

Is impetigo a missed opportunity for scabies treatment?

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Impetigo is a common condition which presents most frequently in Māori and Pacific children. It is characterised by pustules and yellow crusted sores. Analysis of hospital data shows that between 2006 and 2010, 732 admissions occurred in New Zealand hospitals, at a rate of 0.16/1,000 children per year in children aged 0 to 14 years.¹ Primary care rates of treatment are likely to be much higher. Rates of hospitalisation for the more general category of skin infection have been slowly rising, particularly so for Māori and Pacific young people, whose rates are two to four times that of New Zealand Europeans.¹ Impetigo admission rates are likely to underestimate the true incidence of the disease, as most disease is managed in primary care. Evidence also suggests that skin disease is often normalised, and not recorded, in high prevalence settings.²

The treatment of impetigo in New Zealand has centred on bacterial infection, with a recent article summarising treatment guidelines. Topical fusidic acid and hydrogen peroxide have been recommended for minor impetigo and oral antibiotics for more major lesions.³ The paper heavily references a Cochrane review of treatments for impetigo. This systematic review, although acknowledging scabies as a cause of impetigo, focuses almost exclusively on evidence for the efficacy of anti-bacterial treatments: either topical or systemic antibiotics, or anti-septics.⁴

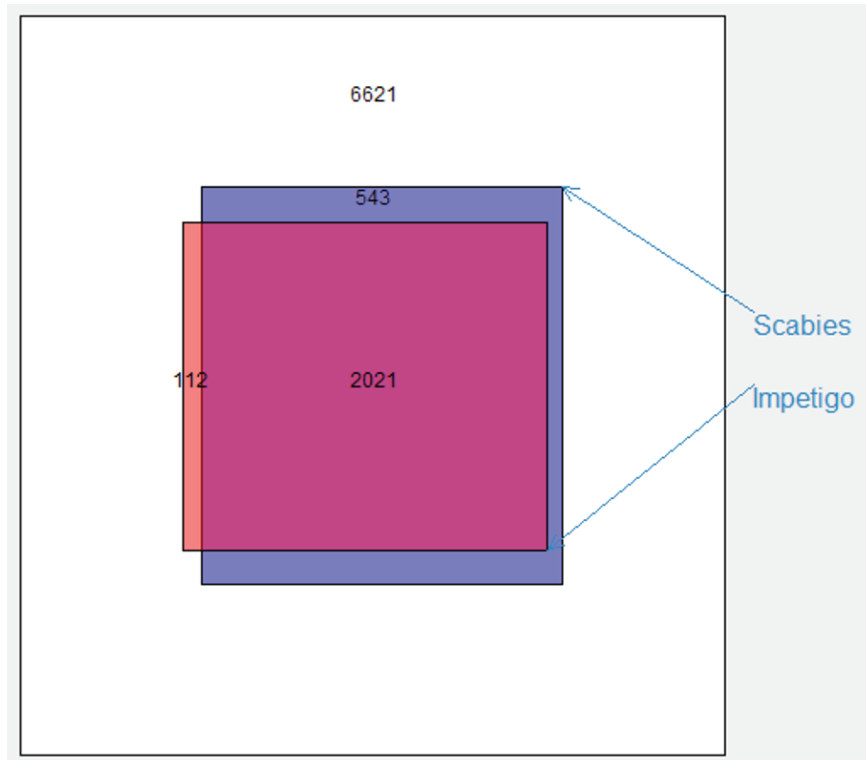
Scabies infestation is commonly linked to impetigo in Australia⁵ and Fiji.⁶ The Australian Aboriginal population has a high prevalence of scabies, like indigenous Fijians.⁶ In a Fijian national survey, the link between scabies and impetigo was dramatic. The authors reported:

“The presence of impetigo was strongly associated with a diagnosis of scabies (relative risk, RR, 58.6, 95% CI 48.7–70.5). The population attributable risk of scabies as a cause of impetigo based on the national survey was 93.1%.”⁶

The strength of association is such that the nature of the link between the conditions may be difficult to grasp. Effectively, the authors of the study are presenting evidence that scabies and impetigo go hand-in-hand. Figure 1 shows a representation of the data from the study (from Table 4) as a scaled rectangle diagram.⁷ The area of the outer rectangle is proportional to the total study population, with the red inner rectangle representing subjects with impetigo and the blue represents those with scabies. The overlap of the two groups is marked and represents the strong reported association.

Scabies can be a difficult disease to diagnose, even in experienced hands.⁸ No test is reliably sensitive and overseas studies indicate that misdiagnosis is common.⁹ The Pacific region is one of the highest prevalence areas in the world,¹⁰ and the most recent survey conducted in New Zealand in the late 1970s indicated a high prevalence of the disease in Māori (~10%) and Pacific (~18%) people.¹¹ A more recent study conducted as part of a school health programme in South Auckland (Mana Kidz), reported that the most common skin infection encountered was impetigo (122/183; 67%), with 19% of skin infection cases having scabies.¹² These categories, impetigo and scabies, were presented in a pie graph as mutually exclusive. This finding is at odds with a number of reports, including the one already referred to from Fiji and another in East-Timor

Figure 1: Scaled rectangle diagram, illustrating the nature of the association between scabies and impetigo in a national survey of the diseases carried out in Fiji.



which demonstrate that the two conditions frequently co-occur.^{13,14} Review papers also indicate that scabies and impetigo are commonly linked.¹⁰ Scabies, skin infection and rheumatic fever are strongly linked. Community trials conducted in Fiji and the Solomon Islands of scabies treatment show a sharp reduction in impetigo commensurate with the drop in scabies prevalence from the programme.^{15,16} Recent evidence from Auckland shows that scabies is strongly associated with the incidence of acute rheumatic fever.¹⁷ Historic studies from Trinidad strengthen the evidence for a causal link between the two diseases, by describing an outbreak of acute rheumatic fever (and post-streptococcal glomerulonephritis) which immediately followed an outbreak of scabies.¹⁸ Further evidence comes from a recent population survey from

Ethiopia. This survey showed an association between a history of scabies and “definite” echocardiographic evidence of rheumatic heart disease in a cross-sectional analysis (calculated odds ratio: 3.39; 95% confidence interval: 1.35 to 8.50, comparing those with a history of scabies to those without).¹⁹

In view of this evidence, several responses are possible. It may be argued that the family of children presenting with impetigo be routinely offered treatment for scabies, since co-infection with scabies is possible? If not, it seems prudent to at least examine patients carefully for scabies when impetigo is diagnosed. To help distinguish between these courses of action, we believe a study is needed to accurately investigate the prevalence of scabies and impetigo and the degree of association between these conditions in this country.

Competing interests:

Nil.

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