

Letter to the Editor

POTENTIAL IMPACTS OF POVERTY ALLEVIATION ACTIVITIES ON REDUCING LEPROSY TRANSMISSION

There is increasing concern in the public health community regarding the relationships between poverty and health. Evidence of the rising profile of such concern include a statement in the Jakarta Declaration on Health Promotion that: ‘above all, poverty is the greatest threat to health’,¹ and the current implementation of over a dozen inter-country research projects focused on improving health and reducing poverty.² While the measurement of poverty may be problematic, its manifestations are quite obvious³—most of the world’s poor have inferior health indicators, as reflected in life expectancy, morbidity and mortality profiles (<http://www.who.int/whr/2003/chapter1/en/print.htm>). Leprosy is currently, and historically, most prevalent among the world’s poor.

The last of the 12 main conclusions and recommendations of the 5th meeting of the World Health Organization Technical Advisory Group on Elimination of Leprosy (TAG) was that ‘poverty alleviation measures are likely to have an impact on leprosy transmission’.⁴ TAG is scheduled to discuss current and planned poverty alleviation measures in countries having a high burden of leprosy at its next meeting. In proceeding along this path, it is suggested that TAG needs to agree on two issues in advance: (a) what operational definition of poverty would be applied? and (b) which feasible poverty alleviation measures are likely to have significant impact on leprosy transmission in the short-run, and long term?

A definitional consensus *vis-à-vis* poverty would not only guide data collection, but would also serve to highlight the presumed links between poverty and leprosy transmission. ‘Absolute poverty’ or ‘relative poverty’ perspectives, which define poverty as a given level of income or food consumption that guarantees decent, healthy living globally or locally (commonly \$US 1.00/day, in 1985 dollars, and adjusted for purchasing power parity when using a ‘relative poverty’ perspective) would leave around 1300 million people, predominantly in leprosy endemic countries, below the poverty line.⁵ Food insecurity is a specific form of poverty, defined as a situation in which an individual has no assurance of obtaining the minimum 2288 kcal/day the adult human needs to function efficiently. Improved nutritional status has been linked to increased resistance to leprosy infection, and therefore reduced leprosy transmission.⁶

Perspectives of poverty focused on income levels are unlikely to be helpful with regards to the goal of leprosy elimination—leprosy endemic countries like Nigeria, that have achieved significant progress in leprosy control in line with the leprosy elimination target have in fact experienced national increases in absolute/relative poverty over the last 2 decades. In contrast, India, which has experienced overall national positive economic growth over the same period, is not expected to meet the 2005 leprosy elimination target. Also, Brazil, another ‘high-growth economy’ that is unlikely to meet its leprosy elimination target, is a nation characterized by marked social and health inequalities, with up to 50% of the poor in the south, north and north-east living in relative poverty. Thus, poverty alleviation measures focused on an income/expenditure paradigm are unlikely to contribute significantly to the goal of leprosy elimination, not least because health status is not an element of such definitions of poverty. It is as important to recognize the crucial role of wealth on health status and the quality of life, as it is to understand the qualified and contingent nature of this complex relationship.

Particularly since the late 1990s, development experts such as Amartya Sen have proposed definitions of poverty and development based on the capacity of the poor to improve their living conditions free of avoidable ill-health and escapable mortality, with health and education as important for facilitating such improvement as is income.⁷ The widely used Human Development Index is based on this definition of poverty. Using this definitional perspective, ill-health is positioned as a component of poverty, rather than as a determinant, with good health and poverty alleviation being mutually reinforcing—healthy people can more easily earn an income, and people with higher incomes can more easily seek medical care, have better nutrition, and have the freedom to lead healthier lives. This definitional framework appears more appropriate for examining the relationships between poverty and leprosy transmission.

Assuming TAG decides to adopt the Sen–UNDP definition of poverty, measures to improve living standards, education, health care systems *and* income in leprosy endemic countries are likely to have significant impact on leprosy transmission.^{8,9} This leads to the second issue—which feasible poverty alleviation measures are likely to significantly reduce leprosy transmission? Unlike diseases such as hookworm, where a direct correlation exists between transmission and poverty levels, however defined,¹⁰ the relationships between leprosy transmission and poverty are more complex, not least because the routes of, and mechanisms for, leprosy transmission are not as clearly delineated.^{8,11,12} Such difficulties are likely to complicate efforts to develop poverty alleviation measures that are focused on reducing leprosy transmission.

