SHEP) on prevention of rheumatic fever (RF), secondary prophylaxis adherence among school children in Ghana were included in our analysis. Asymptomatic students from randomly selected schools in Cape Coast Metropolitan and Kibi Municipal hospital in Central and Eastern regions of Ghana, respectively were screened for rheumatic heart disease during 2017 and 2018. 53 % were female and 47% were males. The mean age was 14.7 ± 2.9 years (range 9-22 years), the body weight was 50.3 ± 15.2 kg. Captured and borderline cases of RHD were reviewed using the standard echocardiography machine according to standardised evidence-based echocardiographic diagnostic criteria of the World Heart Federation (WHF). Authorization of the study was granted by the Ministries of Education and Health and the Endorsement by the Ethical Committee of Cape Coast Teaching hospital. The study was sponsored by Edwards Lifesciences Foundation, USA.

Results: 4763 students, (3.763 from the Central and 1000 from the Eastern regions) underwent echocardiographic heart screening. In the Central Region echocardiographic screening revealed 1.6 per 1000 children (95% CI (0.6 -3.2)), In the Eastern Region, it was 1.9 per 1000 children (95% CI (0.3 -6.2)). Average prevalence of RHD in the two regions per 1000 children was 1.75. Odds Ratio: 1.25 95% CI: (0.25 - 6.22). No hospitalization for cardiac failure, a need for surgery and deaths were reported during the study period.

Conclusions: Prevalence of asymptomatic RHD in Ghana is very low. Our studies confirm current design and implementation of RHD prevention programs. Intensive school health education by SHEP, regular sore throat screening and secondary prophylaxis for prevention of recurrent sore throat by penicillin coverage will contribute to low incidence of rheumatic heart disease (RHD) and its eradication.