

Acute Rheumatic Fever/Rheumatic Heart Disease: Patients/parents and Nurses knowledge to the disease and adherence to benzathine penicillin prophylaxis

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MMed II

Paediatric Symposium

31/8/17



Background

- Acute rheumatic fever (ARF) - multi-system illness, cause by strep infection
- Rheumatic heart disease (RHD) is a sequelae of ARF
- Low incidence of ARF in developed countries but high in the pacific region
- Estimated prevalence of RHD in the Solomon Islands was 23/1000
- A RHD program set up in 2012

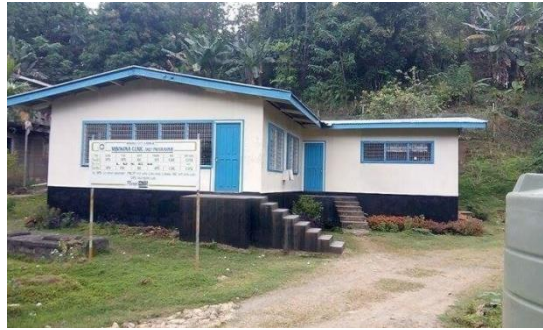


Aim of study

- Determine the level of understanding of ARF/RHD in children(patients), parents and nurses and its effect on the adherence to benzathine penicillin prophylaxis
- Determine the status of the RHD program in Honiara

Methodology

- Study design
 - Prospective follow up of a retrospective cohort.
 - Qualitative descriptive study
- Study settings



- Study sample
 - 14 children with their parents/guardians
 - 8 nurses



Methodology continue

- Data collection
 - Structured questionnaires
 - Individual interviews
 - Children and parents/guardians
 - Demographic and socio-economic characteristics
 - Knowledge of ARF/RHD and benzathine penicillin secondary prophylaxis
 - Reasons for missing injections
 - Nurses
 - Knowledge of ARF/RHD
 - Patient registration and follow up
 - Experiences with benzathine penicillin injection delivery



Methodology continue

- Data analysis
 - Audio recorded interviews
 - Translated and transcribed to English
 - Tabulation of data and common theme identification
- Ethics statement
 - Approved by Solomon Islands Research and Ethnics Review Board



Results



Patients responses

Knowledge of ARF/RHD and prophylaxis	Number of patients/missed injections
8 Patients – some sort of heart problems	1 (1 injection)
4 patients responses – “I do not know”	1 (2 injections)
11 patients – highlights benefits from injections	3 (3 injections)
3 patients do not know purpose of injections	1 have missed > 3 years of injections

Examples

Question	Quote
What have you been told about ARF/RHD? Tell me your understanding of ARF/RHD?	(GA), 10 years of age: <i>"They said that I have a hole in my heart"</i> (JT), 11 years: <i>"I have a heart problem...I was told that I need to drink medicine"</i> (RI), 12 years: <i>"It's rheumatic heart disease, I forgot what they told me about it"</i> (SI), 13 years: <i>"I do not remember...Rheumatic heart disease...I do not know"</i>



Reasons for missing injections

- Not taken to clinic
- No nurse at clinic (village)
- Feeling lazy
- Forget injection date
- No transport (bus fare)
- Fear



Parents/guardians responses

- Parents and guardians – limited knowledge
 - knew their children have some sort heart problem
- Parents viewed that treatment would make their child better
 - Showed sense of trust in doctors
 - Have fear for missing injections

Examples

Question	Quote
What have you been told about your child's condition?	Parent of AB: <i>"I am no really sure, but I was told to keep her and prevent her from eating foods that are not good for her "</i>
Tell me about the condition?	Parent of DF: <i>"He has a sickness in his heart. He has one small hole in his heart and he has to get injections every month to prevent his sickness "</i>
	Parent of JT: <i>"....she starts to have shortness of breath before we notice that her heart was beating fast...I do not know the name of the disease"</i>



Reasons for missing injections

- Living with guardians
- Relocation
- Parents failure
- Nurse not responding well
- Forget injection date
- Busy



Nurses survey

- Generally good knowledge about ARF/RHD and the treatment
- Have some difficulties with secondary prophylaxis delivery
- Report of death and shock after injection
- Not active with patient registration & case notification

Examples

Theme	Quote
Understanding of ARF/RHD and the treatment	<p>Mataniko Nurse: <i>“It is a one of the condition of the heart, which cause by streptococcal infection of the heart”.</i></p> <p>Kukum nurse: <i>“Benzathine Penicillin is an antibiotic that lasts in the body for 28 days. Protects the body from bacteria that can or commonly cause infection that will damage the heart”.</i></p>



Theme	Quote
Difficulties with secondary prophylaxis administration	<p data-bbox="647 321 1767 606">Kukum Nurse: <i>“Pain that is induced to the patient when giving injection shot. Client might fall into shock and blockage when giving injection to the patients”</i></p> <p data-bbox="647 714 1806 999">Rove Nurse: <i>“Benzathine penicillin injection block when injecting. Death happened straight after BPG injection given.. experienced in the clinic”.</i></p>



Discussion

- Patients and families
 - Limited knowledge
 - Adherence to penicillin injections were good
- Nurses
 - Have adequate knowledge
 - Needs support
- Secondary prophylaxis delivery
 - Needle and syringe blockage
 - Safety concerns
- National RHD program
 - Important program - needs to be sustained

Education materials

Queensland Health

Limb or joint pain in a school-aged Indigenous child?
Assume acute rheumatic fever until proven otherwise

Typical presenting symptoms:

- fever, malaise
- one or more painful joints
- unable to walk or use a limb
- unusual movements (chorea)

Acute rheumatic fever is common in school-aged Indigenous children in northern Australia.

Management:

- discuss the child with a paediatrician
- If rheumatic fever is likely the child should be admitted and aspirin and benzathine penicillin considered
- diagnostic tests should always include ESR, CRP, throat swab, streptococcal serology (ASOT, antiDNAseB), ECG and ECHO
- notify the case to your nearest Public Health Unit

THINK ARF

For more information contact the RHD team:
 Call us 0231 737 743 | Tropic Health 0427 348 224 | RheumBox 0457 044 872 | Townsville 0437 331 646
 email the website: rh@connect.com.fj

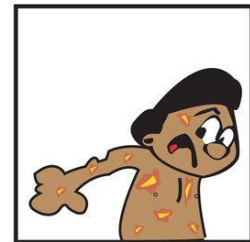
Toward Queensland Government

**FJI RHEUMATIC HEART DISEASE
 CONTROL PROGRAM**

IS IT RHEUMATIC FEVER?



SORE THROAT



SKIN SORES



SWOLLEN JOINTS



FJI RHD CONTROL PROGRAM

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Conclusion

- Patients/caregivers have limited knowledge of ARF/RHD
- Nurses have adequate knowledge of ARF/RHD
- Good adherence to secondary prophylaxis despite limited knowledge
- RHD program – neglected



Recommendation

- Health Education
 - Age & Caregiver friendly
 - Community awareness of ARF/RHD
 - Refresher courses
- Revive RHD program
 - Create posts/ Capacity building of health workers
 - Improve case detection and registration and follow up
 - Set up systems for reporting adverse events
 - Review of deaths associated penicillin injections



Bigfala Tagio Tru lo..

- Prof Trevor Duke
- Dr Titus Nasi
- Prof John Vince
- Paediatrics Clinical Supervisors and colleagues at PMGH
- All the children, their families and nurses participated in this study
- Emma, Moira, Hicks and Flora for photos



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Thank You

