

Yaws Among Indigenous People of Sungai Kejar, Hulu Perak: The Prevalence and The Treatment

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INTRODUCTION

- Yaws, a nonvenereal treponemal infection, is commonly misdiagnosed in rural children (1).
- It is characterised by highly contagious primary and secondary skin lesions and non-contagious tertiary destructive bone lesions with a long latency period (2).
- Hulu Perak's mobile health team first reported a case of yaws in 2006 in an indigenous child who resided in Sg Kejar and presented with aggressive, multiple skin lesions successfully treated by a single dose of benzathine penicillin. The skin biopsy sent to the CDC in Atlanta confirmed it (3).
- A recent outreach programme conducted in the same community surprisingly tested many villagers with positive TPPA and RPR.

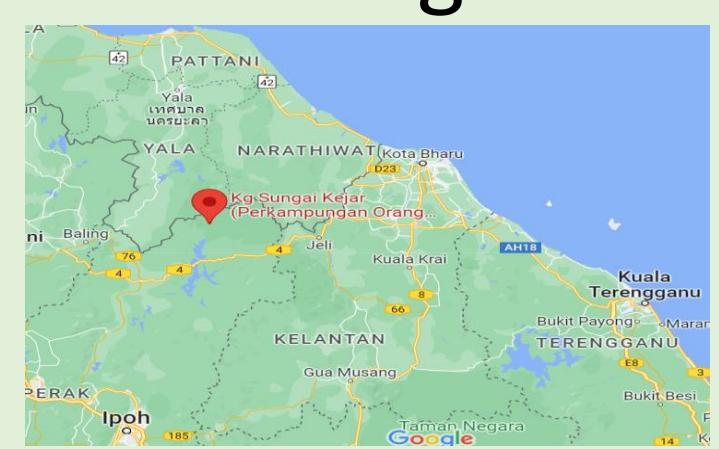


Figure 1: Location of Sg Kejar village



Figure 2: Yaws case detected in 2006

OBJECTIVES

- To determine the prevalence of yaws in Sg. Kejar
- To treat the community through mass drug administration (MDA) with azithromycin.

METHODS

- Three rounds of ACD were conducted from July until October 2022.
- Five teams of trained personnel were allocated to five small villages in Sg. Kejar.
- Villagers were screened for skin lesions and subjected to rapid diagnostic tests (RDT) for *Treponema pallidum* antibodies.
- Positive RDT results were followed by *Treponema pallidum* particle agglutination (TPPA) and rapid plasma reagin (RPR) blood testing.
- Any yaws-like skin lesions were sampled for PCR.
- Consented villagers six months and older were treated with a single azithromycin dosage (30 mg/kg) during the third round of ACD to reach 80% coverage.
- A positive/reactive TPPA suggests a past or current infection. A dual-positive test of TPPA and RPR (titre of $\geq 1:4$) was considered an active infection, whether symptomatic or not. Individuals with no current clinical signs but having dual positive tests were considered to have latent yaws.
- All data were analysed descriptively using Microsoft Excel 2019.

