

Scabies and impetigo in Timor-Leste

A school screening prevalence study

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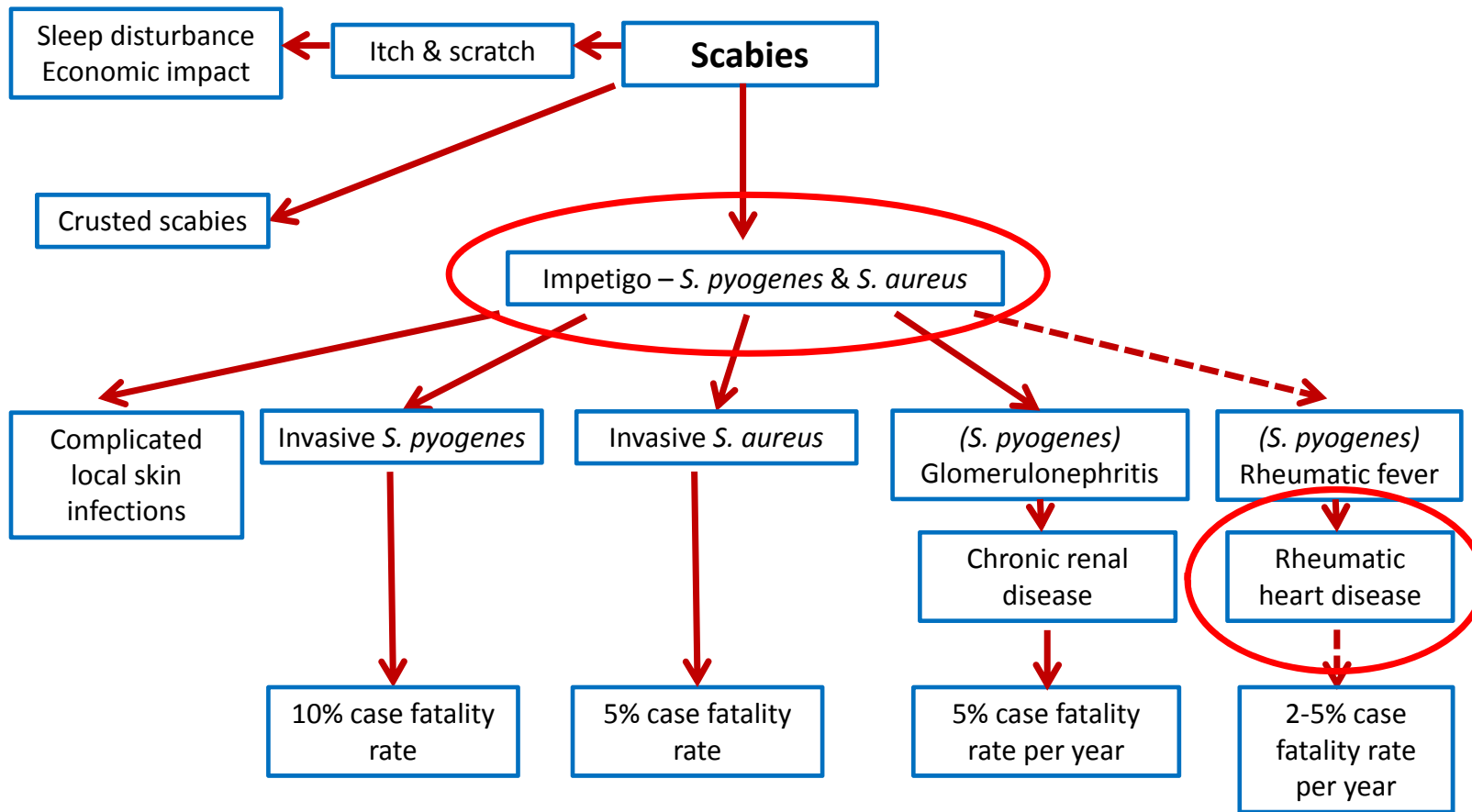
The scourge of scabies

- Common and important skin condition but often neglected
- Scabies affects more than 130 million people globally (WHO)
- Disease of poverty
 - Household crowding
 - Low socioeconomic groups
 - Poor access to healthcare
- Parasitic skin infection caused by *Sarcoptes scabiei*



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The importance of impetigo



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What is known in Timor-Leste

