

# WORLD CONGRESS ON RHEUMATIC HEART DISEASE

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**Title:** FIJI ANTENATAL ECHOCARDIOGRAPHY SCREENING (FANS) FOR RHEUMATIC HEART DISEASE BY TRAINED NON-EXPERT HEALTH PERSONNEL.

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**Background & Aims:** Rheumatic heart disease (RHD) is a major cause of indirect maternal mortality in Fiji. The current standard screening for cardiac disease in the antenatal population uses auscultation which is inferior to echocardiography (echo) in screening for RHD. Fiji utilizes non-expert health personnel (HP) trained in focused cardiac ultrasound to screen for RHD in schools with good results.

We sought to undertake a pilot study to evaluate the validity and utility of rapid echo screening by briefly trained non-expert HP for the diagnosis of RHD amongst women attending antenatal clinics within the greater Suva area, Fiji.

**Methods:** Eight non-expert HP were trained over a 4 week period to conduct rapid echo to screen for RHD. All women presenting to antenatal clinics in the greater Suva area for their booking visit between August 2022 and May 2023 were invited to participate. Women who provided informed consent underwent rapid echo screening by one of the trained HP in addition to their standard care. The trained HP decided whether the study was normal or abnormal. All participant's echo studies were recorded and reviewed by a cardiologist using the WHF diagnostic criteria for echo screening for RHD. For abnormal studies a confirmatory study was conducted by a cardiac sonographer and reviewed by a cardiologist. A qualitative survey of HP and a selection of participants to assess acceptability of echo screening will be undertaken. This study is ongoing and includes a 3 month post-partum follow up for participants to evaluate pregnancy outcomes.

**Results:** Of the 8 HP trained in rapid echo screening for RHD, 4 were obstetric doctors, 2 were registered nurses and 2 were midwives.

Of 2770 women approached for recruitment, 97.5% consented to participate. 69 declined for various reasons. Approximately 30% of the studies were delayed or deferred. Factors that contributed to delays in screening in our settings after recruitment will be discussed.

The presentation will include the sensitivity and specificity of the standard care (auscultation), an evaluation of the validity of rapid echocardiography in antenatal settings for RHD diagnosis, the average time taken per screening study, a comparison of time to diagnose through screening compared to those who refused consent. Previously undetected cases of severe RHD have been detected. Maternal and fetal outcomes will be assessed as proportions amongst those diagnosed with RHD, as well as proportions out of total antenatal cases and live births.

All newly diagnosed cases will be counselled, an RHD notification submitted to the RHD Control Program, secondary prophylaxis commenced and the patient comanaged with cardiology and obstetrics unit according to the Fiji Obstetrics guidelines.

**Conclusions:** Women presenting for antenatal care provide an ideal opportunity for screening for RHD. Antenatal echo screening for RHD in the greater Suva area, in Fiji appears acceptable to women presenting for booking care at public health facilities. Briefly trained health personnel have demonstrated competence at screening for RHD in this high risk population.