SHORT REPORT

How can adherence with multi-drug therapy in leprosy be improved?

MICHELLE C. WILLIAMS

Accepted for publication 9 February 2005

Leprosy remains a major public health problem in many developing countries. Multidrug therapy (MDT) is effective, but adherence varies from 70% to 90%. Poor adherence has detrimental consequences including incomplete cure, persisting infectious sources and multidrug resistance.

Many factors determine adherence, including health beliefs of individuals and societies, the quality of the doctor-patient relationship and characteristics of the regimen. Thus multiple initiatives are required to improve adherence. Ley’s cognitive model highlights three potential targets: understanding, memory and satisfaction. Proschaska and DiClemente identified that patients are at different stages in their readiness to change, so each requires different interventions.

Health education decreases the stigma of leprosy. Early signs and curability should be emphasized as self-referred patients are more likely to adhere. Advertising leprosy as disfiguring and disabling merely enhances stigma. Advertising should be tailored to populations using locally revered members of the community, politicians and actors. Targeting young adults who are more literate and amenable to change can influence their elders to seek treatment.

The ideal treatment involves a cure with the lowest dose of a drug with minimal side-effects for the shortest length of time. Changes to medication to increase adherence include sustained release drugs, more convenient doses, blister packs and regimens tailored to individuals.

Monetary incentives to improve adherence are controversial. They were successful in anti-tuberculosis programs among homeless populations. However, the financial costs may make this impossible in developing countries and it sets a dangerous precedent for other treatments.

Direct observed treatment (DOT) increases adherence and decreases drug resistance to anti-tuberculosis treatment. However, this may be due to accessibility, drug availability, patient incentives, tracing defaulters and outreach efforts. Disadvantages of DOT include financial costs and the time and stigma associated with clinic attendance.

Patients weigh the benefits of treatment against costs such as price, side-effects, time off work, loss of privacy, loss of autonomy, stigma of clinic attendance and the effort of travelling to clinics. Social marketing can decrease these perceived costs. Countries where
leprosy is prevalent often have poor health services due to poverty, inhospitable terrain or conflict. Increased access to better health care improves adherence.\textsuperscript{11}

There is little research into the effectiveness of interventions to increase adherence. In a study of anti-tuberculosis treatment most strategies were beneficial including reminder letters, peer assistance, monetary incentives, patient education and increased attention from health care workers.\textsuperscript{8} However, improved adherence does not always improve outcome, such as where there are side effects of treatment.\textsuperscript{10}

Many of these initiatives are costly, time consuming and difficult to apply in the developing world. In addition, they further stretch countries with limited health care resources. Therefore, volunteer assistance is invaluable.

Adherence to MDT is essential to ensure adequate treatment and potential elimination of leprosy. Adherence can be improved by multiple initiatives that target the views and actions of patients, health care workers and society.

References

\textsuperscript{1} Lepra. What is leprosy. www.lepra.org.uk/leprosy.shtml
\textsuperscript{4} Porter M, Alder B, Abraham C. \textit{Psychology and sociology applied to medicine} Churchill Livingston, Hong Kong 1999.
\textsuperscript{5} Wong ML. Can social marketing be applied to leprosy programs?. \textit{Lepr Rev}, 2002; \textbf{73}: 308–318.
\textsuperscript{6} Haynes RB, McKibbon KA, Kanani R. Systematic review of randomised trials of interventions to assist patients to follow prescriptions for medications. \textit{Lancet}, 1996; \textbf{349}: 383–386.
\textsuperscript{7} Mullen PD. Compliance becomes concordance. \textit{BMJ}, 1997; \textbf{314}: 691–692.
\textsuperscript{8} Volmink J, Gardiner P. Systematic review of randomised controlled trials of strategies to promote adherence to tuberculosis treatment. \textit{BMJ}, 1997; \textbf{315}: 1403–1406.
\textsuperscript{10} Haynes RB, McKibbon KA, Kanani R. Systematic review of randomised trials of interventions to assist patients to follow prescriptions for medications. \textit{Lancet}, 1996; \textbf{349}: 383–386.