Preventing more than 1 million deaths

An effective vaccine for immunization against measles has been available for some time and measles has almost been eradicated in several developed countries. Should measles immunization be a major priority in the control of diarrhoeal diseases? It has been estimated that between 6.4 and 25.6 per cent of diarrhoea deaths could be prevented by measles immunization. Assuming five million deaths each year due to diarrhoea among preschool children in the developing world, this estimate suggests that between 60,000 to 140,000 diarrhoea deaths a year could be prevented by an effective measles immunization campaign. Clinical experience suggests that the cases that would benefit most from this are the children who develop severe diarrhoea and, possibly, diarrhoea associated with invasive organisms.

Cost-effectiveness

A good deal of the limited funds available in the third world for the
Control

Prevention and control of diarrhoea is dependent on oral rehydration, with beneficial effects. To justify any one of these funds or to find out why funds for measles immunization are spent on diarrhoeal disease control, cost-effectiveness of such an intervention needs to be carefully considered. There is very little available data on the way of hard data which directly addresses the effect of measles immunization on the incidence of acute diarrhoea and of severe diarrhoea leading to death. The cost of measles immunization has been variously estimated from US$2 to 15 per head, and of which will be spent in getting newly designed delivery systems in place and working successfully. Well-designed studies of the cost-effectiveness of measles vaccination as part of the control of diarrhoea in different population groups are urgently needed.

Simple one year study

The answer could come from a study in a population of three to four thousand children below the age of five years. A preliminary census will identify the children who have already had measles or who have received measles immunization. Children will be followed up for a year using minimally trained home recruiters from the community under the supervision of two public health nurses. At the end of the year, data on the incidence of cases of measles, the incidence of diarrhoeal diseases, the number of diarrhoeal cases and of deaths will be available. Using the initial data, it should then be possible to decide whether immunity to measles is a factor in the mortality and whether public health education, most of which are interventions based on socioeconomic progress.

Most clinicians who have experience with acute diarrhoea in developing countries feel that measles immunization would be a useful immediate weapon at a comparatively trivial cost, a feeling justified by (as yet) theoretical calculations. Some urgent but well-controlled field trials are obviously essential to determine cost-benefits, which could then present the policy makers with the possibility that 60,000 to 1 million deaths associated with diarrhoea in the vulnerable age groups can be prevented.

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* Synergistically – acting together, each making the other more powerful.

Measles immunization – preventing more than a million deaths?

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