

EDITORIAL

CONTRIBUTION OF VACCINATIONS TOWARDS REDUCING MORBIDITY AND MORTALITY AMONG CHILDREN IN DEVELOPING COUNTRIES

The association between infectious diseases in children and adverse life outcome is well documented(1-3). While improved living conditions and better health care have reduced the devastating effects of childhood infections in industrialized countries, the same cannot be said of the developing countries(4). Common infections like tuberculosis, polio, whooping cough, tetanus, malaria, measles and diphtheria still result in high incidence of morbidity and mortality in the developing countries(1). The emergence of human immune deficiency virus infection (HIV/AIDS) has only added to the already complicated scenario(5). General poverty remains a common denominator in all these considerations. Repeated infections of children who have borderline nutritional status, especially in the developing countries, rapidly tip them into frank nutritional deficiencies which may be of micronutrient type (like Vitamin A and iron deficiency anaemia) or severe gross types (like kwashiorkor or marasmus) leading to poor growth or death. This is frequently seen with the outbreaks of measles infections(1,3,6,7).

Relatively safe vaccines against most of these childhood infections: tuberculosis, polio, measles, whooping cough, tetanus and diphtheria have been available and in use for nearly four decades(8). The procurement and delivery of the vaccines to the target population remained a great challenge to the developing countries before the mid 1970s until the World Health Organization initiative on Expanded Programme on Immunization (EPI) was started in 1974 and reviewed to focus on improved coverage in 1977(8,9). Since then, the various country EPI programmes have registered improving immunization coverage of children with reducing incidence of morbidity and mortality from the targeted infections(4,5,8).

Immunizing children may also confer them with some non-specific protective effects which further reduce their morbidity and mortality. This has been demonstrated particularly with measles vaccination where reduction in child mortality from all causes other than measles of at least 30% has been reported(10-12).

Immunization programmes have been used to deliver other disease control measures in children. For example, the EPI programme in Tanzania was used to significantly reduce the rate of clinical malaria and severe anaemia in children by providing them with iron and intermittent sulphadoxine-pyrimethamine treatment during immunization(13). National immunization days (NID) which provide enhanced vaccination coverage of children have also been effectively used to provide micronutrient supplementation like Vitamin A. This was well demonstrated during the NID in Kenya in June 2002 when a national coverage for measles vaccination

of 97.9% and vitamin A supplementation of 91.4% were achieved(14).

The emergence of safe and effective newer vaccines is providing a possibility of further improvement of child survival through immunization. The recombinant hepatitis B vaccine, conjugated H. Influenzae type b vaccines and the pneumococcal conjugated vaccines are already having positive impact in childhood morbidity and mortality(4,15,16). On the whole, immunizing children has been quite safe and the few isolated negative effects have been far outweighed by the beneficial results (17,18).

In conclusion, immunization has confirmed to improve the morbidity and mortality outcomes among children in developing countries through reduction of the incidence of specific infectious diseases, non specific reduction of infections, provision of avenue for delivering other nutritional measures and eventual overall improvement in nutrition, growth and development.

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