- Bacterial sepsis common but poorly defined
- Acute glomerulonephritis occurs but etiology unknown
- Rheumatic heart disease is common and devastating

Table 1 Infections identified by age group and type, Timor-Leste, September 2007.

| Age Group in years | Cases (%) | | | | | |
|--------------------|-------------------------|------------|------------|-----------|----------|---------|
| | No infection identified | Fungal | Scabies | Pyoderma | Leprosy | Yaws |
| 0 to 5 (n = 100) | 18 (18.0) | 24 (24.0) | 58 (58.0) | 30 (30.3) | 0 (0.0) | 0 (0.0) |
| 6 to 10 (n = 145) | 60 (41.3) | 44 (30.3) | 38 (26.0) | 18 (12.3) | 1 (0.7) | 3 (2.0) |
| 11 to 15 (n = 483) | 223 (46.1) | 195 (40.4) | 71 (14.7) | 34 (7.0) | 5 (1.0) | 3 (1.0) |
| 16 to 20 (n = 486) | 254 (52.2) | 175 (36.0) | 50 (10.3) | 22 (4.5) | 11 (2.3) | 0 (0.0) |
| 21 to 30 (n = 101) | 40 (40.0) | 49 (48.0) | 11 (11.0) | 4 (4.0) | 4 (4.0) | 0 (0.0) |
| 31 to 50 (n = 153) | 52 (34.0) | 77 (50.3) | 27 (18.0) | 3 (2.0) | 6 (4.0) | 0 (0.0) |
| over 50 (n = 67) | 27 (40.3) | 29 (43.2) | 11 (16.4) | 1 (0.9) | 2 (3.0) | 0 (0.0) |
| Total (n = 1535) | 674 (44.0) | 593 (39.0) | 266 (17.0) | 112 (7.0) | 29 (2.0) | 6 (0.4) |

Goals

- To determine the prevalence of scabies and impetigo in school children in urban and rural settings in Timor-Leste
- To investigate epidemiological associations of skin disease affecting this cohort of children
- Improved understanding of epidemiology is needed in order to design and implement appropriate treatment and prevention strategies at a community level

Methods

- Screening for school students aged 5-24
- 3 schools in 2 districts
 - Opt-out consent
 - Demographics
 - Anthropometry
 - Echocardiography
 - Skin examination



Study Sites



Study sites within Timor-Leste: Dili and Ermera

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Skin examination



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Demographic

| | Dili (n=502) | Ermera (n=894) | Total (n=1396) |
|---|-----------------------|-----------------------|-----------------------|
| Gender | | | |
| Female | 254 | 483 | 737 |
| Male | 248 | 411 | 659 |
| Age | | | |
| 5-9 | 233 | 179 | 412 |
| 10-14 | 266 | 349 | 615 |
| 15-19 | 3 | 290 | 293 |
| 20-24 | 0 | 76 | 76 |
| Anthropometry (median z-score (range)) | | | |
| Weight for age | -1.48 (-4.34 – 2.67) | -1.79 (-4.93 – 1.28) | -1.65 (-4.93 – 2.67) |
| Height for age | -0.66 (-3.46 – 3.97) | -1.67 (-5.39 – 2.70) | -1.35 (-5.39 – 3.97) |
| Body Mass Index for age | -1.78 (-4.91 – 2.89) | -1.19 (-4.17 – 1.65) | -1.39 (-4.91 – 2.89) |
| People per household | Median 6 (range 1-16) | Median 8 (range 2-16) | Median 7 (range 2-46) |

Scabies

- Total: 312/1396 (22%)
 - Dili: 26/502 (5%)
 - Ermera: 286/894 (32%)
 - aOR 8.1 (95% CI 5.2-12.4)
- Males more likely than females
 - aOR 1.4 (95% CI 1.0-1.8)
- 1 with crusted scabies



Impetigo

- Total: 136/1396 (10%)
 - Dili: 41/502 (8%)
 - Ermera: 95/894 (11%)
- No significant differences across gender, age, location
- 68% had evidence of either active or healed impetigo



Treatment

- Students with active skin lesions were referred to the local clinic
- Limited resources were available to treat children with severe infections
- Anticipate that many would not have been able to access appropriate treatment.



Discussion

- Socially disadvantaged population
- High prevalence of scabies and impetigo
- Higher rates in a rural district
- Limited treatment options

- *Community awareness and education*
- *Improved access to effective treatment*
- *Consideration for community-wide strategies*



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