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Title: RHEUMATIC HEART DISEASE AN ECHO BASED SCREENING: A FOUR -YEAR AUDIT OF SUVA SCHOOL PROGRAM FROM 2018-2021

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Background & Aims: Rheumatic Heart Disease (RHD) is a consequence of recurrent infection with the Group A Beta Haemolytic Streptococcus (GAS) infection. Globally 35 million people are affected with RHD. Geographically 84% of the worlds population live in the regions of Asia, Africa and Oceania which include Fiji. RHD prevalence studies in Fiji estimate a 19.2 per thousand, which illustrates to 1 in 50 or 1 in a classroom. Fiji records 60 RHD related deaths. The school screening program was initiated in 2018. This study aims to document the effectiveness and any inconsistency in the screening program.

Methods: Method: This is a mixed-method study design, having both quantitative and qualitative components. The quantitative component was retrospective in nature with the study population including all children who were screened by the Suva Health team from the time period of May 2018 to June 2021. Convenience sampling was used to pick patients who fulfilled the inclusion criteria. Data was entered into Microsoft Excel. Incidence rate and mean values were calculated.The adherence ratio for 6months was derived from the data collected via Qualitative method. The researcher made phone calls to patients than looked for relation between demographic factors such as ethnicity, duration of prophylaxis and female and male gender and how it affected adherence to Benzathine. Verification of administration of prophylaxis was via inspection of Benzathine booklet. By statistical calculation of the odds ratio over a 6month period the OR was determined.

Results: Of the 7, 132 children screened over the study period, 374 (5%) were referred to a health facility. Of which 184 patients presented for central registration. 154(84%) were than confirmed to have definite RHD. The cumulative incidence calculated for this study was 21/1000 in those school children that were screened. RHD was seen more in the I-taukei population making 79.5% of the total positive cases. Mean age distribution of cases was11.6 years +1.4. RHD lesions found in school ranged from 79.8% being Mild RHD, 26.6% Moderate, 3.2% Sever RHD. Valves most effected was noted to be the mitral valves affecting 60% of the cases. This study showed that despite the Covid -19 pandemic, adherence was 64% for the 6month follow-up. Our analysis into weather certain factors played roles in affecting adherence rate; showed that being female was more likely to adhere to benzathine than male gender, 4 weekly regimes was less likely to be adhered to than 3 weekly and being Itaukei was less likely to be adhered to regime than non i-taukei. However, this held no significant association when further analysis was carried. Looking into the reasons for defaulters to the Benzathine prophylaxis most parents attributed to Covid-19 lockdowns and parents' perception of the child being too well to be sick to be reviving injections every month. Other factors such as traditional medicine use were stated and misplaced benzathine cards were used as reasons for defaulting benzathine regime.

Conclusions: The study shows that even though a huge number of positive cases is picked up with our screening our short coming is, in ensuring that these cases present for registration. More than half [50.8%] were not presenting for registration. One of the main factors attributing to the attrition was the distance of the registration facility. The study had showed that a lot of defaulters to benzathine prophylaxis was noted because of the Covid -19 situation and parents refusal on prophylaxis. Ensuring we address these three factors could help with better follow-up, registration and adherence.