

# Test reveals widespread heart disease among children

April 28 2014, by Rogini Moorthi

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Prof Carapetis says while some children are diagnosed with definite RHD, there are others who get diagnosed under the new criteria of borderline disease, which researchers are still trying to determine the significance of. Credit: Mark Heard

An investigation into the prevalence of rheumatic heart disease in Fiji using echocardiography – ultrasound of the heart – has found that many local schoolchildren have rheumatic heart disease of a mild severity, which has not been diagnosed.

Led by Samantha Colquhoun from the Menzies School of Health Research in Darwin, the study involved 1,666 students (66.5 per cent of whom were indigenous Fijian children) aged between 5 to 14 years of age from ten primary schools in Fiji.

All study participants had to have an echocardiogram as well as an auscultation examination performed by a pediatrician.

Telethon Kids Institute Director and study co-author Professor Jonathan Carapetis says the study is important as it demonstrates the rate of true [rheumatic heart disease](#) in the Pacific.

"Rheumatic heart disease is a disease of poverty and is caused by an infection with the streptococcus bacteria that infects the throat," he says.

"This in turn causes the body to develop an immune reaction to the infection, which damages a number of tissues, particularly the heart resulting in rheumatic heart disease.

"Factors that increase risk of infection to the streptococcus infection include overcrowding, poor hygiene and limited access to medical care and those are found in Fiji and throughout the Pacific."

Prof Carapetis says traditionally the only way to detect RHD was using a stethoscope and listening for a [heart murmur](#) (auscultation).

"However, in our study we have shown that auscultation is a very poor way of detecting rheumatic heart disease," he says.

"We found that using a stethoscope only picked up 30 per cent of the total cases of rheumatic heart disease detected.

"This is because the ability to use sounds of the blood flowing through

the heart – a heart murmur – to detect [rheumatic disease](#) is not very accurate and auscultation is also poorly specific for detecting RHD."

According to Prof Carapetis, echocardiogram machines are the gold standard for diagnosing rheumatic heart disease because they produce good images of the heart valves.

This allows doctors to evaluate the direction of blood flow through the heart and help in the detection of leaky or tight heart valves.

Prof Carapetis says while some children are diagnosed with definite RHD, there are others who get diagnosed under the new criteria of borderline disease, which researchers are still trying to determine the significance of.

"As echocardiography machines are so sensitive, one of the concerns researchers have is whether or not cases that are being diagnosed as borderline rheumatic [heart disease](#) are true RHD," he says.

Provided by Science Network WA

Citation: Test reveals widespread heart disease among children (2014, April 28) retrieved 6 May 2024 from <https://medicalxpress.com/news/2014-04-reveals-widespread-heart-disease-children.html>

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