

Short Report

Trends of Immunisation Status of the Children and Women Attending an Urban Diarrhoea Hospital in Bangladesh

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ABSTRACT

Since October 1988 the International Centre for Diarrhoeal Disease Research, Bangladesh has been offering immunisations to children less than 2 years old and women of reproductive age (15 to 45 years) who report for treatment at its Dhaka-based treatment centre. A survey conducted during October 1989 to June 1992 has revealed that 22.5% of these targeted children ($n=4,456$) and 21.7% of the women ($n=5,266$) had not received any immunisations. Only 23.2% of the children had completed an immunisation schedule, whereas 70.1% of the women had received 2 doses of tetanus toxoid. The percentage of women receiving both doses of tetanus toxoid vaccine increased significantly from 55.2% to 80.5% during the survey period (Chi Square=9.47, $p=0.002$). However, the percentage of children receiving all doses of vaccines against the six communicable diseases increased only from 15.8% to 23.4% (Chi Square=1.13, $p=0.29$) during the reporting period. Our observation shows that it is possible to cover a significant percentage of women with at least 2 doses of tetanus toxoid vaccine. However, immunisation services need to be intensified utilising all the health centres to improve immunisation coverage for the children.

Key words: Immunization; Diarrhoea.

INTRODUCTION

Each year about 830,000 children less than 5 years of age die in Bangladesh, at least 30% of them from six vaccine-preventable diseases, i.e. diphtheria, tetanus, whooping cough, poliomyelitis, measles, and tuberculosis (1). To control these diseases, the World Health Organization (WHO) launched an Expanded Programme on Immunisation (EPI) globally in 1974 (2), and it was in April 1979 when EPI started operating in Bangladesh (1). However, since 1985, EPI activities have been intensified to attain universal child immunisation. Moreover, WHO advocated the 'missed opportunity' strategy which means to avail the opportunity to offer immunisations to targeted children and women at every contact with a health care facility and thereby vaccinate as many as possible in a community within a target

period. Based on this concept, the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) in collaboration with the EPI, started offering immunisation services in the Dhaka hospital in October of 1988 (3). In this report we discuss the trends of immunisation coverage and, thereby, how effectively the facilities and opportunity of a clinical service centre treating diarrhoeal diseases can be utilised to provide vaccinations to children and their mothers who stay with them.

MATERIALS AND METHODS

About 60,000 to 70,000 patients each year report to the ICDDR,B for the treatment of diarrhoea with or without having other illnesses. Most of them are children and are usually accompanied by their mothers. The majority of these children leave the hospital within 48 hours after the correction of dehydration. Therefore, the turnover is rapid. More than 90% of the eligible unimmunised children

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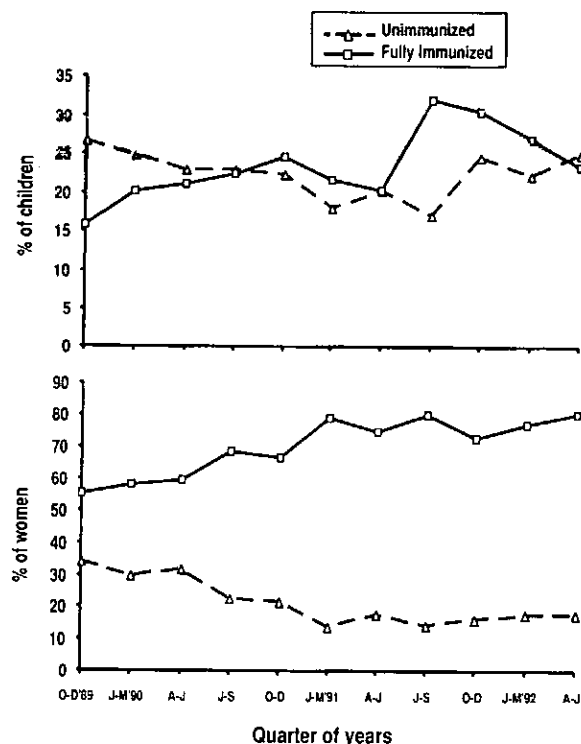
receive vaccines free of cost at the ICDDR,B. The survey was carried out by interviewing all the women who reported to the ICDDR,B hospital to receive treatment for their children or for themselves. Relevant information was recorded regarding the immunisation status of both women of reproductive age (15 years to 45 years) and children of the EPI target age (less than 2 years). On the 15th of each month, all the women reporting to the hospital throughout the day (i.e. 9am–5pm) were interviewed by a trained interviewer to record whether or not they had been vaccinated and the source of vaccination if other than ICDDR,B. EPI vaccine cards were checked when these were available. This information was collected during the period October 1989 to June 1992 from 4,456 children and 5,266 women. The results were analysed to see the changing trends of immunisation status.

