

**FINAL REPORT**

**MONIRUZZAMAN KHAN  
SHAFIUR RAHMAN  
JAMIL HUSSAIN CHOWDHURY  
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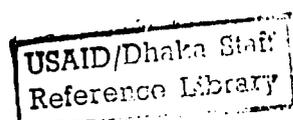
**ASSESSMENT OF EPI  
COMMUNICATION  
INTERVENTIONS  
IN URBAN AREAS**

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**G M Kamal**  
**Executive Director**

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## GLOSSARY

ACPR	Associates for Community and Population Research
BFS	Bangladesh Fertility Survey
CPS	Contraceptive Prevalence Survey
EPI	Expanded Program for Immunization
FP	Family Planning
FWA	Family Welfare Assistant
GOB	Government of Bangladesh
HA	Health Assistant
H and FP	Health and Family Planning
HSC	Higher Secondary Certificate
HQ	Headquarters
IEC	Information, Education, and Communication
JSI	John Snow Inc.
KAP	Knowledge, Attitude, and Practice
LMC	Lower Middle Class
MC	Middle Class
MCH	Maternal and Child Health
NGO	Non-government Organization
ORS	Oral Rehydration Salt
PD	Project Director
SD	Slum Dweller
SSC	Secondary School Certificate
TBA	Traditional Birth Attendant
TFYP	Third Five-Year Plan
UCI	Universal Child Immunization
USAID	United States Agency for International Development

# EXECUTIVE SUMMARY

## 1. Purpose and objective

The purpose of this study was to determine the effectiveness of EPI communication interventions in urban areas by different socio-economic categories: Middle Class (MC), Lower Middle Class (LMC), and Slum Dwellers (SD). Major objective of the study was to segment EPI "Consumers" by behavioral factors and by channel of communication in order to help bring modifications in the communication strategy to increase coverage and reduce drop-out.

## 2. Methodology

Data was collected in an urban survey. Mothers or fathers with at least one child under two years old (not parents of the same child or from the same household) were drawn from three socio-economic categories--Middle Class, Lower Middle Class, and Slum Dwellers. Apparent living standards, especially quality of housing were the initial means of identifying the socio-economic groups of respondents.

Since concern and responsibility for the health of her children rests primarily with the mother, they were the target population, but a sample of fathers was included to test indirect channels of information. The proportion of mother to father sample was fixed at 60:40. A total of 1158 mothers and 773 fathers from the three socio-economic categories were included in the sample. Since the proportion of sample in the three socio-economic categories may not truly represent the distribution of urban population, the data are analysed separately for each socio-economic category and are presented here as a discrete EPI "Consumer Profile" for each socio-economic category.

For each socio-economic category, acceptance of vaccines was estimated in terms of percentages of mothers who accepted TT for herself or specific vaccines for her youngest living child, which, for purposes of this survey, was two years or less. Mothers with a child under three months of age were excluded from the denominator for DPT, Polio, and BCG vaccines, and those with a child under one year of age for Measles vaccine.

Education, occupation, type of dwelling, household possession, and income of the respondents in different samples reflect the actual socio-economic stratification expected. In each specific socio-economic categories there were no significant difference between the mother and the father sample. Thus, the findings may be considered as representative of the socio-economic category as classified for the purpose of the study.

### **3. Major findings**

**Awareness** of EPI and exposure to EPI messages is almost universal, though slightly higher among Middle Class and Lower Middle Class compared to Slum Dwellers.

**Knowledge** of any vaccine is strikingly lower among Slum Dwellers compared to Middle Class and Lower Middle Class. Personal experience of seeing some one suffering from a vaccine preventable disease is extremely high among all socio-economic categories. Knowledge of the specific consequences (deformity, death, etc.) of the different diseases is also quite high.

**Sources of information** about EPI differ considerably among men and women and among different socio-economic categories, with Middle Class reporting more use of mass media and doctors. Lower Middle class and Slum dwellers rely more heavily on interpersonal communications; H&FP workers and neighbors were the major source of information for Slum Dwellers.

**Acceptance** of complete doses is highest among the Middle Class (75%), intermediate among the Lower Middle Class (60%) and lowest among Slum Dwellers (48%). Drop-outs, the percentage of mothers who did not complete immunization series, is almost the same for all socio-economic categories (14-16%). Left-outs, the proportion of respondents who have never used EPI services, varies more widely. Almost one third (31%) of Slum Dwellers reported they had never accepted any immunization. In particular, results indicate strongly that special intervention strategies be developed to reach Slum Dwellers.

**Acceptance** is strongly correlated with correct Knowledge of timing and doses for immunization (all classes reported low acceptance of measles and lack of knowledge that measles is a potential killer). Ignorance of the need for EPI was the major reason for non-acceptance. Other causes for drop-outs and left-outs included postponement due to child's illness or for other reasons, refusal of vaccinators to vaccinate a sick child. Additional qualitative research is needed

to learn more about the effectiveness of different channels of communication and factors influencing drop-outs and left-outs among different socio-economic categories, since the results revealed very little relationship between the source of information and acceptance.

**Misconceptions** about vaccinating a sick child appears to be common among mothers, H&FP workers, and vaccinators, suggesting needs for a message on this for EPI communications as well as training of H&FP workers.

Major findings for the mother sample are presented below as a fact sheet, while summary of detailed findings for the three different socio-economic categories follow the fact sheet.

**F a c t   S h e e t**

Variables	Middle Class	Lower Middle Class	Slum Dwellers
	(Percent)		
Awareness of EPI	100	99	96
Awareness of EPI messages	100	96	84
<b>Important messages received:</b>			
Vaccinate your child	89	83	68
Immunization is preventive	54	40	30
<b>Sources of information:</b>			
H & FP worker	42	56	64
Television	84	50	16
Radio	43	27	10
Relative/friend/neighbor	49	53	54
<b>Knowledge of any vaccine (unprompted):</b>	95	73	43
<b>Acceptance of vaccines:</b>			
TT	95	79	62
DPT	91	75	60
Polio	92	75	60
BCG	80	69	56
Measles	75	63	48
<b>Rate of acceptance of complete doses</b>	80	70	54
<b>Rate of dropout</b>	16	14	14
<b>Rate of non-acceptance</b>	3	16	31

#### **4. Consumer Profile: Middle Class (MC)**

**Awareness and sources of information (MC):** One hundred percent of the middle class fathers and mothers were aware of the EPI program. For the Middle Class, TV and radio were the major sources of information.

**Media, message contents and where seen (MC):** Four-fifths of the MC respondents saw both the MONI logo and advertisements about EPI. 'Vaccinate your child' and 'Immunization is preventive' were the two most frequently mentioned messages received by the MC respondents. Most of the respondents saw the advertisements on TV, in posters, and at immunization centers.

**Knowledge of vaccine (MC):** Ninety-five percent of the MC mothers and 87 percent of the fathers knew the name of one vaccine without prompting.

**Attitude toward immunization (MC):** Two-thirds of the MC mothers and three-fourths of the fathers reported that they had seen some one suffering from a vaccine preventable disease.

**Acceptance of vaccine (MC):** Ninety percent of the MC mothers had two doses of TT before the birth of their last child and 79 percent had fully immunized their children for age, or were continuing, for DPT and Polio. Measles acceptance was lower for MC mothers (75 percent). The proportion accepting complete doses of vaccines was higher for those having knowledge of timing and doses.

**Reasons for non-acceptance and dropouts (MC):** Among the MC, major reasons for non-acceptance and dropout of child immunization were postponement due to child's illness or other excuses, vaccinator's refusal to vaccinate a sick child and ignorance of the need for immunization. Other reasons for dropout were lack of awareness of the need for 2nd and 3rd doses and long wait/unsatisfactory behavior of clinicians.

#### **5. Consumer Profile: Lower Middle Class (LMC)**

**Awareness and sources of information (LMC):** All but one percent of the LMC mothers were aware of the EPI program. For the LMC mothers H&FP workers, TV, and neighbor/relative/friend and fathers, TV, radio and H&FP workers were the major sources of information.

**Media, message content, and where seen (LMC):** Four-fifths of the LMC respondents saw both the MONI logo and advertisements about EPI. 'Vaccinate your child' and 'Immunization is preventive' were the two most frequently mentioned messages received by the LMC respondents. Most of the respondents saw the advertisements on TV, in posters, and at immunization centers.

**Knowledge of vaccines (LMC):** Seventy-three percent of the LMC mothers and 64 percent of the fathers knew the name of one vaccine without prompting. However, the level of knowledge about vaccines increased impressively with prompting with the name of the specific vaccines.

**Attitude toward immunization (LMC):** Two-thirds of the LMC mothers and three-fourths of the fathers reported that they had seen someone suffering from a vaccine preventable disease. It is important to note that understanding of the specific diseases and their consequences was impressive for both mothers and fathers.

**Acceptance of vaccines (LMC):** Seventy two percent of the LMC mothers had had two doses of TT before the birth of their last child and 60 percent had fully immunized their children for age, or were continuing, for DPT and polio. Measles acceptance was lower for the LMC mothers (63 percent). The proportion accepting complete doses of vaccines was higher for those having knowledge of timing and doses and also among those having understanding of the consequences of vaccine preventable diseases.

**Reasons for non-acceptance and dropouts (LMC):** Among the LMC, major reasons for non-acceptance and dropout of child immunization were ignorance of the need for immunization, postponement due to child's illness or for other excuses, vaccinator's refusal to vaccinate a sick child, lack of awareness of the need for 2nd and 3rd doses, lack of information about the place and/or time, and fear of side-effects.

## **6. Consumer Profile: Slum Dwellers (SD)**

**Awareness and sources of information (SD):** All but four percent SD mothers and fathers were aware of the EPI program. Among the SD category, H&FP workers were the most important source of EPI information for both mothers and fathers.

**Media, message content, and where seen (SD):** Two-thirds of the SD respondents saw both the MONI logo and advertisements about EPI. 'Vaccinate your child' and 'Immunization is preventive' were the two most frequently mentioned messages received by the SD respondents. Most of the respondents saw the advertisements in posters and at immunization centers.

**Knowledge of vaccines (SD):** Only forty-three percent of the SD mothers and 27 percent of the fathers knew the name of one vaccine without prompting. However, the level of knowledge about vaccines increased impressively with prompting with the name of the specific vaccines.

**Attitude toward immunization (SD):** Over one-half of the SD mothers and two-thirds of the fathers reported that they had seen someone suffering from a vaccine preventable disease. It is important to note that understanding of the specific diseases and their consequences was impressive for both mothers and fathers. This diminishes doubts that lay people are unable to understand the consequences of vaccine preventable diseases. It is also a sobering reminder of how common these diseases are among slum dwelling populations.

**Acceptance of vaccines (SD):** Fifty-two percent of the SD mothers had had two doses of TT before the birth of their last child and 45 percent had fully immunized their children for age, or were continuing, for DPT and Polio. These proportions are, however, much lower than those in other categories. Measles acceptance was still lower for SD mothers (48 percent). The proportion accepting complete doses of vaccines was higher for those having knowledge of timing and doses and also among those having understanding of the consequences of vaccine preventable diseases.

**Reasons for non-acceptance and dropouts (SD):** Among the SD, major reasons for non-acceptance and dropout were ignorance of the need for immunization, postponement due to child's illness or for other excuses, vaccinator's refusal to vaccinate a sick child, lack of awareness of the need for 2nd and 3rd doses, mother's preoccupations, lack of information about the place and/or time, and fear of side-effects.

These findings suggest that IEC messages and health worker training should provide clear information to both field workers and clinicians that there is no harm in vaccinating a sick child and also that minor side-effects like fever, inflammation, and pain do not harm the child.

## 7. Conclusions

Acceptance of complete doses of vaccines is highest among Middle Class (75 percent), intermediate among Lower Middle Class (60 percent), and lowest among Slum Dwellers (48 percent). As such, EPI communication interventions should be targeted toward the Lower Middle Class and Slum Dwellers.

H&FP workers are the major sources of information for the Lower Middle Class and Slum Dwellers who rely heavily on interpersonal communication. Therefore, services of the H & FP workers should be used more extensively.

Unawareness of the need for immunization was the major reason for non-acceptance. Knowledge of timing and doses of vaccines was found to be correlating factors for acceptance of vaccines. Therefore the H&FP workers should be trained to disseminate information on timing and doses of vaccines and to track Slum Dwellers and create awareness among them.

Postponement of taking a child to the EPI center was the major reason for non-acceptance and dropout. Most of the postponements were due to sickness of the child. Mothers, H&FP workers, and vaccinators appear to have misconceptions about vaccinating a sick child. Fear of side-effects need to be reduced to increase acceptance and decrease dropouts. As such, the H&FP workers and the vaccinators need to be oriented to diffuse these misconceptions and fears.

It is important to identify the determinants of never acceptance (left-outs) and discontinuation (dropouts) of vaccines. Analysis of differentials in the major reasons revealed very little relationship between the source of information and acceptance. Therefore, in-depth qualitative investigation should be undertaken to learn more about the effectiveness of different channels of communication on factors influencing dropouts and left-outs among different socio-economic categories.

## Section 1

### INTRODUCTION

Child mortality rate is unusually high in Bangladesh, where approximately 830,000 children die each year. One child in four dies before his fifth birthday, but more than half of these deaths occur before the child is one year old. Six vaccine preventable diseases (Diphtheria, Tetanus, Pertussis, Measles, Polio, and Tuberculosis) account for 30 percent of these deaths.\* Neonatal tetanus alone causes 60 percent of deaths in newborns, and 24 percent of other infant deaths. Thus, one-third of all child deaths can be prevented by providing immunization services (DPT, BCG, Polio, and Measles) to infants and Tetanus Toxoid to women between the age of 15-45 years.

In 1979 the Expanded Program on Immunization (EPI) was formally launched to reduce morbidity, disability and mortality associated with these six vaccine preventable diseases.

In 1985 EPI was further intensified when the Government of Bangladesh (GOB) incorporated maternal and child health (MCH) intervention, including EPI, in the Primary Health Care (PHC) structure of the Third Five-Year Plan for Population and Family Health (1985-1990). The GOB is strongly committed to Universal Child Immunization (UCI).

#### 1.1 Background

Since its inception in 1985, the Rural EPI program has gained momentum each year. By the end of 1989 the entire country had been included.

	Year	New Upazilas Covered	Total Upazilas Covered
Phase I	1985-86	8	8
Phase II	1986-87	62	70
Phase III	1987-88	120	190
Phase IV	1988-89	270	460

\* Universal Child Immunization in Bangladesh, December 1985

However, the municipalities and District towns were not included in this rural EPI plan. An effective Urban EPI program began only in 1988.

In 1984, only 2 percent of infants in Bangladesh were fully immunized for BCG, DPT, Polio (OPV) and Measles. A 1987 evaluation\* and a subsequent evaluation in 1989 showed that coverage was impressive in the eight upazilas included in the first phase of intensified immunization activities (as high as 55 percent, in Jessore Sadar).

