

# TETANUS TOXOID IMMUNISATION COVERAGE EVALUATION SURVEYS IN RURAL NARELA ZONE AND CITY ZONE AREAS OF DELHI — A REPORT

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## SUMMARY

A major purpose of the Immunisation Coverage Evaluation Surveys to document the vaccination status of mothers was to determine the true picture of the Immunisation status of pregnant women and to identify areas which need strengthening.

Immunisation Coverage Evaluation Surveys were carried out for a 2.4 lac rural and 2.2 lac urban population of Delhi by cluster sampling method. A total of 420 mothers of children who were less than 12 months of age were included in the study in 30 clusters in each zone.

The percentage of mothers fully protected against tetanus (TT2/B) during their last pregnancy was 76.2 and 88.1 in rural and city zones respectively. The main source of immunisation was the Health Centres (59.3 percent) in the rural zone while in the city zone the health facilities popular with the mothers included the Private Practitioners (34.4 percent), Hospitals (33.6 percent) and Health Centres (31.1 percent). Only one fifth (20.5 percent) of the deliveries were institutional in the rural zone as against three fifth (61 percent) in the city zone. Untrained Dais conducted as many as 38.6 percent and 25.7 percent of the deliveries in the two zones respectively.

Done on a periodic basis, a Coverage Evaluation Survey will help to determine whether or not vaccination coverage targets have been met.

## *Introduction*

The expanded programme on immunization was launched in India in January

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1978 with a view to protect all children against six vaccine preventable diseases and mothers against the killer disease tetanus. The Universal Immunization Programme was subsequently launched



in November, 1985 aims at adding impetus to the existing Expanded Programme on Immunisation.

In Delhi, the Universal Immunisation Programme was launched in a phased manner, initially through the medical colleges only and since 1st April, 1987, the whole of Union Territory of Delhi has been brought under Universal immunisation Programme. In keeping with the objectives of Health for All, while as the National Health Policy aims at achieving Universal Immunisation Coverage of the eligible population by 1990, Delhi made a commitment of achieving Universal Immunisation by March, 1988.

The accurate measurement of vaccination coverage is an essential step in determining expected reduction in morbidity and mortality from this disease. It is one of the ways to evaluate effective operation of the programme.

Against this background the present study on Immunisation Coverage Evaluation Survey was initiated in collaboration with the Health Department of Delhi Administration and UNICEF. The survey was to help determine the true picture of the vaccination status of the target population, to identify areas with good and poor coverage and to identify the positive and negative factors affecting the acceptance of Immunisation by pregnant mothers.

This paper documents the findings of Tetanus Toxoid vaccination coverage evaluation survey for pregnant women conducted by the Department of Preventive & Social Medicine, Maulana Azad College in the Narela Zone and City Zone areas of Delhi on the 15th & 16th February and 23rd to 25th February 1988 respectively.

### **Method**

The survey for evaluation of vaccination coverage was undertaken in rural Narela Zone and City Zone with a population of 2,36,627 and 2,20,992 respectively. The survey method used was the cluster sampling technique based on the W.H.O. module on Vaccination Coverage Evaluation (1987). As per the technique described therein, thirty clusters were selected randomly in Narela Zone and another 30 in City Zone areas respectively, wherein each cluster contained seven mothers of children who were less than 12 months of age e.g. for the survey conducted on 15th February 1988 all mothers with children born after 15 February 1987 were included in the survey.

The Tetanus Toxoid immunisation status of the mother was assessed on the basis of documented evidence viz. immunisation card, antenatal card etc. wherever available. If the immunisation record was not available, she was asked if she had ever been immunised, whether she had received one or two of booster dose of Tetanus Toxoid during the last pregnancy. The information was recorded on the mother coverage form. Additional information collected during the survey included the source of Tetanus Toxoid Immunisation, place of delivery, the person who conducted the delivery and whether or not the mother had received antenatal care. If the mother had received tetanus toxoid during pregnancy she was considered to have received antenatal care.

### **Results**

A total of 420 mothers with children less than 12 months of age (210 mothers each in rural Narela Zone and City Zone)

were surveyed. The percentage of fully protected mothers against tetanus viz. 2 doses of Tetanus Toxoid or the booster dose during the last pregnancy was 88.1 percent in the City Zone as compared to 76.2 percent in the Rural Narela Zone.

was 88.1 percent and 76.2 percent in the two zones respectively (Table-I).