RESULTS

140 out of 367 villagers (38.2%) were **SCREENED** clinically and with RDT

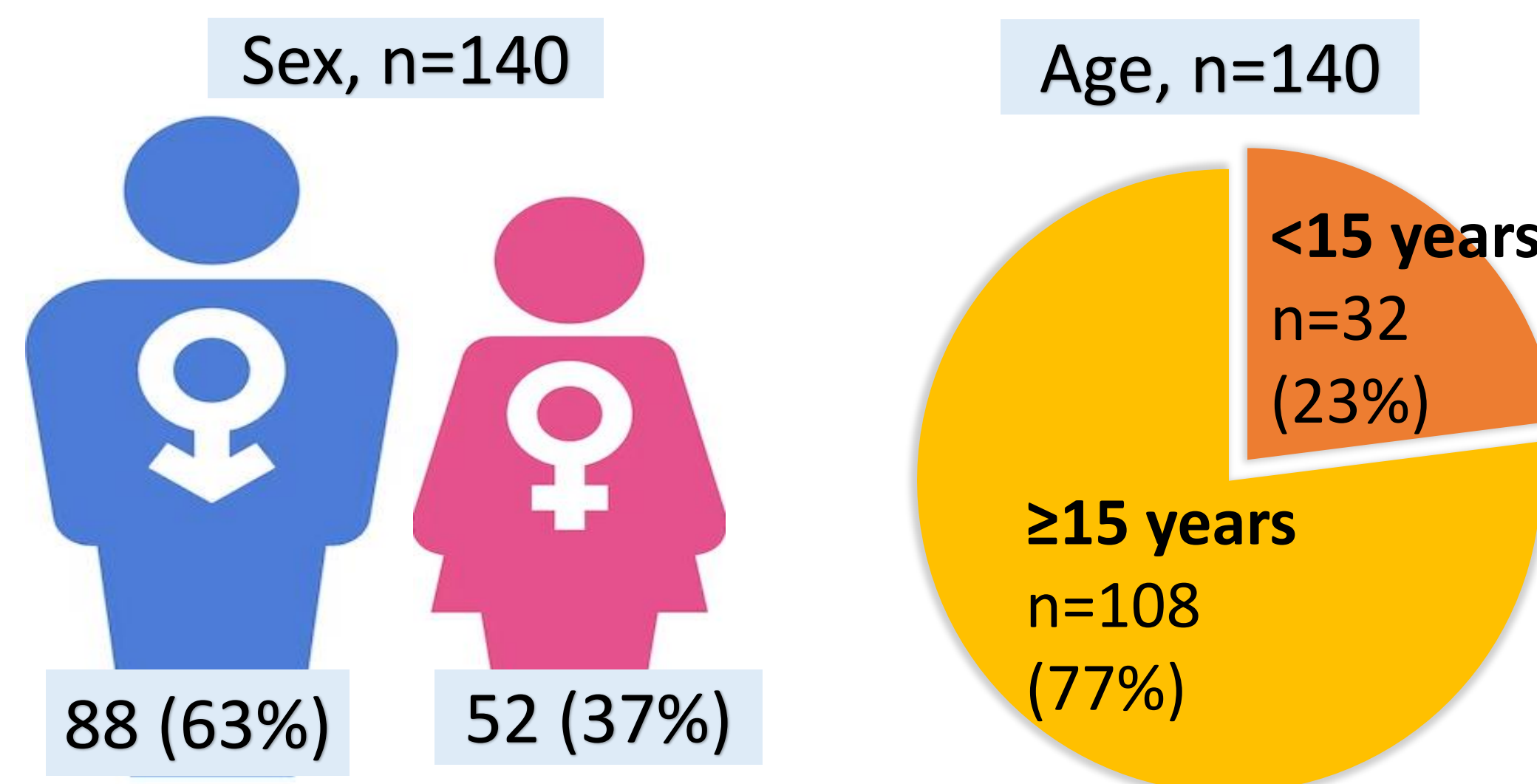


Table 1: Screening status

Variables	Quantity	(%)
Presence of active Yaws-like skin lesion		
Yes	1*	0.7%
No	139	99.3%
Positive RDT	36	25.7%
Sample sent for TPPA and RPR test	25	69.4%

*PCR negative
-Footnotes: multiple yaws-like scars seen among the adults

Table 2: Diagnostic test results (TPPA/RPR) for Yaws and their interpretations (n=25)

Result	Quantity (%)	Interpretation
Reactive TPPA	23 (92%)	Possible past or current infection
Reactive TPPA and RPR (dual positive) titre of $\geq 1:4$	19 (76%)	Active yaws
Reactive TPPA and RPR (dual positivity) with <u>active lesion</u>	0	Infective yaws
Reactive TPPA and RPR (dual positivity) with <u>NO</u> active lesion	23 (92%)	Latent yaws

16.4% Prevalence of serologically confirmed latent yaws.

Table 3: Demographic of individuals with dual positivity of TPPA and RPR test (n=23)

Variables	Quantity	(%)
Sex		
Male	11	47.8%
Female	12	52.2%
Age		
<15 years old	0	0%
≥ 15 years old	23	100%
Marital status		
Yes	22	95.7%
No	1	4.3%

82 out of 140 (22.3%) villagers being screened were **TREATED** with azithromycin.

DISCUSSION

- Since all those with dual-positive serology are over age 15, it supports the notion that yaws is in its latent phase based on the first infection reported in 2006.
- Treatment coverage during the third round of ACD was unsatisfactory; only 22.3% of the villagers received azithromycin.
- The Morges approach to yaws eradication recommended that mass therapy reach at least 90% of the target population (2).
- The nomadic lifestyle, low awareness as well as the beliefs and traditions of the locals, were among the hurdles to achieving 80% coverage of Yaws among this community.
- For now, the Dual Path Platform (treponemal and non-treponemal) (DPP) test, a point-of-care test widely used in yaws-endemic countries (4), is still lacking in Malaysia, which, if made available, will definitely enhance field screening and surveillance of yaws in rural communities.



Figure 2: Examples of yaws-like skin lesion and scars seen during ACD

CONCLUSION

- This study highlights the re-emergence of yaws in marginalized populations.
- It emphasizes the need to continuously educate the high-risk community and the healthcare providers serving them to improve case detection and treatment of yaws to prevent a resurgence and achieve the 2030 WHO eradication target.

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