An investigation of Family Welfare Assistant (FWA) participation in EPI activities\*\* showed that 96 percent of the women interviewed in areas covered by the EPI program knew of at least one vaccine, and half the women with a child under two years old reported their child was fully immunized for DPT, Polio, and Measles. In non-EPI areas 69 percent reported knowledge of at least one vaccine. However, awareness of all six diseases and the vaccines which prevent them was not appreciable in either EPI or non-EPI areas. The study also revealed that in rural areas, FWAs were the primary source of information on immunization.

By mid-1988, EPI had increased its service delivery capacity, to the point where they were able to meet increased demand. Communication and social mobilization to promote awareness and increase demand were intensified through the use of radio, TV, print media, and community activities. EPI was strongly supported by GOB extension workers such as FWAs and Health Assistants (HA), and by NGO workers, in both rural and urban areas of Bangladesh. The number of institutions and organizations involved in creation of awareness and demand for immunization services increased dramatically.

MOHFW/EPI has a goal to immunize 85 percent of all children under one by the end of 1990. Communication activities were further intensified to help achieve this objective. Media resources such as stickers, posters, pamphlets/brochures, murals, rickshaw plates, T.V., radio, cinema slides, newspapers/magazines, Gram (village) theater, Imams, and NGO workers have been used.

\* Joint Appraisal of the Intensified Activities of EPI (1987)

\*\* The Workers Time Study, 1988.

These communication media were focused to promote understanding of key messages by the target population:

1. At 6 weeks the child must begin the immunization series;
2. All doses should be completed when child is one year;
3. To protect their unborn babies, women themselves must be immunized for Tetanus;
4. There are four vaccines (for six vaccine preventable diseases) for children;
5. The vaccine is free at health centers; and
6. Vaccination services are available in each Ward.

Another message to the public was a sense of urgency to protect infants against measles and tetanus:

1. Measles and tetanus can cause death;
2. They are preventable;
3. They can be prevented by vaccination.

## Section 2

### OBJECTIVES

The purpose of this study was to determine the effectiveness of EPI communication interventions in creating awareness and comprehension of EPI messages, and to identify the most effective channels for communication with the target population in urban areas.

The study also tried to identify the "dropouts" and "non-acceptors" and their reasons for resistance, by socio-economic group.

#### 2.1 Specific objectives

There were eight specific objectives of the study:

1. To assess awareness of key EPI messages and sources of this information in urban areas;
2. To determine the communication channels and community activities which have been most effective in reaching the target groups in urban areas;
3. To estimate recall and comprehension of message content concerning immunization doses and schedule:  
4 vaccines, 5 visits, 8 doses for children under one, and two doses for women 4-8 months pregnant;
4. To determine proportion of the urban target population that knows that immunizations prevent dangerous diseases;
5. To estimate the acceptance of immunization by urban women for their children under two;
6. To assess knowledge of sources of service;
7. To identify barriers to immunization, including aspects of information, attitude, and supply;
8. To determine the reasons for dropouts, i.e., those who begin but fail to complete the series, and non-acceptors of available immunization services.

## Section 3

# METHODOLOGY AND IMPLEMENTATION

### 3.1 Sample design

Data for this study was collected in an urban survey. The sample design, size and selection procedures are discussed below.

#### 3.1.1 Sample size

A sample of approximately 2,000 respondents was believed to be feasible. The size was kept low for expedient results at a reasonable cost. The size was considered adequate to provide key estimates with reasonable precision.

#### 3.1.2 Mother and father

Since concern and responsibility for the health of her children rest primarily with the mother, since she herself must be immunized against tetanus to protect herself and her new born babies, and since in most cases mothers accompany their children to the immunization centers, it is preferable to collect information from mothers rather than from fathers.

However, in Bangladesh, women have limited access to EPI communication channels. A previous study\* indicated that the vast majority of the women receive information about EPI from FWAs and HAs, male family members or neighbors, which means that in the flow of EPI communication males have a definite role. In addition, approval from the husband is usually necessary for the wife to take decision on having immunization.

Therefore, to appropriately assess the channels and effects of EPI communication interventions, it was necessary to include a father sample in the survey. A proportion of 60 percent mothers and 40 percent fathers was set for the survey sample.

Fathers or mothers (not parents of the same child or from the same household) with at least one child under two years old were drawn in the sample.

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\* The Workers Time Study, 1989.

### **3.1.3 Socio-economic classification**

To meet the objectives of the study, separate estimates were required for various socio-economic groups. The upper class and upper middle class were not included, because they are relatively small populations with better access to mass media, and by virtue of their socio-economic advantage, are expected to be better informed. The three socio-economic groups included in the survey are defined below. Apparent living standards, especially quality of housing, were the initial means of identifying the socio-economic categories of respondents.

#### **Middle Class**

The middle class was presumed to be educated to at least SSC or HSC. Their occupations include managerial and clerical/non-clerical service, running small business concerns or working as professionals. Their houses are buildings, or in some cases, wall up tin sheds. Their monthly family income was expected to be Tk. 6,000, or more. From 80-90 per cent possess all the items on the list of household possessions.

#### **Lower Middle Class**

The lower middle class was presumed to be educated to primary level, or SSC. Their occupations include clerical/non-clerical service, trade, or skilled labor and craftsmen. Their houses are bamboo/thatch/tin shed, or wall up tin shed. Their monthly family income was expected to be Tk. 2,000-5,000. From 80-90 percent own everyday household items such as cots, chair/bench, wardrobe/almirah, watch/clock and electric fan. The majority own a radio, if not a T.V.

#### **Slum Dwellers**

Majority of slum dwellers are expected to have less than five years primary education. Their occupations include menial jobs, factory/day laborers, and rickshaw/van/taxi drivers. They live in houses of bamboo/thatch or bamboo/thatch/tin shed, and earn a monthly family income of less than Tk. 2,000. They possess the bare minimum of the household possessions, e.g., a cot, and chair/bench.

Separate samples were drawn from three socio-economic categories, middle class, lower middle class, and slum dwellers. This was considered important, because the channels used for communication of EPI messages probably yield different results for each of these socio-economic groups. Each category is likely to differ in their perception of EPI message content, and in use of communication channels and the service delivery system.

The socio-economic sample proportions were set to approximate the actual socio-economic distribution of the population in the urban areas.

380 Middle Class	20 percent
1145 Lower Middle Class	60 percent
380 Slum Dwellers	20 percent

### 3.1.4 Type of urban area

The urban population in Bangladesh can be classified as those living in:

1. Metropolitan Cities: Division Headquarters(HQ) - 4
2. District Towns: 60 of 64 District HQs (does not include Division HQs).
3. Other Urban Areas: 400 of 460 Upazila HQs (does not include Division and District HQs).

The population of Bangladesh is estimated to be 110.3 million, of which 26.9 million (24.4 percent) live in urban areas.\* 33 percent of urban population live in Metropolitan Cities and 67 percent in Other Urban Areas.

**TABLE 3.1 Urban population distribution**

Areas	Population	
	Million	Percent
<b>Metropolitan cities</b>	<b>8.77</b>	<b>32.6</b>
Chittagong	2.03	7.5
Dhaka	5.30	19.7
Khulna	0.94	3.5
Rajshahi	0.50	1.9
<b>Other urban areas</b>	<b>18.13</b>	<b>67.4</b>
<b>Total</b>	<b>12.16</b>	<b>100.0</b>

This survey focused on the older administrative regions, Metropolitan Cities. 81 percent of the sample was drawn from the four largest cities (Division HQs: Chittagong, Dhaka, Khulna, and

\* BBS, 1990.

Rajshahi) and 19 percent from four District Towns, one from each Division:

Feni	Chittagong Division
Kishoregonj	Dhaka Division
Kushtia	Khulna Division
Bogra	Rajshahi Division.

Two, Kishoregonj and Feni, are in newly created Districts.

### 3.1.5 Selection of wards

Wards, the smallest units of cities and towns identified by clear geographic boundaries, were the primary sample unit for the survey. Since Metropolitan Cities have a greater number of wards with larger populations per ward than District Towns, a larger sample was drawn from the Metropolitan Cities.

The number of Wards selected in each city/town was based on total population of the city/town. The number of Wards was maximized to distribute the sample over the entire area of the city/town, without jeopardizing the standard of field work and supervision. Thus, 3-15 Wards were selected from each city/town, 48 total.

### 3.1.6 Sample selection

From each Metropolitan City Ward, 10 respondents (6 mothers and 4 fathers) were selected; from each District Town Ward, 20 respondents (12 mothers and 8 fathers). The total number of Wards from Metropolitan Cities and District Towns and the total sample from each Ward is shown in Appendix A.

#### Selection of respondents within a ward

In each Ward sampled, selection of respondents was done in two stages. First, the locations of the residences of each socio-economic group were ascertained. This was judged by apparent living standards, especially quality of housing of the residents in a neighborhood. Thus, in each Ward sampled, three different locations or blocks were selected, one for each socio-economic category.

Subsequently, respondents were selected systematically using the Fisher (1983) sampling technique. The selection was begun at the north-west corner of each location and proceeded in a zigzag pattern with every tenth household selected, until the required number of respondents had been interviewed. Eligibility of a mother/ father respondent was determined by asking whether (s)he had any living children under two years old. If (s)he had at least one, (s)he was selected as a respondent.

The mothers and fathers were selected independently at each location, i.e., no father was selected from a household where a mother was selected, and vice versa.

**Table 3.2** Number of wards and respondents selected from each urban area.

Area	Total No. of Wards	No. of Wards selected	No. of respondents to be selected	Actual No. of respondents selected
<b>City</b>	<b>140</b>	<b>34</b>	<b>1550</b>	<b>1563</b>
Dhaka	75	15	900	909
Chittagong	41	10	410	413
Khulna	14	5	140	141
Rajshahi	10	4	100	100
<b>Town</b>	<b>18</b>	<b>14</b>	<b>360</b>	<b>368</b>
Kishoregonj	4	3	80	80
Feni	3	3	60	60
Bogra	5	4	100	104
Kushtia	6	4	120	124
<b>Total</b>	<b>158</b>	<b>48</b>	<b>1910</b>	<b>1931</b>

### 3.2 Data collection

A copy of the structured questionnaire used in the survey for collection of data is included in Appendix B.

Each mother/father was asked questions about immunization, communication messages and media and specific questions about the immunization of their youngest child. The questions regarding TT for women related either to the mother respondent herself or to the wife of the father respondent, but only the mothers responses were used in assessment of behavior and service utilization of the youngest child.

Data on acceptance of antigens was collected in a manner to be able to estimate the proportion of the target population that was covered by at least one dose and by complete doses of each specific vaccine. Vaccines requiring multiple doses for protection are DPT, Polio, and TT. DPT and Polio are administered to infants, when they reach six weeks, in three doses at one month intervals. TT for mothers-to-be are given at four months (1st dose) and 8 months (2nd dose) of pregnancy. If a child has had at least one dose of one vaccine, it suggests that EPI has provided access to the vaccines.

Those who have not yet completed all the doses include both dropouts and continuing acceptors (contingent on the age of the child and time period for completion of doses). For this reason respondents have been categorized as fully-immunized/continuing, dropouts and non-acceptors (those without any immunization history).

Results on acceptance include only responses from mothers.

**Indices of acceptance:** Acceptance of vaccines as estimated by the survey is presented in terms of the percentage of mothers (only) who have accepted TT for herself, or specific vaccines for her youngest living child, which for purposes of this survey is two years or less. In recording the degree of acceptance and completion of immunization, the field interviewers used health cards, when they were available, to obtain correct information about immunization status; however, oral history was accepted, and no record was kept of the availability of the card.

Acceptance of complete doses of specific vaccines was estimated excluding the respondents having the last child under 3 months of age for DPT, Polio, and BCG, and those having the last child under one year of age for measles. It was felt necessary because it appeared during the field data collection that the respondents were generally inclined to have vaccines for their children at 3 months or after. For Measles vaccine the respondents would have to wait until their youngest child was 9 month old.

### **3.3. Implementation**

#### **3.3.1 Implementing agency**

The study was implemented by Associates for Community and Population Research (ACPR), and sponsored by John Snow Inc. (JSI)/Dhaka on behalf of the Government of Bangladesh and USAID. JSI also provided technical assistance. The methods and questionnaire used for the survey were reviewed by EPI, JSI, and USAID.

#### **3.3.2. Field operations**

Field operations included recruitment of interviewers, pretesting of the questionnaire, field staff training, data collection, monitoring, and quality control.

A list of survey personnel is included in Appendix C.

### **3.3.3 Implementation schedule**

Field work for the survey lasted one month, from March 24 to April 23, 1990. The first draft was submitted to JSI on May 29, 1990, and after several modifications the final draft on December 20, 1990.

### **3.4 Data analysis and report writing**

Data analysis and preparation of the draft report was done by the senior professionals of ACPR. The draft report was reviewed by JSI and USAID.

Responses of mothers and fathers were analyzed separately with regard to knowledge and attitude variables and only female responses are used for behavioral/service utilization variables.

In order to highlight the results for each socio-economic category, the findings are presented separately for the Middle Class, Lower Middle Class, and Slum Dwellers.

## Section 4

### CONSUMER PROFILE: MIDDLE CLASS

#### 4.1 Characteristics of sample population (MC)

Characteristics of respondents were sorted for both demographic and socio-economic aspects. There were three demographic variables: age of respondents, number of living children, and the age of youngest child. Six socio-economic characteristics of the respondents were considered: level of education, type of dwelling, number of specific household possessions, employment status, occupation, and family income. A total of 229 MC mothers and 159 fathers was interviewed.

##### 4.1.1 Demographic characteristics (MC)

The average age of MC mothers (25 years) was 10 years lower than that of the MC fathers (35 years). The mean age of the youngest child was 11.7 months for MC mothers and 13.0 months for MC fathers; and the mean number of living children was 2.0 for MC mothers and 2.4 for MC fathers (Table 4.1.1).

Since the sample was limited to those who had at least one living child under 2, the mothers appear to be younger, have lower parity, and younger youngest child, compared to married women of reproductive age in general.\*

Table 4.1.1: Demographic characteristics (MC)

Characteristics	Mother	Father
Mean age (years)	25.1	35.0
Mean age of youngest child (months)	11.7	13.0
Mean number of living children	2.0	2.4
N	229	159

##### 4.1.2 Socio-economic characteristics (MC)

Eighty-eight percent of the MC mothers had completed at least lower secondary school, and 11 percent had university degrees. Ninety-three percent of the MC fathers had completed at least Lower Secondary school, and forty-eight percent had University degrees.

\* Recent national surveys, such as BFS-1989 and CPS-1989.

Ninety-three percent of the MC mothers were unemployed. Five percent of the MC mothers were employed as Professionals/teachers and one percent were in service. Major occupation of MC fathers were business (52 percent) and service (33 percent). Ten percent of them were professionals/teachers.

The vast majority of the MC mothers and fathers live in Tin-shed/wall up or building or multistoried colony. On average the MC mothers and fathers own eight of the ten household items listed and the average monthly family income was Tk. 6893 for MC mothers and TK. 6236 for MC fathers. The type of dwelling, household possession, and monthly family income reflect the actual socio-economic stratification expected (Table 4.1.2).