The observed gap between those who had received antenatal care and those who had received Tetanus Toxoid Immunisa-

TABLE I  
TETANUS TOXOID IMMUNISATION STATUS OF MOTHER

Field Exercise	Rural Narela Zone		City Zone	
	Number	Percentage	Number	Percentage
Total Mothers Surveyed	210	100	210	100
Antenatal Care Given	175	83.3	199	94.8
Mothers with cards	7	3.3	10	4.8
Only One dose (T.T)	14	6.7	9	4.3
Two doses (T <sub>1</sub> T <sub>2</sub> ) Fully protected	143+17=160	76.2	169+16= 185	88.1
Booster (B)				
Dropout rates (I to II)	14	8.9	9	5.1

It was observed that 94.8 percent of the mothers in the City Zone and 83.3 percent of the mothers in the Rural Narela Zone had received antenatal care during their last pregnancy while the percentage of fully protected mothers against tetanus

tion may be due to the fact that certain mothers who had got themselves registered at the antenatal clinic early in the pregnancy failed to turn up during the subsequent visits for Tetanus Toxoid Immunisation.

TABLE II  
SOURCES OF TETANUS TOXOID GIVEN

Source	Rural Narela Zone		City Zone	
	Number	Percentage	Number	Percentage
Hospital	12	3.8	122	33.6
Health Centre	188	59.3	113	31.1
Outreach	0	0	0	0
Private	71	22.4	125	34.4
Anganwadi	46	14.5	3	0.8



A majority (59.3 percent) of the mothers had received Tetanus Toxoid Immunization from the Health Centre in the Rural Narela Zone while in the City Zone the health facilities popular with the mothers for the Tetanus Toxoid Immunization included the Private Practitioners (34.4 percent) Hospitals (33.6 percent) and Health Centres (31.1 percent) (Table-II).

### Discussion

In the two zones surveyed in the metropolis of Delhi, coverage of pregnant women was only 76.2 percent in the Rural Narela zone and 88.1 percent in the City Zone. The present study examines the Tetanus Toxoid Immunisation Status of all mothers of children born between 15th February 1987 and 15th February 1988.

TABLE III  
PLACE OF DELIVERY

Delivery conducted at	Rural Narela Zone		City Zone	
	Number	Percentage	Number	Percentage
Home	167	79.5	82	39.0
Health Centre/Hospital	27	12.9	86	41.0
Other(Pvt.Nursing Home etc.)	16	7.6	42	20.0

As expected, only one fifth (20.5 percent) of the deliveries were institutional in the Rural Narela Zone while three fifth (61 percent) of the mothers had institutional deliveries in the City Zone (Table-III).

Keeping in mind that the whole of Delhi was brought under U.I.P. w.e.f. 1st April 1987 and Delhi's commitment of achieving Universal Immunisation by March 1988, the Tetanus Immunisation Coverage of pregnant mothers is low especially

TABLE-IV  
PERSON WHO CONDUCTED THE DELIVERY

Delivery conducted by	Rural Narela Zone		City Zone	
	Number	Percentage	Number	Percentage
Trained Dai	54	25.7	18	8.6
Untrained Dai	81	38.6	54	25.7
Hospital Staff	52	24.8	83	44.3
Other	23	10.9	45	21.4

The majority of the deliveries were conducted by untrained Dais in the Rural Narela Zone (38.6 percent) while in the City Zone also as many as 25.7 percent of the deliveries were conducted by untrained dais. (Table-IV).

in the Rural Areas. If we are to achieve 100 percent immunisation of the pregnant women, the programme activities need to be strengthened more so in the Rural Areas. The Tetanus Toxoid Immunisation programme for pregnant women can be

strengthened by 100 percent registration of antenatal mothers as early in pregnancy health functionaries is toned up by adequate staff supervision. There is need for meticulous follow up of antenatal women to curtail dropouts and a motivational health education programme to ensure their attendance in the antenatal clinics. Further, wide publicity should be given to the programme through the media network.

The bulk of the immunisation in rural areas is carried out at the local health centres while the burden is shared by the hospitals and health centres in urban areas. Strengthening the activities at the primary level by ensuring availability of vaccines and maintaining cold chain facilities would go a long way in achieving universal immunisation. Private Practitioners and private nursing homes also play an important role in the existing programme. Their participation may be stepped up by regular supply of health education material. Government may also consider the feasibility of making the Tetanus Toxoid vaccine available to them to ensure immunisation of every pregnant women.

Most of the deliveries were conducted at home in the rural areas while more deliveries were institutional in urban areas. It was observed that a large number of deliveries were conducted by untrained dais rural and urban who often had

no knowledge of Tetanus Toxoid Immunisation. In the present study, even in the urban area where more than three-fifth (61 percent) of the deliveries were institutional, at least one fourth (23.7 percent) of the deliveries were conducted by untrained dais. This highlights the urgent need for stepping up the dai training programme to ensure the dais participation in the delivery of MCH Services.

Done on a periodic basis, a coverage evaluation survey will show whether or not vaccination coverage objectives have been met. It will also provide reliable information which can be used to incorporate desired changes in vaccination activities and the ultimate reduction in morbidity and mortality.

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