

**SOCIAL SCIENCE AND IMMUNIZATION :
A PILOT STUDY IN A RURAL AREA OF BANGLADESH**

**(THE SECOND REPORT)
BRAC-ICDDR,B Collaborative Project**

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Introduction:

This report on "Social Science and Immunization: A Pilot Study in a Rural Area of Bangladesh," includes substantive results and their implications and relevance for the main study aimed at studying sustainability through social science approaches to be carried out in the country.

1. Substantive Results of the Pilot Study

A. Demand (community) sustainability:

Immunization coverage for children, 0-11 months for DPT/OPV3 was 32.6%, measles=12.6%, BCG=65.3%. Immunization coverage for the fully immunized children ≥ 9 months of age was 25%. Immunization coverage for children, 12-23 months for DPT/OPV3 was 58.6%, measles=40%, BCG=80% and for the fully immunized children=48.6%. Immunization coverage for children, 0-23 months for DPT/OPV3 was 43.6%, measles=24.2%, BCG=71.5% and for the fully immunized children=41.2%. TT immunization among mothers of children, 0-11 months before pregnancy for TT₁ was 40.2%, TT₂=29%, and TT₃=15% compared to mothers who were pregnant for TT₁ was 42.1%, TT₂=29.8% and TT₃=14.0%. TT immunization among mothers of children, 0-11 months during the gestation period for TT₁ was 67.3% and TT₂=45.8%. Accordingly the newborn tetanus protected for these mother was 45.8%. TT immunization among the currently pregnant women during pregnancy for TT₁ was 80.7% and TT₂=50.9%. TT immunization among the married and unmarried women, 15-45 years for TT₁ was 70.2% vs. 71.7%, for TT₂=50.5% vs. 44.6%, for TT₃=20.9% vs. 10.2%. Immunization card retention was 57.9% among children, 0-11 months, 51.4% among children 12-23 months and 55.2% among children 0-23 months; 25.2% among mothers of children, 0-11 months, 42.1% among currently pregnant women, 21.7% among married women, 15-45 years and 38.6% among unmarried women of this age group.

Immunization coverage among children, 0-23 months in Arai hazar thana in 1995 for DPT/OPV3 was 88.5%/89.7%, measles=89.8%, and BCG=96.5%. Coverage of TT₂ among the pregnant women was 36% and among other women, 15-45 years, coverage of TT₂ was 38.2%.

In-depth interviews in village, Charpara and focus group discussion in village, Panchbaria with the better versus the worse group of fully, partially and never immunization mothers/women reflected similar points of view in respect of their knowledge of the vaccine preventable diseases and the rules of vaccination for children and mothers/women. Their knowledge about the six preventable diseases of children and their causation was poor, they could name measles, tetanus and tuberculosis omitted the others but included some of the non-preventable diseases. They could not tell the causes of these diseases, except tetanus. Tetanus was stated to be caused due to wound or injury mainly by choppers, old or rusted pieces of iron, pricking of thorn, broom sticks or due to a fall during pregnancy. For management or remedies of the preventable diseases, both traditional and modern health care were stated to be sought. Traditional health care included seeking treatment from a kabiraj who usually prescribes amulets, blown water or oil. Some home remedies like pouring water on a patient's forehead or massaging his hands and legs are often in practice. Treatment from a homeopathic practitioner is sought but much less in practice than that from the kabiraj. Modern treatment is often sought: allopathic doctors are consulted and patients are sent for admission to hospitals or clinics. Seeking modern medical treatment is essentially required, particularly when tuberculosis and tetanus are apprehended or recognized.

Most of the respondents could not mention the doses of specific vaccines for children and the time they are due to be administered. Some of them could only say about the time of the first dose as one month or one and a half months and the dose for the concluding vaccine as nine months for measles. Similarly for TT vaccination, the respondents could not answer about the timing of the doses though some of them could say about the starting age as 14 or 15 years which coincides with starting of menstruation. Some of the respondents could only say that women irrespective of married or unmarried, pregnant or not pregnant are eligible for TT vaccine.

Divergences of opinion were noted between in-depth interviews and focus group discussion as well as within focus group discussion with the better versus the worse groups of respondents in respect of problems faced in the immunization centres, Health workers' behavior with the mothers/women, permission required to visit the immunization centers and cost recovery for immunization. In the immunization centers respondents faced the problems of too much crowd, want of seating place, long waiting time and shortage of vaccines. Most of the respondents in in-depth interviews said that the Health workers behaved well with them. The majority of them stated that husband's permission is necessary to visit the immunization centre. The mother-in-laws are the next important persons whose permission is required to visit the immunization centres. Majority of the respondents expressed in favour of payment for cost recovery for immunization, but contradicted their opinion on probe questions.