**Table 4.1.2 Socio-economic characteristics (MC)**

Characteristic	Mother	Father
<b>Years of schooling</b>	(Percent)	
Never attended school	3	1
Less than primary level	3	2
Completed primary	6	4
Lower Secondary	34	13
SSC and HSC	43	33
Degree +	11	47
<b>Occupation</b>		
Unemployed	93	2
Factory worker/day labourer	-	-
Professional/teacher	5	10
Service (managerial)	-	9
Service (clerical/non-clerical)	1	23
Service (menial)	-	1
Small business	-	37
Large business	-	15
Rickshaw/van/taxi driver	-	1
Skilled worker	-	1
Other	-	1
<b>Type of dwelling</b>		
Bamboo/thatched	-	-
Bamboo/thatched tin shed	2	1
Tin shed/wall up	21	23
Building	60	65
Multi-storied colony	14	7
Other	3	4

Characteristic	Mother	Father
<b>Household possessions</b>		
1. Cot	100	98
2. Chair/bench	100	98
3. Watch/clock	99	99
4. Fan	100	98
5. Wardrobe/almirah	94	91
6. Radio	85	81
7. T.V.	87	79
8. Sofaset	66	57
9. Bicycle	16	18
10. Motor cycle/private car	22	21
Mean no. of household items	7.7	7.4
<b>Monthly family income (Taka)</b>		
<1000	-	-
1000-1999	-	1
2000-2999	2	4
3000-3999	6	16
4000-4999	7	11
5000-5999	16	20
6000-6999	10	6
7000-7999	18	14
8000+	42	28
Median income	Tk. 7000	5200
Mean income	Tk. 6893	6236
N	229	159

#### 4.2 Awareness, knowledge, and attitudes (MC)

Awareness of EPI, knowledge of sources and content of EPI messages, knowledge of vaccines and consequences of six vaccine preventable diseases, and of the location of an EPI service site are presented below.

##### 4.2.1 Awareness of EPI and sources of EPI messages (MC)

All of the middle class respondents were aware of the EPI program. T.V. and radio were the major sources of information, though men were more likely to hear about it on the radio. As expected, 40 percent the MC of mothers heard about EPI from their relations, friends, or neighbors, while only 16 percent of the fathers reported hearing about EPI through this source (Table 4.2.1).

**Differentials in sources of information by Division (MC):** Between the Divisions there were differences for the frequency with which sources of information were cited. For example, H & FP worker was a more frequent source for mothers in Rajshahi and Khulna Divisions, than in Dhaka and Chittagong, but there were little differences for fathers. Doctors were the source for a large proportion of mothers in Chittagong but not in Rajshahi Division. TV and radio were the sources for a relatively larger proportion of mothers in Khulna than in the remaining three Divisions, while for the fathers there was little variation (Table 4.4.1 at Appendix D).

**Differentials in sources of information by type of urban area (MC):** Among the MC, there were little differences in the source of information between cities and towns (Table 4.4.2a at Appendix D).

**Differentials in understanding of message by source of knowledge (MC):** There was little variation in the understanding of message contents by sources of information. This may reflect the confusion in attributing mass media messages from multiple sources to a specific source (Table 4.4.3 at Appendix D).

**Table 4.2.1: Awareness of EPI and sources of EPI information (MC)**

Characteristics	Mother	Father
	(Percent)	
T.V.	84	86
Radio	43	60
H&FP workers	42	30
Doctor	38	26
Friend/relation/neighbor	40	16
Other	1	3
Unaware of EPI	0	0
N	229	159

#### 4.2.2 Media, message, and where seen (MC)

Respondents aware of the EPI program were asked if they had ever seen the MONI logo\* and if they had ever seen any advertisement of immunization/vaccination. Those who had, were asked where they had seen them and what were the messages of the advertisements. Findings on all these are presented below (Table 4.2.2).

\* The MONI logo is the symbol of a healthy child under one year old. The symbol is a baby surrounded by a protective barrier (immunization) to the six vaccine preventable diseases. This logo is used extensively in EPI literature and publications in Bangladesh.

Only 0.4 percent of MC mothers and 2 percent of the fathers had never seen the MONI logo or advertisements about EPI. However, 92 percent of MC mothers and 95 percent of the fathers had seen both the MONI and advertisements.

Eighty-nine percent of the MC mothers and 77 percent of the fathers had seen the MONI on T.V. Posters were rated second with 76 and 84 percent, respectively. Fathers reported seeing a larger variety of media.

Eighty-five percent of MC mothers reported seeing an advertisement about EPI at the immunization center, while only 45 percent of the fathers had seen one there. The home was next highest for mothers (76 percent). The home and public places were both reported by 66 percent and 60 percent respectively by the fathers.

**Differentials in place where advertisement was seen by Division (MC):** Between the Divisions, immunization center was mentioned more frequently by respondents in Rajshahi and Khulna Divisions than those in Chittagong and Dhaka Divisions. Conversely, 'Market/public place' was mentioned more frequently by the respondents in Chittagong and Dhaka Divisions than in Rajshahi and Khulna Divisions.

Among the MC mothers, immunization center and own house were the two important places where advertisements were seen, but immunization center was mentioned by a lower proportion of mothers in Dhaka Division, and own house by relatively higher proportion in Khulna Division. Market/public place was mentioned by a higher proportion of MC mothers in Chittagong and also in Dhaka Division than in the two other Divisions, especially Rajshahi Division (Table 4.4.1b at Appendix D).

**Differentials in place where advertisement was seen by type of urban area (MC):** Between cities and towns there were differences in the places where EPI advertisements were seen. 'Immunization center' was more frequently mentioned in towns than in cities, while the reverse was true for 'Market/public place'. This was more true for MC mothers than for fathers. There was, however, little difference in the proportion mentioning 'own house' (Table 4.4.2b at Appendix D).

The single most prevalent message on EPI received by parents of infants through advertisements was "Vaccinate your child", with 89(93) percent mother(father) respectively.

"Immunization is preventive" was another message received by 54 percent mothers, but only 23 percent of the fathers. Other messages were reported less often. Only 20 percent of mothers mentioned the message, "Mothers need TT to protect themselves and their newborns."

**Differentials in message contents by Division (MC):** Differences between the Divisions were negligible for frequencies at which this message was received. The next frequently mentioned message was "Immunization is preventive." This message was also mentioned by large proportion of MC mothers in all the Divisions but Chittagong (60-67 percent). In general, other messages were mentioned more frequently by respondents in Khulna and Rajshahi Divisions than in Dhaka and Chittagong, indicating that in disseminating messages more attention should be given to Dhaka and Chittagong Divisions (Table 4.4.1c at Appendix D).

**Differentials in message contents by type of urban area (MC):** There was negligible difference between cities and towns for the frequency at which the main message-- "Vaccinate your child"--was received. However, respondents in the towns mentioned other messages more frequently than in the cities (Table 4.4.2c at Appendix D).

**Table 4.2.2: Media, message, and where seen (MC)**

	Mother	Father
<b>a. Advertisement or MONI</b>	(Percent)	
Saw only MONI	7	3
Saw only Ad	-	-
Saw both MONI & Ad	92	95
Saw neither	0.4	2
<b>b. Media for MONI seen</b>		
T.V.	89	77
Poster	76	84
Newspaper/magazine	18	16
Painted wall	9	28
Bill board/tin plate	11	21
Hoarding/banner	7	10
Sticker	9	20
Rickshaw plate	3	13
Brochure/flipchart	7	2
Cinema slides	1	3
Other	12	13
Not seen	0	2
<b>c. Where advertisement was seen</b>		
Immunization Center	85	45
Own house	76	66
Market/public places	36	60
Relative's/neighbor's house	5	7
H&FP workers	4	1
Other	2	11
Not seen	7	5

	Mother	Father
<b>d. Message content</b>		
Vaccinate your child	89	93
Immunization is preventive	54	23
At six weeks, the child must have the first dose	22	21
Mothers need TT to protect themselves and their newborns	20	17
By one year all doses must be completed	15	17
Remember, your child needs several doses for full protection	12	12
There is a free vaccination site close to your house	1	2
Other	2	7
Unaware of EPI messages	2	0
<b>N</b>	<b>229</b>	<b>159</b>

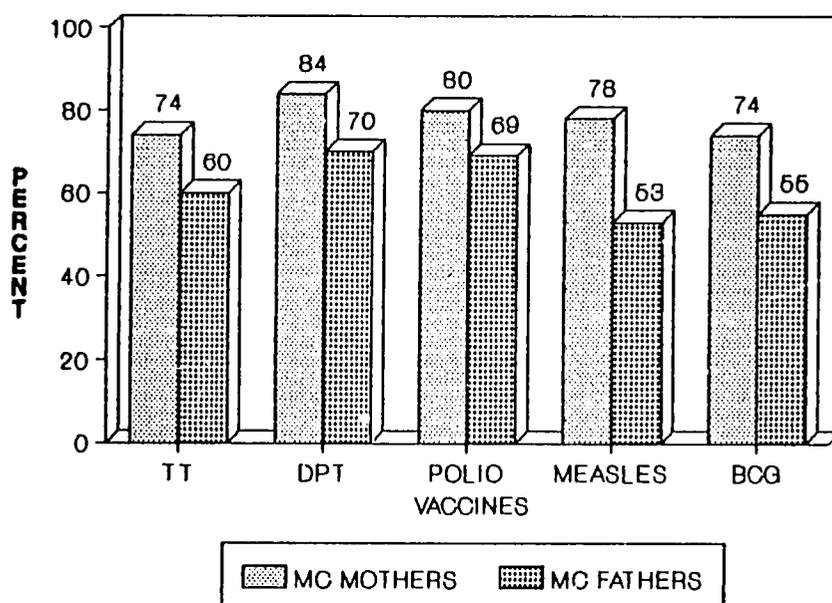
#### 4.2.3 Knowledge of vaccines (MC)

Ninety-five percent of the MC mothers and 87 percent of the fathers knew the name of at least one vaccine without prompting (Table 4.2.3).

Almost three-quarters of the mothers and half of the fathers knew all the vaccines without prompting. The lowest level of unprompted awareness for mothers was TT and BCG (74 percent), and for fathers, measles (53 percent) (Figure 4.2.1).

**Differentials in knowledge of vaccines by Division (MC):** There are little differences in this among the different Divisions (Table 4.4.1d at Appendix D).

Figure 4.2.1: Unprompted knowledge of vaccines (MC).



**Differentials in knowledge of specific vaccines by type of urban area:** For the MC mothers unprompted knowledge of any vaccine was slightly higher in cities than in towns, while a reversal was true for the fathers. However, the differences were negligible (Table 4.4.2d at Appendix D).

When prompted with the name of the vaccine, almost 100 percent of the MC mothers and 99 percent of the fathers knew something about each.

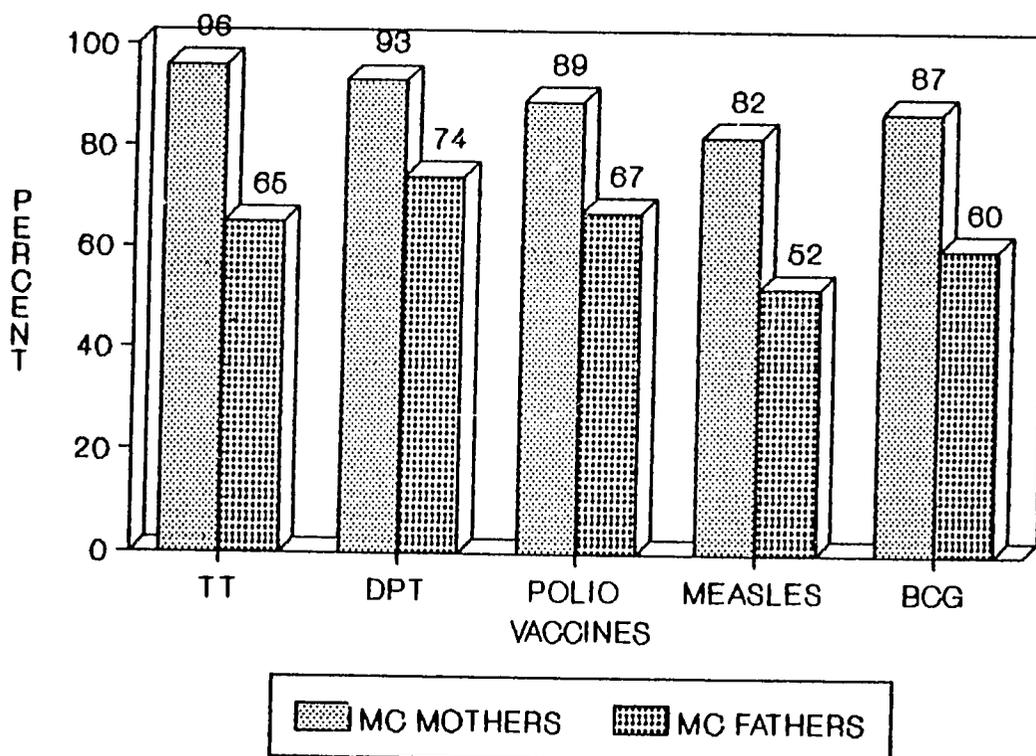
For mothers, knowledge of the number of doses recommended for each vaccines ranged from 98 percent for TT to 87 percent for measles. For fathers correct information about the number of doses was lower, ranging from 81 percent for DPT to 68 percent for measles.

Ninety-eight percent of the mothers knew when to take their child for DPT, but only 87 percent for measles. MC fathers were less aware of the correct schedules, though they also knew most about DPT schedules (82 percent) and least about Measles (52 percent).

An individual's knowledge of both timing and doses of each vaccine was only slightly lower for mothers, but about ten percent lower for fathers (except for Measles, which was only slightly lower than his information about timing) (Figure 4.2.2).

**Differentials in knowledge of timing and doses of vaccines by Division (MC):** Knowledge of timing and doses of vaccines among the MC appeared to be higher in Rajshahi and Khulna Divisions than in Dhaka and Chittagong (Table 4.4.1f at Appendix D).

**Figure 4.2.2: Knowledge of both timing and doses of vaccines (MC)**



Differentials in knowledge of timing and doses of vaccines by type of urban area (MC): Knowledge of timing and doses of vaccines was lower in cities than in towns. This was true for both mothers and fathers (Table 4.4.2f at Appendix D).

**Table 4.2.3: Knowledge of vaccines (MC)**

Knowledge	Mother	Father
<b>a. Knowledge of vaccine (Unprompted)</b> (Percent)		
Know at least one vaccine	95	87
<b>b. Knowledge of specific vaccines (Prompted and unprompted)</b>		
TT	100	99
DPT	100	99
Polio	99	99
Measles	99	99
BCG	99	99
<b>c. Knowledge of doses of vaccines</b>		
TT	98	80
DPT	94	81
Polio	90	76
Measles	87	68
BCG	92	73
<b>d. Knowledge of timing of vaccines</b>		
TT	97	73
DPT	98	82
Polio	95	79
Measles	87	52
BCG	89	64
<b>e. Knowledge of both timing and doses</b>		
TT	96	65
DPT	93	74
Polio	89	67
Measles	82	52
BCG	87	60
N	229	159

#### 4.2.4 Attitudes toward immunization (MC)

Respondents were asked if they had seen any one suffering from a vaccine preventable disease and if so, what were the consequences of the disease. If they had not, what were their perceptions of the consequences, if some one was attacked by a particular vaccine preventable disease.