RESULTS AND DISCUSSION

Our data show that during the 33 months, 4,456 of the total children surveyed were less than 2 years of age, and of these 22.5% had not received any immunisations before coming to the treatment centre and 23.2% had been completely immunised against the six diseases. The percentage of partially immunised children, i.e. those who had received a first or second dose of vaccines but had not received the remaining doses at the time of the survey was quite high (54.3%). The reasons for failure to receive all doses were mostly socioeconomic and familial. The most important factor is that a child needs four timely contacts with the EPI personnel to complete the immunisation schedule. Furthermore, long distance travel to EPI centres tends to increase noncompliance with follow-up doses. Using the ICDDR,B EPI facility, 82% of those unimmunised ($n=1,003$) and partially immunised ($n=2,417$) children received immunisations, 65% of them for the first time. Thus, it appears that it is a wise practice to utilise the opportunity of a hospital visit to make contact with patients for effective vaccination. In a populous country like Bangladesh, with an increasing growth rate of 2.4% and where about 20 million children are less than 5 years old, country-wide child vaccination is a formidable task. Yet it should be undertaken as a challenging job and every effort should be made to provide vaccination services at all points of contact, be they clinics, schools or public gatherings. Such approaches would be especially useful in developing countries where resources are limited and the number of immunisation centres is inadequate.

During the reporting period, 70.1% of the 5,266 women surveyed were found to have received the required two doses of tetanus toxoid (TT) vaccine, and 21.7% had not received any. The percentage of those who had received only a single dose of TT vaccine was 8.2%. The higher vaccination coverage in women may be related to an increased awareness

among women, and because only 2 doses are required to complete the immunisation against tetanus.



The percentage of children (less than 2 years of age) either fully immunised or receiving no vaccine at all (top); and that of women (15 to 45 years of age) either receiving two doses or no doses of tetanus toxoid vaccine (bottom). (The values are the status of children/women at the time of interview and are plotted as quarterly trends from October 1989 to June 1992).

The trend of immunisation coverage for both children and women (Figure) in different quarters of the period again reveals that coverage was better for women than for the children. From October 1989 to June 1992, the percentage of fully immunised women rose from 55.2% to 80.5% (Chi Square=9.47, $p=0.002$). However, during the same period, the percentage of fully immunised children rose only from 15.8% to 23.4% (Chi Square=1.13, $p=0.29$). Since our data is based on children in the hospital, and therefore reflects a select group about 80% of whom were less than one year of age, we reanalysed the data for this age group and found that only about 10%–15% of them had completed the immunisation schedule. However, among the children 1 to 2 years of age, immunisation coverage (about 65%) was found to be similar to that reported by the EPI for children residing in the

Dhaka metropolitan area (4). In 1985, the EPI redefined its target age for children to less than 1 year (instead of 2 years) and the ICDDR,B treatment centre provides a good opportunity to cover a large number of unimmunised or partially immunised children belonging to this age group. Furthermore, children who receive immunisations here are children convalescing from diarrhoeal illnesses. Mothers and health personnel working at the EPI centres believe that a child is too weak to receive immunisations after discharge from a hospital; however, according to WHO guidelines, vaccine should be withheld only when the child is sick enough to require admission to a hospital. Therefore, mothers need to be informed about the nature and importance of immunisation and motivation to provide protection for themselves and for their children at any health care facility.

Noncompliance of children for follow-up doses of immunisations remains a problem since children at ICDDR,B come from distant places. Furthermore, other contributing factors, including poverty, ignorance, illiteracy and lack of health education have been shown to be closely associated (5). Ensuring immunisation services in primary health care centres, educating mothers about immunisations, and making referral contacts with outreach EPI centres will help to resolve this problem and, therefore, improve immunisation coverage for the children.

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