Problems faced in the immunization centres by the respondents from the better socioeconomic groups in focus group discussion included crowd, shortage of vaccines, want of seating place and absence of Health workers. The problems faced by the respondents from the worse socioeconomic groups were discrimination between (i) the rich and the poor women, (ii) the young and the elderly women, (iii) the fashionably dressed and the ordinarily dressed women, and (iv) the more intimate and less intimate women. The respondents from the better socioeconomic groups stated their satisfaction with the behavior of the Health workers in the immunization centres, but those from the worse socioeconomic groups complained of misbehavior. The need of taking permission to visit the immunization centres from either the husbands or the mother-in-laws was reported by both the better and the worse socioeconomic groups, but the latter reported less often. Respondents were less in favour of payment for cost recovery of immunization in the focus group discussion than in the in-depth interviews. Those who were in the worse socioeconomic groups were less in favour to pay than those who were in the better socioeconomic groups.

Focus group discussion with the male and female primary school teachers showed that both the groups had fair knowledge of the six preventable diseases, vaccines for children, mothers and women and their respective doses. Knowledge of the village elders and the Union Parishad (UP) officials was poor in this respect. Majority of the female teachers spoke in favour of payment for cost-recovery of immunization only from the people who are literate. The male teachers were of the opinion that expenses for immunization can be recovered after vaccination and education are made more universal: till that time only the knowledgeable and the intelligent people may be charged for the cost. Opinion of the village elders was divided on this point. Some of them suggested minimum charge for cost recovery for immunization to start with and gradually to implement it. The UP officials rejected the idea of cost recovery for immunization outright but mentioned that expenses for vaccination can be recovered according to users' ability to pay. They opined that part of the cost may be collected from the rich people through taxation with government initiative.

B. Supply (programmatic) sustainability:

In the four outreach immunization centres the wastage of vaccine doses was 80% for BCG, 60.7% for OPV, 52.5% for measles, 38.9% for DPT and 30.2% for tetanus toxoid. Interviews with 45 mothers/women in these outreach immunization centers (exit points) showed that only one out of ten respondents had the knowledge of age of vaccination and the type of vaccines required for the preventable diseases of children. Mothers who knew the causes of neonatal tetanus and poliomyelitis was 16% and 29% respectively. Only 12% of Health workers enquired about mothers' health, 2% discussed their health problems and 3% advised about vaccine related problems. Respondents' main reasons for attending in the immunization center were to (i) keep children free from diseases (44%), (ii) get TT vaccine themselves (36%), (iii) keep mothers/children safe from diseases (16%) and (iv) get children vaccinated (4%). Mothers/women who know measles by local

name as 'lunti' or 'fera' constitute 29.6% and 4.5% respectively. Those who know whooping cough as 'khushkhushi kashi' or 'meadi kash' constitute 2.3% each; those who know it as 'thanda laga' or 'whooping kash' constitute 1.1% each. Diphtheria is known as 'galai fash' or 'diphtheria' by 2.3% and 1.1% respectively. Those who call poliomyelitis as 'ordanga' comprise 11.4%. Tetanus is called 'khichuni' by 6.8% or 'dhanustanker' by 15.9% and TB is called TB or 'jakha' by 8% and 13.6% of the respondents respectively. Only 19% of the respondents mentioned that immunization is effective to protect children against the six preventable diseases. Nearly 90% of them could say the names of the different outreach immunization centres in the locality. The places of fixed immunization centres mothers/women would like to visit if the outreach immunization centres are closed, included Araihasar hospital or the Thana Health Complex (32.5%), wherever a new centre is available (22.5%); Khandaker 'bari' (15%), Charpara club (10%), neighbouring village (7.5%) FWC, Manchar (10%) and Mahakhali hospital in Dhaka (2.5%). Types of providers mentioned were Health workers (68%) and doctors (30%) and Family welfare Assistants (2%). The main sources of prior information about the time and place of immunization were Health workers (55%), doctors (12.5%) and each of loudspeaker, relatives and neighboring people (10%). 73.4% of the respondents said they needed vaccination when pregnant, 16.3%, when not pregnant, 4%, anytime and the remaining said that vaccination depends on age, when unmarried women start menstruation or they cross age 15 years. 80% of the respondents said that they needed TT vaccine and the remaining had no knowledge of such a vaccine. Respondents who expressed in favour of payment for cost recovery for immunization was 93%. 23.9% of the respondents said that the government should charge below Tk 5/- for each dose of vaccine but 21.4% expressed that they would be able to pay this amount. 69% of them said that government should charge Tk 5 to 10 for each dose of vaccine but 61.9% said that they would be able to pay this amount.