Vast majority of the mothers and fathers said that they had personally seen some one suffering from a vaccine preventable disease. This may serve to reinforce the benefits of immunization, and to remind us of how widespread suffering from vaccine preventable disease is, in Bangladesh.

The consequences of these diseases also matched correctly those which would actually occur for each disease. Consequences of Tetanus and Polio are fairly accurate which may reflect more the wide spread prevalence of these diseases rather than educational communications being disseminated.

Two-thirds of the MC mothers and three-fourths of the fathers reported that they had seen some one suffering from a vaccine preventable disease (Table 4.2.4a).

**Table 4.2.4a: Whether witnessed anyone suffering from vaccine preventable diseases (MC)**

	Mother	Father
	(Percent)	
Yes	67	77
N	229	159

Death ("The child died/is likely to die") was frequently mentioned as a consequence of Tetanus (79 percent, mothers/ 84 percent, fathers), TB (53/58), and Diphtheria (39/47).

"The child developed/will develop a deformity" was also frequently mentioned for Polio (79 percent, mothers and 84 percent, fathers), but seldom for any other disease.

However, it is important to note that a considerable portion of respondents had no idea about the possible consequences of particular vaccine preventable diseases, especially Diphtheria (26 percent, mothers and 23 percent, fathers).

It is also important to note that Measles is almost as big a killer as Tetanus, but only 15 percent of MC mothers and 3 percent of the fathers mentioned death as a consequence of Measles, 28 percent of MC mothers mentioned that it had long term effects on the health and resistance of its victims (Table 4.2.4b).

## .2.5 Knowledge of EPI service sites (MC)

Almost all the MC mothers and 97 percent of the fathers knew where an EPI immunization site was. Information from another individual, rather than direct communication media/materials was the source for 72 percent of the mothers, indicating that word-of-mouth communication is very important for informing people about the service sites, EPI camp dates, etc.

**Table 4.2.4b: Consequences of vaccine preventable diseases, witnessed and/or perceived (MC)**

Consequences	Tetanus		Polio		Diphtheria		Pertussis		TB		Measles	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father
	(Percent)											
Child died/is likely to die	79	84	5	3	39	47	14	4	53	58	15	3
Child suffered/will suffer seriously	7	3	0	2	14	18	48	57	14	15	28	42
Child developed/will develop deformity	2	2	79	84	1	-	-	1	-	-	0	1
Child lost/will lose resistance against diseases	1	1	0	1	5	1	6	3	4	3	15	14
Child is suffering/will suffer intermitantly	1	-	-	-	1	3	8	6	2	2	12	4
Child's health is not improving/will not improve	1	1	0	-	8	2	5	5	11	9	13	8
Other	1	3	0	1	5	6	4	10	4	5	-	-
Don't know	7	7	14	10	26	23	15	14	12	8	12	18
N	229	159	229	159	229	159	229	159	229	159	229	159

Media communications were the second major source for both mothers and fathers, mostly posters/leaflets/notices generally hung at service sites and important public places. Clinic and hospital workers ranked third.

Eighteen percent of MC mothers and 29 percent of the fathers said that they obtained the information through their own efforts, primarily by asking others (Table 4.2.5).

**Table 4.2.5: Sources of information on immunization service sites (MC)**

Source	Mother	Father
	(Percent)	
Told by someone	72	47
Communication media/material	45	49
Clinic/hospital worker	19	8
By own efforts	18	29
Don't know any service site	0	3
N	229	159

### 4.3 Acceptance and continuation of vaccines (MC)

Results of the survey on acceptance of vaccines and immunization dropouts, including reasons for non-acceptance and dropping out, who advised visiting an immunization site, and time and cost of travel, are presented below.

#### 4.3.1 Acceptance of vaccines (MC)

The percentage of MC mothers who had personally received at least one dose of TT was high (95 percent). The proportion of those who had taken their youngest child for at least one dose of a Polio vaccine was 92 percent, and one DPT, 91 percent. BCG was only 80 percent, and Measles vaccine, 75 percent. Ninety percent of the mothers had had two doses of TT before the birth of their last child. Seventy-nine percent had fully-immunized their children for age, or were continuing for DPT and Polio (Table 4.3.1).

**Table 4.3.1: Acceptance of specific vaccines (MC)**

	Mother
	(Percent)
<b>a. Accepted any dose</b>	
TT	95
DPT	91
Polio	92
BCG	80
Measles	75
<b>b. Accepted complete doses</b>	
TT	90
DPT	79
Polio	79
BCG	80
Measles*	75
N	229

N in this table is the total number of mothers.

\* For Measles vaccines mothers having babies under nine months were excluded.

#### 4.3.2 Acceptance of complete doses of vaccines (MC)

Eighty percent of the MC mothers (including those who were continuing) had completed doses of all vaccines. Sixteen percent of the MC mothers dropped out (did not finish the required immunization series). The dropout rate can be related to knowledge of immunization requirements or to attitudes and effectiveness of the delivery system (Table 4.3.2).

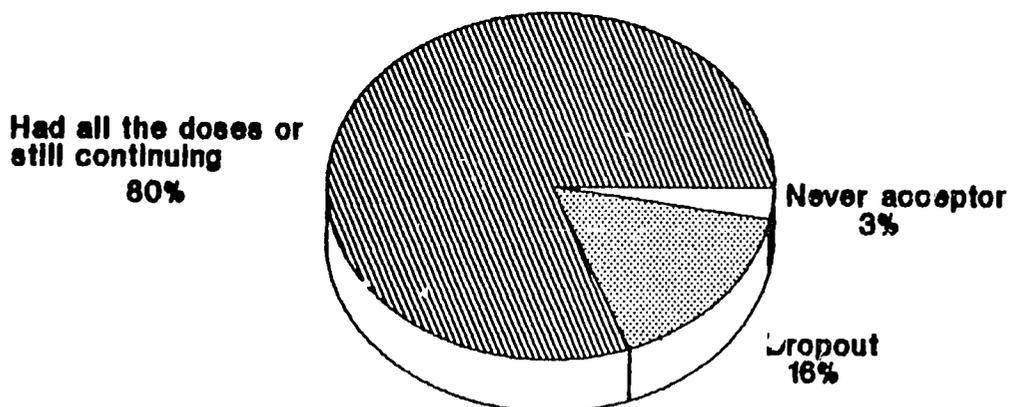
Three percent of Middle Class mothers had never accepted any vaccine (Figure 4.3.1). As mentioned above, "never acceptance" can be perceived as the failure of the EPI to reach these particular populations either with knowledge or with motivation and appropriate service delivery.

**Table 4.3.2: Acceptance of complete doses of vaccines (MC)**

	Mothers
	(Percent)
Had all the doses or still continuing	80
Dropped out	16
Never accepted any vaccine	3
N	205

N in this table is the total number of mothers excluding those having babies under three months for DPT, Polio, BCG, and under one year for Measles vaccine.

**Figure 4.3.1: Acceptance of complete doses of vaccines (MC)**



#### 4.3.3 Parameters for acceptance of immunization sites (MC)

Almost one hundred percent of the MC mothers knew about the locations of an immunization site. Mothers were asked who advised them to go to the EPI clinic/service site. Majority of the MC mothers responded that they went on their own initiative that is, they asked some one about the site and time and went there (63 percent). Thirty-eight percent of the MC mothers were advised to go by a relative/friend/neighbor and 28 percent by their husband. H&FP worker, doctor, and clinic or hospital staff were other sources of advise for MC mothers (Table 4.3.3).

Sixty-eight percent of MC mothers went to the EPI center by rickshaw, 22 percent walked, and 8 percent went by baby taxi. The mean time required for travelling was about 11 minutes and the average cost was about Tk. 11.

**Table 4.3.3: Parameters for acceptance of immunization site (MC)**

	Mother (Percent)
<b>a. Knew the location of an immunization site</b>	
Yes	99.6
<b>b. Person who advised going to the EPI clinic/site</b>	
Self	63
Spouse	28
Relative/friend/neighbour	38
H&FP worker	11
Clinic/hospital worker	5
Doctor	16
<b>c. Mode of transport</b>	
Walking	22
Rickshaw	68
Baby taxi	8
Bus	1
Other	1
<b>d. Mean time required (minutes)</b>	11
<b>e. Mean cost (Taka)</b>	11
<b>N</b>	228

N is the number of mothers who knew the location of an immunization site.

#### 4.3.4 Reasons for non-acceptance of immunization (MC)

Reasons given for non-acceptance of immunization are listed in Table 4.3.4. Only those mothers who had never immunized their youngest child were included. Consequently, sample is small.

Only 10 of 229 MC mothers never accepted any vaccine for their youngest child. The major reason given by 70 percent implied postponement due to child's illness or other excuses. Two mothers (20 percent) said that they brought the child, but the vaccinators would not vaccinate a sick child. Only 10 percent (1 mother) was not aware of the need for immunization.

**Table 4.3.4: Reasons for never-acceptance ("left-outs") of child immunization (MC)**

Reasons	Mothers (Percent)
Unaware of need for immunization	10
Postponement due to child's illness or other excuses	70
Child ill, brought but vaccine not given	20
N	10

N is the total of mothers who never accepted any vaccine.

#### 4.3.5 Reasons for dropouts of child immunization (MC)

The reasons why mothers failed to complete the immunization series for their youngest child are presented in Table 4.3.5. Again only those mothers who failed to "continue" their child's immunization series are included, and the sample is small.

The major reason for dropout given by the MC mothers was postponement due to child's illness or other excuses (48 percent). Eighteen percent of the mothers said that they took their child to the EPI session, but the child was not vaccinated because (s)he was sick. A few also complained about the inconvenience of taking the child (too long a wait, wrong time, too busy). Lack of awareness of the need for immunization was mentioned by only one mother, and one mother complained that she didn't know the time and date of the EPI sessions.

**Table 4.3.5: Reasons for dropouts of child immunization (MC).**

Reasons	Mothers (Percent)
Postponement due to child's illness or other excuses	48
Refusal to vaccinate sick child	18
Unaware of need for 2nd and 3rd dose	3
Mother's preoccupation	6
Date and/or time of immunization unknown	3
Place of immunization too far/vaccinator absent/time inconvenient/long wait/unsatisfactory behavior	9
Other	12
N	33

N is the total of mothers who have not completed/are not continuing the series of vaccines.

#### **4.4 Selected differentials (MC)**

##### **4.4.1 Differentials in acceptance of complete doses by selected characteristics of mothers (MC)**

**Age:** Younger MC mothers (<25 years) are slightly more likely to accept vaccines than older mothers (25 years or above). However, this difference is minor (Table 4.4.4a at Appendix D).

**Parity:** The number of children a mother had was inversely related to her acceptance of vaccines. Acceptance of complete doses of vaccines decreased substantially with increase in the number of living children. The rate of acceptance of vaccines decreased from 73 percent for MC mothers having one child to 66 percent among those having three children or more (Table 4.4.4b at Appendix D).

**Education:** MC mothers who attended school were just a little more likely to accept complete doses of vaccines than those never attended school (Table 4.4.4c at Appendix D).

**Employment:** Acceptance of vaccines was just a little lower for the employed MC mothers than for unemployed (Table 4.4.4d at Appendix D).

##### **4.4.2 Differentials in acceptance of complete doses by sources of information (MC)**

Among the MC mothers acceptance of complete doses of vaccines did not differ very much by sources of information except that the rate of acceptance was highest among those who received the messages from doctors and lowest for those who received the messages from H&FP workers (Table 4.4.5 at Appendix D). However, these data should be cautiously utilized since there were multiple sources of information. It may also simply reflect the fact that the MC mothers have greater access to doctors and are more likely to use them as an information source.

##### **4.4.3 Differentials in acceptance of complete doses by division and type of urban area (MC)**

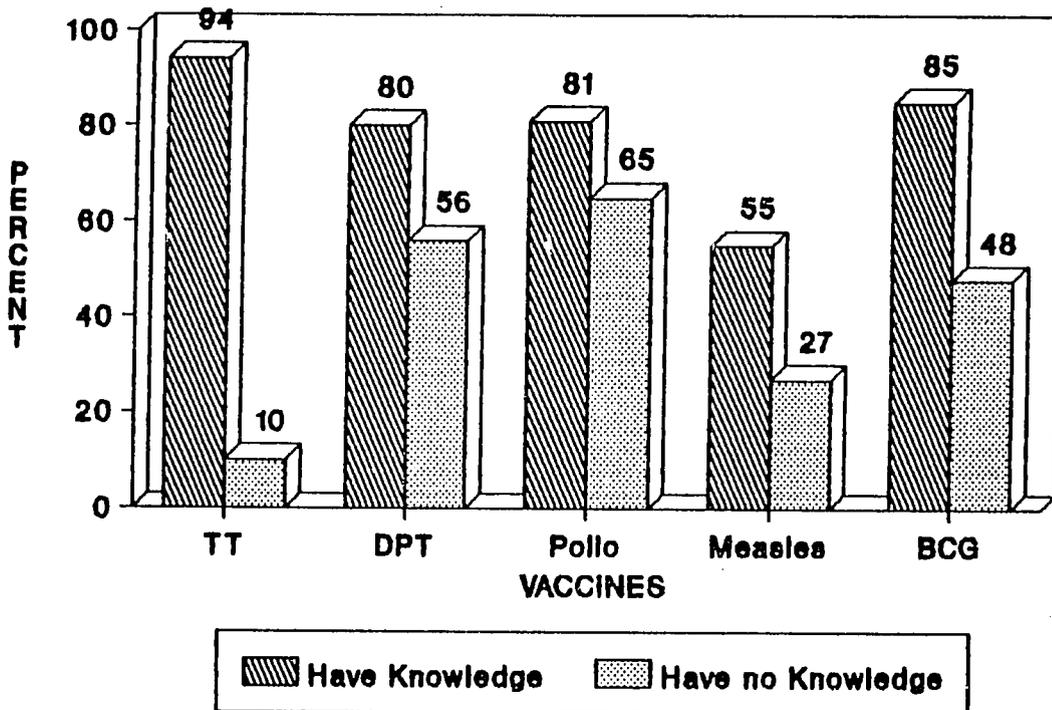
Among the MC mothers the rate of acceptance of vaccines was highest in Rajshahi followed by Chittagong Division and lowest in Khulna and Dhaka (Table-4.4.6 at Appendix D).

Among the MC mothers acceptance of complete doses of vaccines is relatively higher in Cities than in Towns (Table-4.4.7 at Appendix D).