While sustainable poverty alleviation measures have a strong potential to significantly improve the living conditions of leprosy sufferers, they are more likely to have significant impacts on prevention of leprosy related disabilities, compliance with multi-drug therapy, and socio-economic rehabilitation, than on reducing leprosy transmission *per se*. Measures to improve living standards, education, general health status, and income levels for the poor require strong political will, vast financial resources, and long-term commitment, pre-requisites that are currently inadequate in most leprosy endemic countries. A focus on these expensive, broad-based, and long term, poverty alleviation measures by TAG is likely to deplete scarce human and material resources currently available for leprosy management.

In the short to medium term, however, leprosy workers may focus on enhancing food security for newly diagnosed leprosy cases and their close/family contacts—a poverty alleviation measure which appears to be directly linked to minimizing leprosy transmission.^{6,8,13} Food security enhancement for leprosy sufferers and their close contacts should be approached using strategies that would not foster paternalism and/or dependence. A programme to combat food insecurity must promote personal responsibility and autonomy if it is to succeed in producing sustainable social change in the living conditions of the poor. For example, giving food handouts for extended periods to the poor tends to exclude them from the knowledge and opportunities available to others, reinforcing their exclusion from the mainstream of society because it reinforces their dependence and encumbers their potentials for self-fulfilment. Finally, implementation of poverty alleviation measures should not be allowed to detract resources from the most successful strategy for reducing leprosy transmission to date, early diagnosis and effective treatment.

Acknowledgement

I thank the Netherlands Leprosy Relief for their support in writing this article.

*School of Public Health and Community Medicine
University of New South Wales
Sydney 2052, Australia
e-mail: awofeson@chs.health.nsw.gov.au
Fax: +61 2 93498924*

NIYI AWOFESO

References

- ¹ World Health Organisation. *New Players for a new era: leading health promotion into the 21st Century*. 4th International Conference on Health Promotion, Jakarta, Indonesia, 1997.
- ² World Bank. *A guide to country-level information about equity, poverty, and health, available from multi-country research programs*. World Bank, Washington D.C., 1999.
- ³ Gwatkin DR, Heuveline P. Improving the health of the world's poor. *Br Med J*, 1997; **315**: 497–498.
- ⁴ Technical Advisory Group on Elimination of Leprosy. *Main conclusions and recommendations of the 5th meeting of the WHO Technical Advisory Group on the Elimination of Leprosy*, 9 and 10 February 2003, Yangon, Myanmar. *Lepr Rev*, 2003; **74**: 188–190.
- ⁵ World Bank. *Poverty reduction and the World Bank: progress and challenges in the 1990s*. World Bank, Washington D.C., 1996.
- ⁶ Sommerfelt H, Irgens LM, Christian M. Geographical variations in the occurrence of leprosy: possible roles played by nutrition and some other environmental factors. *Int J Lepr Other Mycobact Dis*, 1985; **53**: 524–532.
- ⁷ Sen AK. Health in development. *Bull WHO*, 1999; **77**: 619–623.
- ⁸ Meima A, Irgens LM, van Oortmarssen GJ *et al*. Disappearance of leprosy from Norway: an exploration of critical factors using an epidemiological modelling approach. *Int J Epidemiol* 2002; **31**: 991–1000.
- ⁹ Rao PS, Mozhi NM, Thomas MV. Leprosy affected beggars as hidden source for transmission of leprosy. *Ind J Med Res*, 2000; **112**: 5205.
- ¹⁰ Awofeso N, Degeling P, Ritchie J. Prevalence of hookworm infections amongst itinerant pupil Islamic scholars in Zaria, Northern Nigeria. *Trop Doct*, 1998; **28**: 246–247.
- ¹¹ Chakrabarthy AN, Dastidar SG. Is soil an alternative source of leprosy infection? *Acta Leprol*, 2001–2002; **12**: 79–84.
- ¹² Naafs B, Silva E, Vilani-Moreno F *et al*. Factors influencing the development of leprosy—an overview. *Int J Lepr Other Mycobact Dis*, 2001; **69**: 26–33.
- ¹³ Jain S, Reddy RG, Osmani SN *et al*. Childhood leprosy in an urban clinic, Hyderabad, India: clinical presentation and the role of household contacts. *Lepr Rev*, 2002; **73**: 248–253.