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Letter to the Editor

REPLY TO THE ROLE OF CONTACT TRACING AND PREVENTION STRATEGIES IN THE INTERRUPTION OF LEPROSY TRANSMISSION

Chemoprophylaxis: a call for more research

We would like to thank Cairns Smith and Ann Aerts for writing such a comprehensive review on the challenges and research priorities of contact tracing and prevention strategies.[1] They have covered many facets of case detection in detail. We would like to amplify the following points.

We agree that early case detection is critical. However contact screening is only part of this and many newly diagnosed cases are not related to known cases. Contact screening is actually often difficult to do in practice and it raises ethical problems because patients have to disclose their diagnosis. There can also be problems with students or migrant workers who do not want to disclose their diagnosis to their colleagues or house sharers and we have experienced this in locations including London. Thirdly, women may be disadvantaged when disclosing their diagnosis. In India many patients give false addresses or mobile numbers to avoid being traced.

Contact Screening involves examining many potential skin lesions in healthy people and so a range of other skin lesions will be detected as well as potential early leprosy cases. It is vital to involve dermatologists to draw on their expertise in evaluating a range of lesions. Contact screening also requires increased personnel who are able to recognise the early signs of leprosy. Early leprosy is often difficult to diagnose and patients may require periods of observation to monitor lesions. There may also be a need to support investment into histopathology services to look at biopsies of patients with early leprosy.

Stronger scientific evidence is needed for the effectiveness of chemoprophylaxis. The main study is the COLEP study in Bangladesh.[2] In this study 21,711 contacts of newly diagnosed leprosy patients were randomized to receive single dose Rifampicin (SDR) or placebo. SDR did not give household contacts significant protection against developing leprosy, (OR 0·46 (0·15–1·38), p 0·16) and it only protected neighbours of neighbours: OR 0·24 (0·11–0·52). SDR did not protect against the development of MB leprosy (0·52 (0·22–1·19), p 0·12), however it did protect against the development of PB (0·38 (0·16–0·87), $P = 0·02$) and single lesion leprosy (0·42 (0·20–0·89). Protection was only for 2 years. These findings are consistent with SDR treatment having a weak effect against a low mycobacterial load, hence giving protection only against the development of PB leprosy

These data indicate the usefulness of chemoprophylaxis but they also indicate the need for further scientific studies; high quality research studies in other settings are needed. This study suggests that a single dose is not effective protection against leprosy and it is vital that other studies are done to test other regimens. There are also ethical consequences because it is incorrect to tell household contacts of leprosy patients that they will be protected against leprosy by taking a single dose of Rifampicin.

A similar study on chemoprophylaxis was done in India with a similar design to COLEP, covering seven sites in the South India and also two in Jharkhand and Bihar. It was difficult to recruit the required sample size (about 5000 subjects needed in each arm), and only 5000 were recruited. The population

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was reviewed three times in 6 years in follow-up surveys. The results were similar to COLEP with SDR giving about 50% efficacy and the effect lasting only 2 years. The Principal investigator was Dr Vijaykumaran and it would be useful for this negative study to be published. Currently the Government of India Leprosy programme does not recommend the use of chemoprophylaxis.

Smith and Aerts note that pilot studies are being done on aspects of chemoprophylaxis but pilot studies are not comparable with scientific studies: they can generate useful data but can give misleading results. A good example of this was the report suggesting that Prednisolone treatment was a highly efficacious in preventing TIR, these data were taken from an observational study[3] and the later formal randomized controlled trial did not show benefit for giving all MB patients prednisolone 20mg with their MDT.[4] It is critical that key policies are supported by strong scientific evidence. Other aspects of leprosy treatment such as the treatment of nerve damage and ENL have suffered from there being too few high quality trials.[5]

We also note the acronym post exposure prophylaxis (PEP) is a misnomer because it implies that a recently acquired infection is being treated whereas there is a long gap between infection and the development of disease.

We are very supportive of new initiatives in leprosy but it is critical that they are supported by the generation of high quality evidence to support the strategy. This would include studies such as testing the effect of multiple doses of chemoprophylaxis.

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