**4.4.4 Differentials in acceptance of complete doses of specific vaccines by knowledge of doses and timing (MC)**

A major correlating factor for acceptance of complete doses was the knowledge of doses and timing of vaccines. For example, the rate of acceptance of complete doses of vaccines ranged from 77-94 percent among MC mothers having knowledge of doses and timing; while it usually ranged from 48-65 percent for those not having the knowledge (Table 4.4.8 at Appendix D and Figure 4.4.1). This finding suggests that EPI communications should include information on doses and timing for each specific vaccine.

**Figure 4.4.1: Acceptance of complete doses of specific vaccines by knowledge of doses and timing.**



**4.4.5 Differentials in major reason for non-acceptance and dropping out by source of information (MC)**

There are little differences in the major reason for non-acceptance of specific vaccines when analysed by source of information. However, the number of respondents in each cell is very small (Table 4.4.11 at Appendix D).

Among MC mothers, there were negligible differences in the major reasons for dropout by source of information. However, the number of respondents in each cell is small (Table-4.4.11 at Appendix D).

It will be necessary to use other qualitative research methods to give a better understanding of the reasons for left-outs and dropouts.

## Section 5

### CONSUMER PROFILE: LOWER MIDDLE CLASS

#### 5.1 Characteristics of sample population (LMC)

Characteristics of respondents were sorted for both demographic and socio-economic aspects. There were three demographic variables: age of respondents, number of living children, and the age of youngest child. Six socio-economic characteristics of the respondents were considered: level of education, type of dwelling, number of specific household possessions, employment status, occupation, and family income. A total of 694 LMC mothers and 450 fathers were interviewed.

##### 5.1.1 Demographic characteristics (LMC)

The average age of LMC mothers (25 years) was 9 years lower than that of the fathers (34 years). The mean age of the youngest child was 11.2 months for LMC mothers and 11.9 months for fathers; and the mean number of living children was 2.6 for LMC mothers and 2.7 for fathers (Table 5.1.1).

Table 5.1.1: Demographic characteristics (LMC)

Characteristics	Mother	Father
Mean age (years)	24.7	33.7
Mean age of youngest child (months)	11.2	11.9
Mean number of living children	2.6	2.7
N	694	450

##### 5.1.2 Socio-economic characteristics (LMC):

Forty-four percent of the LMC mothers had completed at least lower secondary school, and 16 percent had completed primary level and 12 percent less than primary level. Sixty-three percent of the the LMC fathers had completed at least lower secondary school, and fourteen percent had completed less than primary level. Twenty-nine percent of the LMC mothers and 14 percent of the fathers never attended school.

Ninty-six percent of the LMC mothers were unemployed. Major occupation of LMC fathers were small business (43 percent) and service clerical (18 percent), menial (11 percent). Thirteen percent of them were skilled workers (Table 5.1.2).

Majority of the LMC mothers and fathers live in tin sheds or tin shed-wall up houses. However, about a quarter of them live in buildings or multistoried colony. On average the LMC mothers and fathers own five of the ten household items listed and the average monthly family income was about Tk. 3100. The type of dwelling, household possession, and monthly family income reflect the actual socio-economic stratification expected.

**Table 5.1.2 Socio-economic characteristics (LMC)**

Characteristic	Mother	Father
<b>a. Years of schooling</b>	(Percent)	
Never attended school	29	14
Less than primary level	12	9
Completed primary	16	14
Lower Secondary	28	33
SSC and HSC	15	26
Degree+	1	4
<b>b. Occupation</b>		
Unemployed	96	1
Factory worker/day laborer	1	2
Professional/teacher	1	3
Service (clerical/non-clerical)	1	18
Service (managerial)	-	1
Service (menial)	0	11
Large business	-	0
Small business	0	43
Rickshaw/van/taxi driver	-	6
Skilled worker	1	13
Other	-	1
<b>c. Type of dwelling</b>		
Bamboo/thatched	1	1
Tin shed	18	23
Tin shed/wall up	41	41
Building	25	21
Multi-storied colony	5	2
Other	11	11
<b>d. Household possessions</b>		
1. Cot	99	99
2. Chair/bench	89	92
3. Watch/clock	82	88
4. Fan	79	78
5. Wardrobe/almirah	61	60
6. Radio	47	51
7. T.V.	36	36
8. Sofaset	12	10
9. Bicycle	11	13
10. Motor cycle/private car	2	1
<b>Mean No. of Household items</b>	<b>5.2</b>	<b>5.3</b>

Characteristic	Mother	Father
<b>e. Monthly Family Income (Taka)</b>		
<1000	0	0
1000-1999	13	16
2000-2999	33	35
3000-3999	30	26
4000-4999	12	7
5000-5999	6	10
6000-6999	2	2
7000-7999	2	3
8000+	2	1
Median income (Taka)	3000	2800
Mean income (Taka)	3167	3134
N	694	450

## 5.2 Awareness, knowledge, and attitudes (LMC)

Awareness of EPI, knowledge of sources and content of EPI messages, knowledge of vaccines and consequences of six vaccine preventable diseases, and of the location of an EPI service site are presented below.

### 5.2.1 Awareness of EPI and sources of EPI messages (LMC)

Ninety-nine percent of the LMC respondents were aware of the EPI program. For mothers, H&FP workers, T.V., and relations/neighbors were the major sources of information, while in the father sample, major sources of information were TV, radio, and H&FP workers. Again, significantly more fathers heard about the EPI program on the radio (Table 5.2.1).

**Differentials in sources of information by Division (LMC):** Between the divisions there were differences for the frequency with which sources of information were cited. For example, H&FP worker was the source of information for a relatively larger proportion of LMC mothers in Khulna and Rajshahi divisions than in Chittagong and Dhaka; friend/relative/neighbor were the source for more mothers in Dhaka and Khulna than in the two other divisions; and radio was the source for larger proportion of mothers in Rajshahi than in Chittagong (Table 5.4.1a at Appendix E).

**Differentials in sources of information by type of urban area (LMC):** Among the LMC, there were differences in the source of information between cities and towns. The most frequently mentioned sources in the cities were TV and H & FP worker, followed by radio, while in the towns, H&FP worker was the most important source followed by TV and radio (Table 5.4.2a at Appendix E).

**Differentials in understanding of message by source of knowledge (LMC):** There was little variation in the understanding of message contents by sources of information. This may reflect the confusion in attributing mass media messages from multiple sources to a specific source (Table 5.4.3 at Appendix E).

**Table 5.2.1: Awareness of EPI and sources of EPI messages (LMC)**

Characteristics	Mother	Father
	(Percent)	
T.V.	50	61
H&FP workers	56	45
Relation/Neighbor	46*	19*
Radio	27*	53*
Doctor	15	19
Other	1	6
Unaware of EPI	1	-
N	694	450

\*Difference between the mothers and the fathers are statistically significant at  $p < 0.01$ .

### 5.2.2 Media, message, and where seen (LMC)

Among the LMC most of the respondents (94 percent fathers and 81 percent, mothers) had previously seen both an advertisement on EPI and the MONI logo. One percent of fathers and 4 percent of mothers saw neither advertisement nor MONI.

The majority saw the MONI on Posters (81 percent, mothers; 75 percent, fathers); 64(63) percent of the mothers (fathers) saw it on T.V. Walls painted with the MONI were seen by 21 percent of the LMC fathers, but by only 3 percent of the mothers.

Immunization centers were cited by 76 percent of LMC mothers as where they had seen EPI advertisements. Forty-four percent of the fathers also cited immunization centers, but market place/public places were most frequently mentioned by fathers (69 percent). Only 23 percent of LMC mothers cited market place/public places, but both mothers and fathers said frequently that they saw the advertisements in their own house.

**Differentials in place where advertisement was seen by Division (LMC):** Between the Division immunization center was mentioned more frequently by respondents in Rajshahi and Khulna divisions than those in Chittagong and Dhaka divisions. Conversely, 'Market/public place' was mentioned more frequently by the respondents in Chittagong and Dhaka divisions than in Rajshahi and Khulna divisions.

Among the LMC mothers, immunization center was the most important place where advertisements were seen, but was mentioned by a relatively lower proportion of mothers in Chittagong and Dhaka divisions, than in Khulna and Rajshahi divisions (Table 5.4.1b at Appendix E).

**Differentials in place where advertisement was seen by type of urban area (LMC):** Among the LMC, 'Immunization center' was more frequently mentioned in towns than in cities, while the reverse was true for 'Market/public place' (Table 5.4.2b at Appendix E).

The message on EPI most often reported by respondents was "Vaccinate your child" (83 percent mothers and 90 percent fathers), followed by "Immunization is preventive" (40 percent mothers and 24 percent fathers) (Table 5.2.2).

**Differentials in message contents by Division (LMC):** Differences between the divisions were negligible for frequencies at which this message was received. The next frequently mentioned message was "Immunization is preventive." This message was also mentioned by large proportion of mothers in all the divisions but Chittagong (39-45 percent) (Table 5.4.1c at Appendix E).

**Differentials in message contents by type of urban area (LMC):** There was negligible difference between cities and towns for the frequency at which the main message--"Vaccinate your child"--was received. But the next important message--"Immunization was preventive" was mentioned by higher proportion in cities than in towns. However, respondents in the towns mentioned other messages more frequently than in the cities (Table 5.4.2c at Appendix E).

**Table 5.2.2: Media, message, and where seen (LMC)**

	Mother	Father
a. Advertisement or MONI (Percent)		
Saw only MONI	15	5
Saw only Ad	-	-
Saw both MONI and Ad	81	94
Saw neither	4	1

	Mother	Father
<b>b. Media for MONI seen</b>		
Poster	81	75
T.V.	64	63
Bill board/tin plate	10	16
Painted wall	3	21
Sticker	6	17
Hoarding/banner	5	11
Rickshaw plate	2	14
Newspaper/magazine	3	9
Brochure/flipchart	3	0
Cinema slide	1	2
Other	13	16
Not seen	4	1
<b>c. Where advertisement was seen</b>		
Immunization center	76	44
Own house	41	34
Market/public places	23	69
Neighbor's house	13	18
Relative's home	11	6
H&FP workers	4	2
Other	2	8
Not seen	19	6
<b>d. Message content</b>		
Vaccinate your child	83	90
Immunization is preventive	40	24
Mothers need TT to protect themselves and their newborns	13	13
At six weeks, the child must have the first dose	12	12
By one year all doses must be completed	13	11
Remember, your child needs several doses for full protection	12	8
There is a free vaccination site close to your house	1	2
Other	0	2
Unaware of EPI messages	4	1
N	694	450

### 5.2.3 Knowledge of vaccines (LMC)

Knowledge among the LMC was somewhat less than MC.

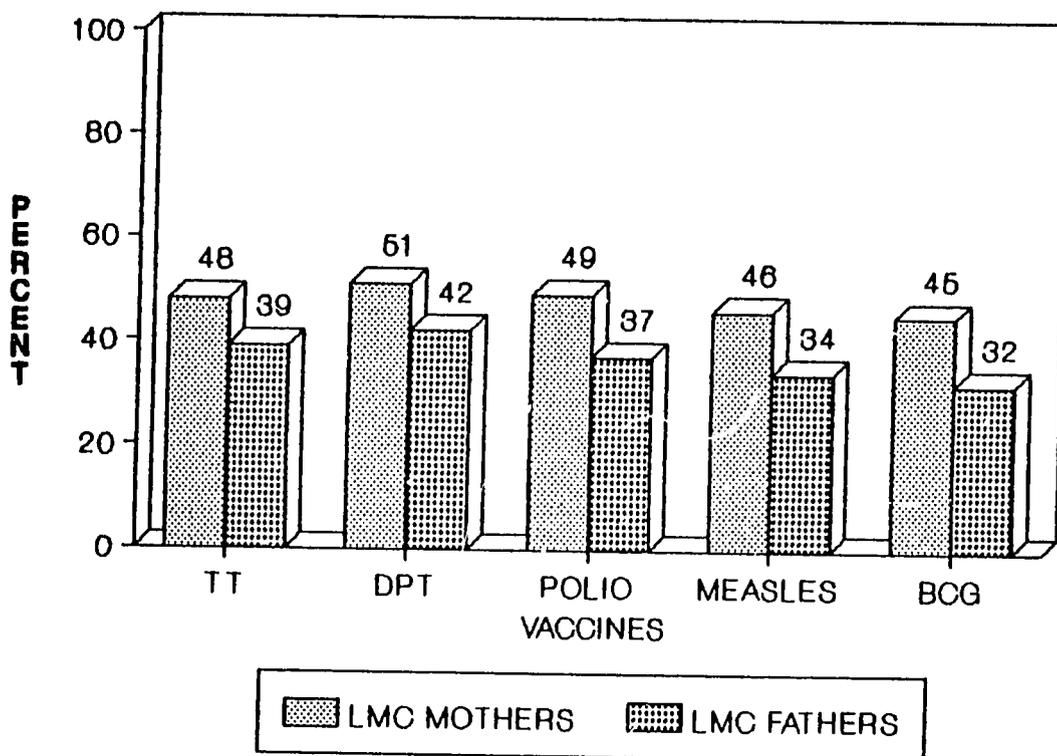
Seventy-three percent of the LMC mothers and 64 percent of the fathers knew the name of at least one vaccine without prompting (Table 5.2.3). Familiarity with BCG was lowest for both mothers (45 percent) and fathers (32 percent). Most known was DPT, 51 percent for mothers and 42 percent for fathers (Figure 5.2.1).

Again, when prompted with the name of the vaccine, most of the LMC mothers and fathers knew something about all the vaccines (Table 5.2.3).

**Differentials in knowledge of vaccines by Division (LMC):** The proportion that had no knowledge was relatively lower in Chittagong division compared to the remaining three divisions (Table 5.4.1d at Appendix E).

**Differentials in knowledge of specific vaccines by type of urban area (LMC):** Unprompted knowledge of any vaccine was slightly lower among the respondents in cities than in towns. This perhaps reflects the lower level of unprompted knowledge in Dhaka and Chittagong divisions, since a large number of sample was drawn from Dhaka and Chittagong metropolitan cities (Table 5.4.2d at Appendix E).

Figure 5.2.1: Unprompted knowledge of vaccines (LMC)



LMC mothers' knowledge of the number of doses required for vaccines ranged from 89 percent for TT to 75 percent for Measles. For fathers knowledge of doses was lower, from 71 percent for TT to 48 percent for Measles. The variation in knowledge for TT, DPT, and Polio were relatively higher than for BCG and Measles.

Mothers' knowledge of timing of vaccines ranged from 87 percent for TT to 68 percent for Measles. Fathers knew considerably less about the schedules. Sixty-eight percent knew the timing for DPT and only 35 percent for Measles. Thus, the timing of Measles vaccine could be targeted for further communication.

Knowledge of both the timing and doses of vaccines for individual mothers and fathers was 3-11 percent lower than the timing or dose parameter separately (Figure 5.2.2).

**Differentials in knowledge of timing and doses of vaccines by Division (LMC):** Among the LMC knowledge of timing and doses of vaccines was higher in Rajshahi and Khulna divisions than in Dhaka and Chittagong (Table 5.4.1f at Appendix E).