Observation in the four outreach immunization centres showed that some of these were organized in open or semi-open places or even under the shade of

trees. There was no identification signs/signals announcing or indicating the location of the centres. No 'Moni' flag or poster was on display nor any flip chart or booklet was noticeable. Poor interaction between the Health workers and the mothers (women) was observed.

All the five providers interviewed (3 HAS and 2 FWAs) in or around the immunization centres informed that their training was inadequate, two of them faced problem of finance and only one expressed in favour of cost recovery for immunization from the people. One HA received training for more than six years compared to two years for the FWAs: HAS attended in refresher's course but none of the FWAs had chance to attend in such course. The HAS performed EPI work for 20-32 hours per week compared to less than 20 hours for the FWAs. The Supervisors made more frequent visits to the HAS than to the FWAs.

None of the five supervisors interviewed had any involvement of NGO in EPI activities and none supported cost recovery for immunization from the people. Their problems of coordination of activities of Health, Family planning and NGOs were, (i) inadequate space for meeting, (ii) non-availability of any hall room, (iii) overlap in activities of workers of Health and Family planning on the immunization day in the outreach centres, and (iv) shortage of vaccines. The material supply problems of the supervisors included shortage of vaccines, (particularly, measles), logistics, 'Moni' flags, EPI registers, and child and mother's cards. Their financial problems were, (i) budget was not placed in time and (ii) T.A. was allowed but it was not sufficient.

Some staff positions were vacant in the THC, Sub-centres and Family Welfare Centres. EPI materials and equipments in the THC, such as refrigerators, freeze, ice packs, vaccine carriers, dial thermometers, and sterilizers were not functioning. EPI posters, booklets, flash cards, and 'Moni' flags were in short supply. Reporting and recording materials like recording forms, reporting forms and tally sheets were not available. Inventories of supply and consumption materials showed that some items were not in stock. Certain items were indented (either received or not), if received, they were not distributed, and if

distributed, there was no balance left after distribution. Such items included, syringes, needles, immunization cards for children and mothers; EPI posters, booklets, folders, show cards, flip charts, recording forms, reporting forms, registers and tally sheets.

2. Implications and relevance of the results for the main study:

Bangladesh has made notable achievement in the field of immunization in the recent past (De Silva, Herm, 1991). The most crucial issues for the success of EPI in Bangladesh Centre around sustainability that is findings are revealing and have important implications and relevance for the maintenance of the programme (Noto et. al., 1991; Chowdhury, Aziz, 1993). The pilot study encompasses demand (community) sustainability and supply (programme) sustainability of the core study. These two components are considered crucial for studying sustainability of immunization programme in the country which the main study aims to undertake. Demand and supply of the immunization programme involves the users and the providers respectively who are the principal partners in the programme. Hence, the relevance and the implications of the result of pilot study for the main study.

Immunization coverage in the pilot study has been found to be low, compared to both the thana and the nation (WHO, 1993). Knowledge, attitude and practice related to the vaccine preventable diseases has been found to be poor and so was the interactions between them and the health workers. Previous researches have shown that lack of understanding by the parents of both the concept and the practice of immunization is of the most important factors that explains why many children are not fully immunized (Khahom, Salauddin, 1983; Bonilla et. al., 1985; EPI, 1992; Laston et. al., 1993; Bhuiya et. al., 1995). Mothers/women complained of much crowd, refusal of vaccination and discrimination between social groups in the outreach immunization centres in the study area. Such centres normally organized in open or semi-open places, or even under trees with no signals/signs or 'Moni' flags on display were observed to be managed in a haphazard or casual

manner. Shortage of vaccine or vaccine cards (particularly of TT) was reported by the users from the immunization centres. Interviews with the supervisors of the providers and the documents examined from the THC confirmed these irregularities. Direct observation made by the field workers have also confirmed these in the immunization centres and in the EPI control room in the THC. Besides, overlapping of activities of Health and Family Planning workers, problems related to EPI staff positions (vacancies), materials/equipments, logistics, supply and finance were found to persist from the peripheral outreach immunization centres to the THC which is the focal place for all EPI activities in the entire thana.

The above results of pilot study have put sustainability of EPI programme in question. However, they have explored scope for the main study to carry out research to verify and understand some of the issues related to sustainability of immunization programme in the country.

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