

## **By ignoring HTLV-1, is our understanding of the global burden of scabies only skin deep?**

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### Background

The association between HTLV-1 and scabies, particularly crusted scabies, is well documented, however routine HTLV-1 testing is uncommon in the management of scabies. Individuals with HTLV-1 are more susceptible to scabies, including crusted scabies, with the high infectiousness and difficulty in treatment of the latter making infestations highly transmissible within communities, particularly in the context of poverty and overcrowding.

We propose that trauma to skin barrier, through scabies or other conditions such as infective dermatitis, can lead to bacterial skin superinfection with Group A Streptococcal species (GAS), that may evolve to acute rheumatic fever or post-streptococcal glomerulonephritis with long-term sequelae. By maintaining high rates of scabies within communities, HTLV-1 can indirectly contribute to high rates of chronic renal and cardiac disease. By neglecting HTLV-1 screening when managing scabies and its related systemic sequelae, whole communities are relegated to generations of ill health.

### Approach

By raising awareness of this hypothesised link between HTLV-1 infection and the systemic consequences of GAS skin infections at both an individual and population level, healthcare professionals may be more likely to implement screening for HTLV-1. Were this to demonstrate an association, wider screening programmes might be adopted, for example screening recommendations within national guidelines.

### Impact

With greater screening for HTLV-1 comes earlier diagnosis, allowing prevention of transmission and screening for other associated conditions. If a link between HTLV-1 and the systemic consequences of GAS skin infections is demonstrable, this is further evidence of healthcare inequity in communities affected by HTLV-1.

### Significance

In 2017 the World Health Organization included scabies in its neglected tropical disease strategy, prioritising its management globally. With this increased awareness of scabies, now is the time to elucidate drivers of infestations, promote coinfection research and, above all, ensure that key opportunities for HTLV-1 testing (and prevention of transmission) are not missed.

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