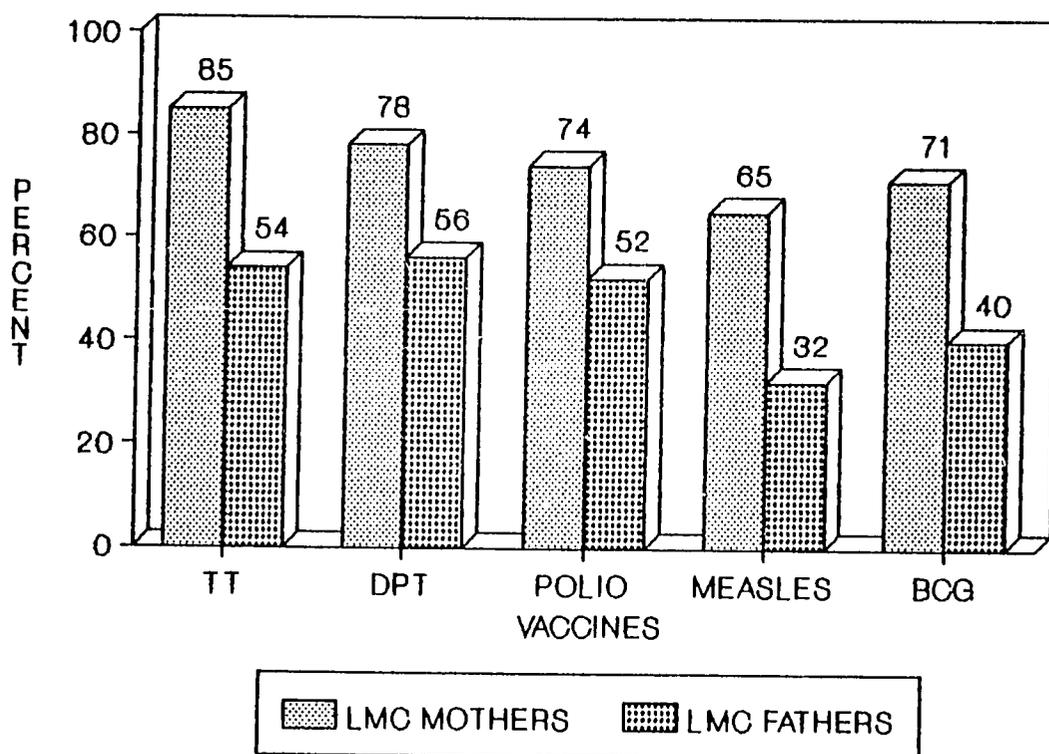
**Differentials in knowledge of timing and doses of vaccines by type of urban area (LMC):** Knowledge of timing and doses of vaccines was lower in cities than in towns. This was more true among LMC fathers than mothers (Table 5.4.2d at Appendix E).

**Table 5.2.3: Knowledge of specific vaccines (LMC).**

Knowledge	Mother	Father
<b>a. Knowledge of vaccine (unprompted)</b>		
	(Percent)	
Know at least one vaccine	73	64
<b>b. Knowledge of specific vaccines</b>		
(Prompted and unprompted)		
TT	96	98
DPT	96	98
Polio	95	97
Measles	96	97
BCG	96	93
<b>c. Knowledge of doses of vaccines</b>		
TT	89	71
DPT	83	65
Polio	79	62
Measles	75	48
BCG	77	52

Knowledge	Mother	Father
<b>d. Knowledge of timing of vaccines</b>		
TT	87	61
DPT	84	68
Polio	79	64
Measles	68	35
BCG	74	44
<b>e. Knowledge of both timing and doses</b>		
TT	85	54
DPT	78	56
Polio	74	52
Measles	65	32
BCG	71	40
N	694	450

Figure 5.2.2: Knowledge of both timing and doses of vaccines (LMC)



#### 5.2.4 Attitudes toward immunization (LMC)

Two-thirds of the LMC mothers and three-fourths of the fathers reported that they had seen some one suffering from a vaccine preventable disease (Table 5.2.4a). Findings on this were almost similar between the MC and LMC.

**Table 5.2.4a: Whether witnessed anyone suffering from vaccine preventable diseases (LMC).**

	Mother	Father
	(Percent)	
Yes	65	75
N	694	450

The experience and/or perception of sufferings from these diseases is shown in Table 5.2.4b. The response, "The child died/is likely to die" was given frequently as a consequence of Tetanus (73 percent, mothers/ 75 percent, fathers), TB (56/69), and Diphtheria (43/40). Only 16 percent of LMC mothers and 6 percent of fathers know that Measles is killer. This was, again, very similar to findings for the MC (15% and 3% respectively).

The next most serious consequence, "The child suffered/will suffer seriously" was mentioned frequently for Pertussis (37 percent, mothers; 45 percent, fathers), Measles (31 percent, mothers; 46 percent, fathers).

Another serious consequence, "The child developed/will develop a deformity" was most frequently mentioned for Polio (72 percent, mothers and 81 percent, fathers).

Thirty-seven percent of the LMC mothers and 38 percent of the fathers had no idea of the possible consequences of Diphtheria.

#### 5.2.5 Knowledge of EPI service sites (LMC)

Again, like the MC, almost all the LMC respondents knew the location of an EPI service site (95 percent of the LMC mothers and 96 percent of the fathers). Seventy-four percent of the mothers and 63 percent of the fathers said that they got this information from some one else. Mothers also heard about the location from clinic/hospital workers (17 percent).

**Table 5.2.4b: Consequences of vaccine preventable diseases, witnessed and/or perceived (LMC).**

Consequences	Tetanus		Polio		Diphtheria		Pertussis		TB		Measles	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father
	(Percent)											
Child died/is likely to die	73	75	6	3	43	40	15	6	56	69	16	6
Child suffered/will suffer seriously	8	7	1	1	9	12	37	45	10	10	31	46
Child developed/will develop deformity	2	2	72	81	1	1	1	1	-	-	0	-
Child lost/will lose resistance against diseases	2	0	0	0	4	2	7	3	2	2	8	9
Child is suffering/will suffer intermitantly	1	0	0	-	2	1	7	4	3	1	11	5
Child's health is not improving/will not improve	1	1	0	0	2	2	7	10	8	5	14	8
Other	2	3	-	1	3	4	4	7	2	4	-	-
Don't know	12	12	21	13	37	38	23	24	20	9	10	16
N	694	450	694	450	694	450	694	450	694	450	694	450

The second most frequently mentioned source were communication media/materials (34 percent, both mothers and fathers). These materials consist primarily of posters/leaflets/ notices, generally hung at service sites and important public places (Table 5.2.5). These findings were also similar to those of MC.

**Table 5.2.5: Sources of information on immunization service sites (LMC)**

Source	Mother	Father
	(Percent)	
Told by someone	74	63
Communication media/material	34	34
Clinic/hospital worker	17	10
By own efforts	6	17
Don't know any service site	5	4
N	694	450

### 5.3 Acceptance and continuation of vaccines (LMC)

Results of the survey on acceptance of vaccines and immunization dropouts, including reasons for non-acceptance and dropping out, who advised visiting an immunization site, and time and cost of travel, are presented below. Procedure for estimation of the rate of acceptance and the indices of acceptance have been discussed earlier section 4.3.1 and 4.3.2.

#### 5.3.1 Acceptance of vaccines (LMC)

Seventy-nine percent of the LMC mothers had had at least one TT shot when their last living child was born. Seventy-two percent had had two doses. Seventy-five percent of the mothers had taken their child for at least one dose of DPT/Polio vaccine. However, Measles protection for the youngest child of LMC mothers was only 63 percent. The percentage of youngest child fully-immunized for age, or continuing for DPT and for Polio was 60 percent (Table 5.3.1).

**Table 5.3.1: Acceptance of specific vaccines (LMC)**

	Mother
<b>a. Accepted any dose</b>	<b>(Percent)</b>
TT	79
DPT	75
Polio	75
BCG	69
Measles	63
<b>b. Accepted complete doses</b>	
TT	72
DPT	60
Polio	60
BCG	69
Measles*	63
N	694

N in this table is the total number of mothers.

\* For Measles vaccines mothers having babies under nine months were excluded.

#### 5.3.2 Acceptance of complete doses vaccines (LMC)

Completion and dropout rates among LMC were similar to those of the MC. However, "never acceptance" (or "left outs") was much higher 16% in LMC vs 3% in MC. This has important implication for EPI.

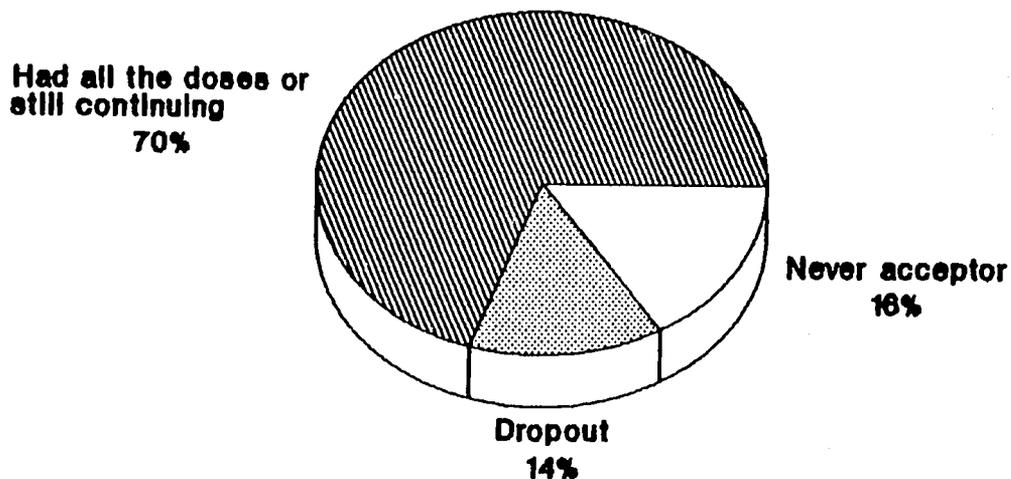
Seventy percent of the LMC mothers (including those who were continuing) had completed doses of all vaccines. Fourteen percent of the LMC mothers dropped out (did not finish the required immunization series). Sixteen percent of the LMC mothers had never accepted any vaccine (Table 5.3.2 and Figure 5.3.1). As mentioned earlier, "never acceptance" can be perceived as the failure of the EPI to reach these particular populations either with knowledge or with motivation and appropriate service delivery.

**Table 5.3.2: Acceptance of complete doses of vaccines (LMC)**

	Mother (Percent)
Had all the doses or still continuing	70
Dropout	14
Never acceptor	16
N	601

N in this table is the total number of mothers excluding those having babies under three months for DPT, Polio, BCG, and under one year for Measles vaccine.

**Figure 5.3.1: Acceptance of complete doses of vaccines (LMC)**



### 5.3.3 Parameters for acceptance of immunization sites (LMC)

Findings here were very similar to those for MC.

Ninty-five percent of the LMC mothers knew about the location of an immunization site. Thirty-nine percent of the LMC mothers said that they went to the EPI clinic/site on their own

initiative. Thirty-six percent were advised to go by a relative, friend, or neighbor. Twenty-five percent said that their husbands told them to go and 23 percent were advised by H&FP workers. Clinic/ hospital workers and doctors were also mentioned by 12 percent of the mothers (Table 5.3.3).

Fifty-six percent of the LMC mothers went to the EPI center by rickshaw, 42 percent walked, and one percent each went by baby taxi, bus, and other means.

The average time required for the trips was eight minutes, and the mean cost was Tk. 6.

**Table 5.3.3 Parameters for acceptance of immunization site (LMC)**

	Mother
	(Percent)
<b>a. Knew the location of an immunization site</b>	
Yes	94.5
<b>b. Person who advised going to the EPI clinic/site</b>	
Self	39
Spouse	25
Relative/friend/neighbor	36
H&FP worker	23
Clinic/hospital worker	12
Doctor	8
Other	0
<b>c. Mode of transport</b>	
Walking	42
Rickshaw	56
Baby taxi	1
Bus	1
Other	1
<b>d. Mean time required (minutes)</b>	<b>8.1</b>
<b>e. Mean cost (Taka)</b>	<b>5.7</b>
N	658

N is the number of mothers who knew the location of an immunization site.

### 5.3.4 Reasons for non-acceptance ("left-outs") of immunization (LMC)

Fifteen percent (106) of the LMC mothers had never had their youngest child vaccinated. The major reason, given by 32 percent of these mothers, was that they didn't know it was necessary (Table 5.3.4). This is a significant difference from MC; among whom only 3% were "left-outs".

Postponement was implied in other reasons given by many. Twenty-nine percent said that they hadn't taken their child because the child was ill; 11 percent said that they were preoccupied. Five percent said they had taken their child, but the vaccinator wouldn't vaccinate a sick child. Again this highlights an important training need for vaccinators.

Nine percent of the mothers said they did not know the time or place of the EPI session. Fear of side-effects and misconception about complication (6 percent), lack of faith in immunization (4 percent) and EPI site too far, etc. (4 percent) were also given as reasons.

**Table 5.3.4: Reasons for never-acceptance of child immunization (LMC)**

Reasons	Mother (Percent)
Unaware of need for immunization	32
Postponement due to child's illness or other excuses	29
Mother's preoccupations	11
Child ill, brought but vaccine not given	5
Place and/or time of immunization unknown	9
Fear of side effects and misconception about complications	6
Place of immunization too far/Vaccinator absent/Unsatisfactory behavior	4
No faith in immunization	4
Other	3
N	106

N is the total of mothers who never accepted any vaccine.

### 5.3.5 Reasons for dropouts of child immunization (LMC)

The reasons why mothers failed to complete the immunization series for their youngest child are presented in Table 5.3.5. There were 82 dropouts among the 694 LMC mothers.

The major reason for dropout given by the LMC mothers postponement due to child's illness, or for other excuses (31 percent). Mother's lack of awareness of the need for the second or third dose (20 percent) was, again, another important reason for not completing their youngest child's immunization series. Fifteen percent were refused immunization for their child who was ill, when brought to a session. Twelve percent of the mothers said they were busy. Other reasons might also imply postponement. About 7 percent said that the site was too far, the time inconvenient, the wait too long, or they were dissatisfied with service, offended by behavior, or the vaccinator was simply not there when they went.

**Table 5.3.5 Reasons for dropouts of child immunization (LMC).**

Reasons	Mother (Percent)
Postponement due to child's illness or other excuses	31
Refusal to vaccinate sick child	15
Unaware of need for 2nd and 3rd dose	20
Mother's preoccupation	12
Fear of side effects and misconceptions about complications	3
Date and/or time of immunization unknown	1
Place of immunization too far/vaccinator absent/time inconvenient/long wait/unsatisfactory behavior	7
Other	9
N	82

N is the total of mothers who have not completed/are not continuing the series of vaccines.

#### 5.4 Selected differentials (LMC)

##### 5.4.1 Differentials in acceptance of complete doses by selected characteristics of mothers (LMC)

**Age:** Younger LMC mothers (<25 years) are slightly more likely to accept vaccines than older mothers (25 years or above). However, this difference is minor (Table 5.4.4a at Appendix E).

**Parity:** The number of children a mother had was inversely related to her acceptance of vaccines. Acceptance of complete doses of vaccines decreased substantially with increase in the number of living children. The rate of acceptance of vaccines

decreased from 66 percent for LMC mothers having one child to 56 percent among those having three children or more (Table 5.4.4b at Appendix E).

**Education:** LMC mothers who attended school were slightly more likely to accept complete doses of vaccines than those never attended school (Table 5.4.4c at Appendix E).

**Employment** Acceptance of vaccines was slightly lower for the employed LMC mothers than for unemployed (Table 5.4.4d at Appendix E).

#### **5.4.2 Differentials in acceptance of complete doses by sources of information (LMC)**

Among the LMC mothers, the acceptance is highest for those who received the messages from H&FP worker, followed by TV and neighbor/relative/friend (Table 5.4.5 at Appendix E). However, these data should be cautiously utilized since there were multiple sources of information.

#### **5.4.3 Differentials in acceptance of complete doses by Division and type of urban area (LMC)**

Among the LMC the acceptance was lower in Khulna division compared to the remaining three divisions (Table 5.5.6 at Appendix E).

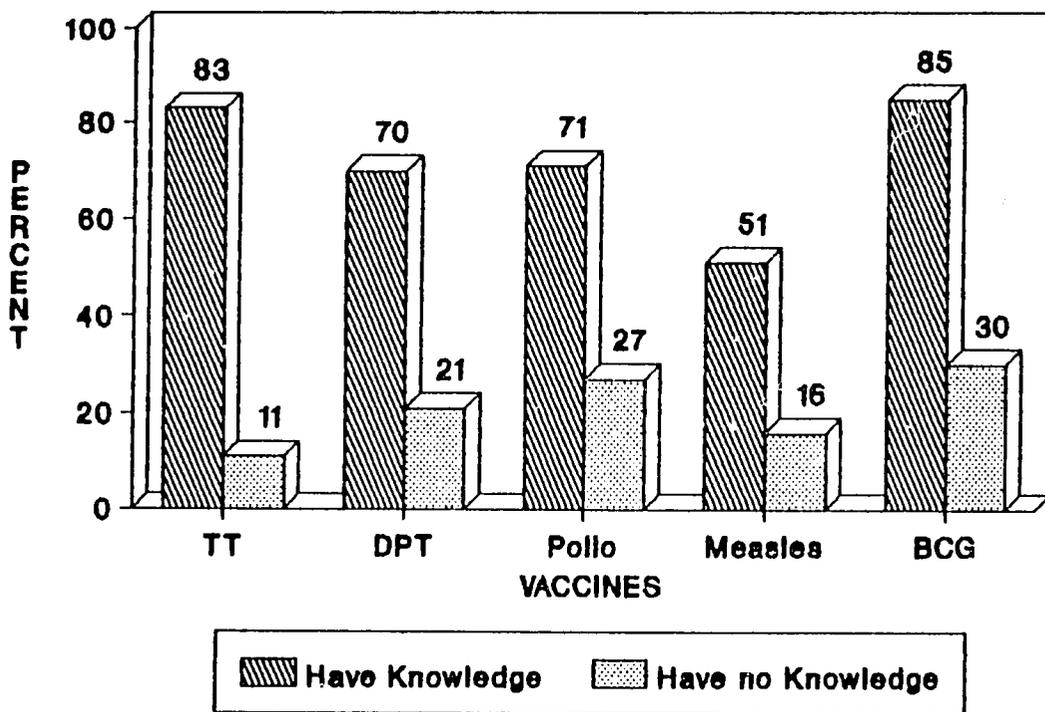
Among the LMC, acceptance of complete doses of vaccines is relatively higher in cities than in towns (Table 5.4.7 at Appendix E).

#### **5.4.4 Differentials in acceptance of complete doses of specific vaccines by knowledge of doses and timing (LMC)**

As with the MC, a major correlating factor for acceptance of complete doses was the knowledge of doses and timing of vaccines. The rate of acceptance of complete doses of vaccines ranged from 70-85 percent among the LMC mothers having knowledge of doses and timing; while it ranged from 21-32 percent among those not having the knowledge (Table 5.4.8 at Appendix E and Figure 5.4.1).

This finding suggests, again, that EPI communications should include information on doses and timing for each specific vaccine. It is important to note that for the LMC mothers, H&FP worker is the major source of information (Table 5.4.8 at Appendix E and Figure 5.4.1). Thus, H&FP worker should be trained to disseminate accurate information on doses and timing of each specific vaccine.

Figure 5.4.1: Acceptance of complete doses of specific vaccines by knowledge of doses and timing.



## Section 6

### CONSUMER PROFILE: SLUM DWELLERS

#### 6.1. Characteristics of sample population (SD)

Characteristics of respondents were sorted for both demographic and socio-economic aspects. There were three demographic variables: age of respondents, number of living children, and the age of youngest child. Six socio-economic characteristics of the respondents were considered: level of education, type of dwelling, number of specific household possessions, employment status, occupation, and family income. A total of 235 SD mothers and 164 fathers were interviewed.

##### 6.1.1. Demographic characteristics (SD)

As for MC and LMC the average age of SD mothers (25 years) was 9 years lower than that of the SD fathers (34 years). Similarly, the mean age of the youngest child was 10.9 months for SD mothers and 11.7 months for SD fathers; and the mean number of living children was 2.7 for both SD mothers and fathers (Table 6.1.1).

Table 6.1.1: Demographic characteristics (SD)

Characteristics	Mother	Father
Mean age (years)	25.1	33.5
Mean age of youngest child (months)	10.9	11.7
Mean number of living children	2.7	2.7
N	235	164

##### 6.1.2. Socio-economic characteristics (SD)

Seventy-eight percent of the SD mothers had never attended school, 13 percent had completed less than primary level and the remaining 9 percent had completed primary level or above. Sixty-five percent of the SD fathers had never attended school, and 15 percent had completed less than primary level, and the remaining 21 percent completed primary level or above.

Eighty-five percent of the SD mothers were unemployed. Nine percent of the SD mothers were factory workers or day laborers and the remaining six percent were either skilled workers or in other type of employment. Major occupation of SD fathers was day laborer/factory worker or rickshaw/van/taxi driving (42 percent) small business (24 percent) and menial service (19 percent). Twelve percent of them were skilled worker (Table 6.1.2).

Majority of the SD mothers and fathers live in bamboo/thatched or tin shed houses. On average the SD mothers and fathers own two of the ten household items listed, and the average monthly family income was about Tk. 1400. The type of dwelling, household possession, and monthly family income reflect the actual socio-economic stratification expected.

**Table 6.1.2 Socio-economic characteristics (SD)**

Characteristic	Mother	Father
<b>a. Years of schooling</b> (Percent)		
Never attended school	78	65
Less than primary level	13	15
Completed primary	6	9
Lower Secondary	3	12
SSC and HSC	0	-
Degree +	-	-
<b>b. Occupation</b>		
Unemployed	85	2
Factory worker/day laborer	9	19
Professional/teacher	-	-
Service (clerical/non-clerical)	-	1
Service (menial)	1	19
Small business	1	24
Rickshaw/Van/taxi driver	-	23
Skilled worker	2	12
Other	2	1
<b>c. Type of dwelling</b>		
Bamboo/thatched	44	41
Tin shed	35	38
Tin shed/wall up	6	6
Building	-	1
Multi-storied colony	-	1
Other	15	13
<b>d. Household possessions</b>		
1. Cot	71	77
2. Chair/bench	49	31
3. Watch/clock	20	27
4. Fan	9	9
5. Wardrobe/almirah	8	9
6. Radio	10	18
7. T.V.	-	1
8. Sofaset	0	-
9. Bicycle	1	-
10. Motor cycle/private car	-	-
Mean no. of household items	1.7	1.7

Characteristic	Mother	Father
<b>e. Monthly Family Income (Taka)</b>		
<1000	20	8
1000-1999	65	71
2000-2999	10	18
3000-3999	4	5
4000-4999	-	-
5000-5999	-	-
6000-6999	0	-
7000-7999	-	-
8000+	0	-
Median Income (Taka)	1200	1500
Mean Income (Taka)	1447	1567
N	235	164

## 6.2 Awareness, knowledge, and attitudes (SD)

Awareness of EPI, knowledge of sources and content of EPI messages, knowledge of vaccines and consequences of six vaccine preventable diseases, and of the location of and EPI service site are presented below. Results indicate clearly that SD respondents are the least informed about EPI and that special interventions aimed at this group are needed.

### 6.2.1 Awareness of EPI and sources of EPI messages (SD)

Only four percent of the SD respondents were unaware of the EPI program. H&FP workers and relations or neighbors were the major sources of information for the mothers. For fathers, H&FP workers were also a major source, but TV and radio were as important as neighbors and relations (Table 6.2.1).

**Differentials in sources of information by Division (SD):** Between the Divisions there were differences for the frequency with which sources of information were cited.

Although awareness of EPI was universal in all Divisions and socio-economic categories, 5-6 percent of the Slum Dweller mothers and fathers in Chittagong and Dhaka Divisions were not aware of the EPI program. H & FP worker was the most frequent source of information for all samples in Rajshahi Division; friend/neighbor/relative was a source for a larger proportion of mothers in Dhaka and Khulna than in the two other Divisions; and radio was least mentioned by mothers in Khulna Division, but for the fathers the reverse was true (Table 6.4.1a at Appendix F).

**Differentials in sources of information by type of urban area (SD):** There were substantial differences in the source of information between cities and towns. Although H&FP workers were the most important source of information, they were less frequently mentioned by fathers in cities than towns; conversely, TV less frequently mentioned by mothers in towns than cities (Table 6.4.2a at Appendix F).

There was little variation in the understanding of message contents by source of information. This may reflect the confusion in attributing mass media messages from multiple sources to a specific source (Table 5.4.3 at Appendix F).

**Table 6.2.1: Awareness of EPI and sources of EPI messages (SD)**

Characteristics	Mother	Father
	(Percent)	
H&FP workers	64	59
Relation/neighbor	54	28
Radio	10	30
T.V.	16	27
Doctor	8	7
Other	2	4
Unaware of EPI	4	4
N	164	235

### 6.2.2 Media, message, and where seen (SD)

Overall, SD listed similar media sources but at lower levels of awareness than the other two categories.

Sixteen percent of the SD mothers and ten percent of the fathers had never seen the MONI or an EPI advertisement. Sixty three percent of the SD mothers and 79 percent of the fathers had seen both an advertisement and the MONI logo (Table 6.2.2). This is a noticeable drop from MC and LMC respondents.

Both mothers and fathers cited posters as the medium for the MONI seen most often (68 percent of mothers and 63 percent of fathers). A quarter of the mothers, and a third of the fathers saw it on TV, much less than for the other two categories. Percentages of SD mothers who mentioned any other medium were very low, but about 20 percent of the fathers mentioned Rickshaw plates and Wall paintings.

The immunization center was cited by 62 percent of SD mothers as the place where EPI advertisements were seen. Only 42 percent of the SD fathers mentioned the centers, while market place/public place was cited by 53 percent of the fathers and only 16 percent of the mothers.

**Differentials in place where advertisement was seen by Division (SD):** Between the Divisions, immunization center was mentioned more frequently by respondents in Rajshahi and Khulna Divisions than those in Chittagong and Dhaka Divisions. Conversely, 'Market/public place' was mentioned more frequently by the respondents in Chittagong and Dhaka Divisions than in Rajshahi and Khulna Divisions.

Among the SD mothers, immunization center was mentioned by a lower proportion of respondents in Chittagong Division compared to the remaining three Divisions. Market/public place was mentioned by a lower proportion of SD mothers in Rajshahi Division compared to the remaining three Divisions (Table 6.4.1b at Appendix F).

**Differentials in place where advertisement was seen by type of urban area (SD):** Between cities and towns there were differences in the places where EPI advertisements were seen. 'Immunization center' was more frequently mentioned in towns than in cities, while the reverse was true for 'Market/public place' (Table 6.4.2b at Appendix F).

Sixty-eight percent of the mothers and 65 percent of the fathers knew the message, "Vaccinate your child." Thirty percent of the mothers, but only 15 percent of fathers reported the message information, "Immunization is preventive". The content, "Mothers need TT to protect themselves and their newborns" was given by only 10 percent of SD mothers, and six percent of the fathers.

**Differentials in message contents by Division (SD):** Among the SD mothers mentioned having received this message was higher in Khulna and Rajshahi compared to Chittagong and Dhaka Divisions. The next frequently mentioned message was "Immunization is preventive." This message was also mentioned by large proportion of mothers in all the Divisions but Chittagong (32-42 percent). In general, other messages were mentioned more frequently by respondents in Khulna and Rajshahi Divisions than in Dhaka and Chittagong, indicating that in disseminating messages more attention should be given to Dhaka and Chittagong Divisions (Table 6.4.1c at Appendix F).

**Differentials in message contents by type of urban area (SD):** There was negligible difference between cities and towns for the frequency at which the main message--"Vaccinate your child"--was received, except that the fathers in cities mentioned this less frequently than those in towns. "Immunization is preventive" was more frequently mentioned in cities than in towns. However, respondents in the towns mentioned other messages more frequently than in the cities (Table 6.4.2c at Appendix F).

**Table 6.2.2: Media, message, and where seen (SD)**

	Mother	Father
<b>a. Advertisement or MONI</b>		
	(Percent)	
Saw only MONI	21	10
Saw only Ad	-	1
Saw both MONI and Ad	63	79
Saw neither	16	10
<b>b. Media for MONI seen</b>		
Poster	68	63
T.V.	25	33
Bill board/tin plate	7	9
Painted wall	3	21
Sticker	6	7
Hoarding/banner	4	11
Rickshaw plate	3	20
Newspaper/magazine	0	3
Brochure/flipchart	2	-
Cinema slide	-	4
Other	12	12
Not seen	16	10
<b>c. Where advertisement was seen</b>		
Immunization center	62	42
Market/public places	16	53
Neighbor's house	18	14
Own house	10	6
Relative's home	5	7
H&FP workers	3	2
Other	1	8
Not seen	37	20
<b>d. Message content</b>		
Vaccinate your child	68	65
Immunization is preventive	30	15
Mothers need TT to protect themselves and their newborns	10	6
At six weeks, the child must have the first dose	7	6
By one year all doses must be completed	8	8
Remember, your child needs several doses for full protection	2	9
There is a free vaccination site close to your house	1	1
Other	-	1
Unaware of EPI messages	16	10
N	235	164

### 6.2.3 Knowledge of vaccines (SD)

Compared to MC and LMC respondents knowledge about vaccines was significantly less among SD respondents.

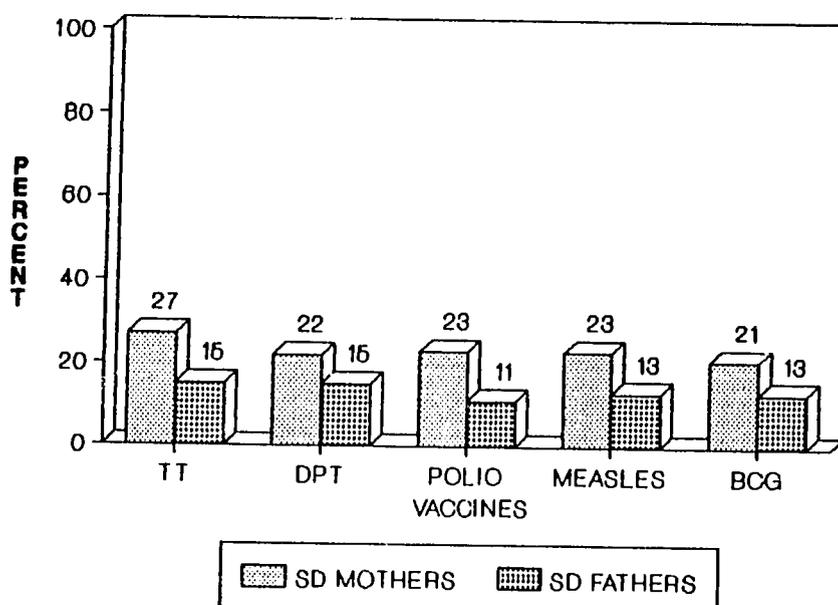
Only 43 percent of the SD mothers and 27 percent of the fathers knew the name of at least one vaccine without prompting (Table 6.2.3).

Unprompted awareness was about the same for each vaccine: 21-27 percent for the mothers and 13-15 percent for the fathers (Figure 6.2.1). When prompted with the name of the vaccines, 77 percent of the mothers and 82 percent of the fathers knew something about the least known, Measles.

**Differentials in knowledge of vaccines by Division (SD):** Unprompted knowledge of at least one vaccine was strikingly lower among Slum Dwellers (11-46 percent). It is interesting to note that the proportion that had no knowledge was lower in Chittagong and Dhaka Divisions. It is also interesting to note that although there were little variations in the level of overall knowledge of specific vaccines, the level of unprompted knowledge of the vaccines was generally lower in Dhaka and much lower in Chittagong Division than in Rajshahi and Khulna Divisions. The observed lower rate of overall knowledge of specific vaccines in Chittagong and Dhaka Divisions is primarily attributable to the SD. This finding reinforces the evidence that dissemination of knowledge to SD in Chittagong and Dhaka needs special attention (Table 6.4.1d at Appendix F).

**Differentials in knowledge of specific vaccines by type of urban area (SD):** Unprompted knowledge of any vaccine was slightly higher among the mothers in cities than in towns, but a reversal was true for the fathers. However, the differences were negligible for the knowledge when prompted (Table 6.4.2d at Appendix F).

Figure 6.2.1: Unprompted knowledge of vaccines (SD)



Knowledge of doses of vaccines among SD mothers ranged from 70 percent for TT to 49 percent for measles. Fathers knowledge of doses was relatively lower, ranging from 40 percent for TT to 27 percent for Measles.

Seventy-two percent of SD mothers knew the required schedule for TT, but only 49 percent for BCG and 39 percent for Measles. Fathers' knowledge of vaccines ranged from 33 percent for TT to 20 percent for Measles.

Knowledge of both timing and doses of vaccines for individual mothers ranged from 68 percent for TT to 38 percent for Measles; for fathers, the values were 2-7 percent lower (Figure 6.2.2).

**Differentials in knowledge of timing and doses of vaccines by Division (SD):** Among the SD, knowledge of timing and doses of vaccines was much higher in Rajshahi and Khulna Divisions than in Dhaka and Chittagong (Table 6.4.1f at Appendix F).

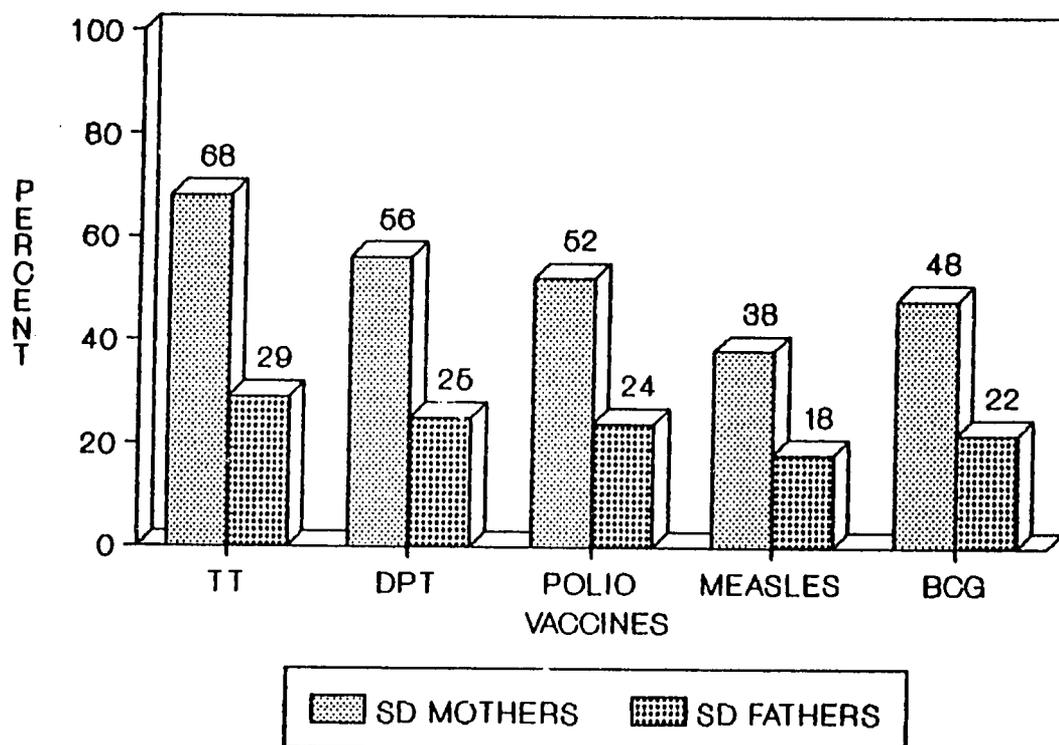
**Differentials in knowledge of timing and doses of vaccines by type urban area (SD):** Knowledge of timing and doses of vaccines was lower in cities than in towns (Table 6.4.2f at Appendix F).

**Table 6.2.3: Knowledge of vaccines (SD)**

Knowledge	Mother	Father
<b>a. Knowledge of vaccine (unprompted)</b>	(Percent)	
Know at least one vaccine	43	27
<b>b. Knowledge of specific vaccines (Prompted and unprompted)</b>		
TT	86	84
DPT	81	84
Polio	78	93
Measles	77	82
BCG	81	87
<b>c. Knowledge of doses of vaccines</b>		
TT	70	40
DPT	61	36
Polio	59	34
Measles	49	27
BCG	55	33
<b>d. Knowledge of timing of vaccines</b>		
TT	72	33
DPT	62	31
Polio	58	31
Measles	39	20
BCG	49	26

Knowledge	Mother	Father
<b>e. Knowledge of both timing and doses</b>		
TT	68	29
DPT	56	25
Polio	52	24
Measles	38	18
BCG	48	22
N	235	164

Figure 6.2.2: Knowledge of both timing and doses of vaccines (SD)



#### 6.2.4 Attitudes toward immunization (SD)

Attitudes toward and knowledge of the consequences of the various immunizable diseases were also somewhat less among the SD respondents.

Fifty-seven percent of the SD mothers and two-thirds of the fathers reported that they had seen some one suffering from a vaccine preventable disease (Table 6.2.4a).

**Table 6.2.4a: Whether witnessed anyone suffering from Vaccine Preventable diseases (SD).**

	Mother	Father
	(Percent)	
Yes	57	67
N	235	164

Fatal consequences of Tetanus, i.e., "The child died/is likely to die" were noted by 64 percent of SD mothers and 56 percent of the fathers. For the remaining diseases, death was mentioned less frequently. Again, only 16 percent of SD mothers (12 percent, fathers) knew Measles is killer (Table 6.2.4b).

The next most mentioned serious consequence, that is, "The child suffered/will suffer seriously" was mentioned frequently for Pertussis (28 percent, mothers and 32 percent, fathers) and Measles (33 percent, mothers and 40 percent, fathers).

Another serious consequence, "The child developed/will develop a deformity" was most frequently mentioned for Polio (63 percent, mothers and 56 percent, fathers).

One-half, 50 percent of the SD mothers and 54 percent of the fathers, were not aware of the consequences of Diphtheria.

This data is particularly important because the respondents' understanding of some of the diseases and their consequences is significant and validates their responses about personal experience with the diseases. It also suggests that the language used for defining the diseases made sense to the respondents and matched disease entities with which they were familiar.

There is some doubt about how well lay-people, especially those with low education, understand the differences between Pertussis, Diphtheria, Tetanus, etc. The findings show that the respondents do understand, as evidenced by correctly associating mortality with the two fatal diseases, deformity with a disease which results in significant deformity, and even being more likely to mention increased frailty, lowered resistance to measles as opposed to other diseases. In this last regard, they are indicating an understanding of something only recently recognized by scientists.

**Table 6.2.4b: Consequences of vaccine preventable diseases, witnessed and/or perceived (SD).**

Consequences	Tetanus		Polio		Diphtheria		Pertussis		TB		Measles	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father
	(Percent)											
Child died/is likely to die	64	56	8	4	35	34	15	10	55	70	16	12
Child suffered/will suffer seriously	6	4	0	2	7	8	28	32	6	6	33	40
Child developed/will develop deformity	1	1	63	56	0	-	-	1	-	-	1	-
Child lost/will lose resistance against diseases	1	-	0	-	1	1	4	3	2	-	5	6
Child is suffering/will suffer intermitantly	1	-	-	1	1	1	3	6	2	2	7	4
Child's health is not improving/will not improve	1	2	-	-	4	1	7	5	6	4	11	6
Other	2	2	-	2	1	2	6	5	3	2	-	-
Don't know	24	35	29	35	50	54	37	39	27	15	10	17
N	235	164	235	164	235	164	235	164	235	164	235	164

**6.2.5 Knowledge of EPI service sites (SD)**

Eighty-five percent of the SD mothers and 80 percent of the fathers knew the location of an EPI service site. This is somewhat less than that of MC and LMC. Seventy-two percent of the mothers and 64 percent of the fathers found out about its location from some one else. Another 15 percent of the mothers and five percent of fathers mentioned clinic and hospital workers. Communication media/material was the source for only 10 percent of the mothers and 20 percent of the fathers (Table 6.2.5).

**Table 6.2.5: Sources of information on immunization service sites (SD)**

Source	Mother	Father
	(Percent)	
Told by someone	72	64
Communication media/material	10	20
Clinic/hospital worker	15	5
By own efforts	4	4
Don't know any service site	15	20
N	235	164

### 6.3 Acceptance and continuation of vaccines (SD)

Results of the survey on acceptance of vaccines and immunization dropouts, including reasons for non-acceptance and dropping out, who advised visiting an immunization site, and time and cost of travel, are presented below. Again, these results show serious need for targeted programs to reach this underserved population.

#### 6.3.1 Acceptance of vaccines (SD)

For the SD mothers, the rate of acceptance of specific vaccines was low and significantly less than for the other two categories. Sixty-two percent of the SD mothers had had at least one TT shot. Only sixty percent had taken their youngest child for at least one dose of DPT and Polio vaccines. The rate of acceptance for Measles vaccine was lowest, 48 percent. The fact sheet in the Executive Summary provides a comparison between the different groups.

Only 52 percent of SD mothers had had both doses of TT before their last pregnancy and only 45 percent of their youngest children had completed, or were still continuing the doses for DPT and Polio vaccines (Table 6.3.1).

**Table 6.3.1: Acceptance of specific vaccines (SD).**

	Mother
<b>a. Accepted any dose</b>	<b>(Percent)</b>
TT	62
DPT	60
Polio	60
BCG	56
Measles	48
<b>b. Accepted complete doses</b>	
TT	52
DPT	45
Polio	45
BCG	55
Measles*	48
N	235

N in this table is the total number of mothers.

\* For Measles vaccines mothers having babies under nine months were excluded.

### 6.3.2 Acceptance of complete doses of vaccines (SD)

Fifty-four percent of the SD mothers (including those who were continuing) had complete doses of all vaccines. Fourteen percent of the SD mothers dropped out (did not finish the required immunization series). These figures are 70% and 16% respectively for LMC.

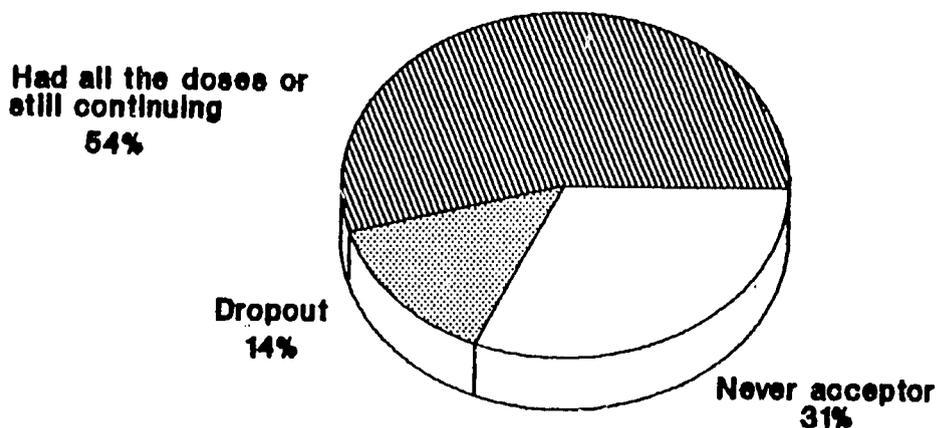
Most importantly, nearly one-third (31 percent) of the SD mothers had never accepted any vaccine (Table 6.3.2 and Figure 6.3.1). As mentioned above, "never acceptance" can be perceived as the failure of the EPI to reach these particular populations either with knowledge or with motivation and appropriate service delivery.

**Table 6.3.2: Acceptance of complete doses of vaccines (SD).**

	Mothers (Percent)
Had all the doses or still continuing	54
Dropout	14
Never acceptor	31
N	201

N in this table is the total number of mothers excluding those having babies under three months for DPT, Polio, BCG, and under one year for Measles vaccine.

**Figure 6.3.1: Acceptance of complete doses of vaccines (SD)**



### 6.3.2 Parameters for acceptance of immunization sites (SD)

About fifteen percent of the SD mothers reported that they did not know the location of any immunization site. (Note: corresponding figure for LMC is 5%). When asked who had advised them to go to the EPI clinic/service site, Relatives/friend/neighbors were mentioned by 40 percent of the SD mothers. H&FP workers were the source of advice for 36 percent, and 24 percent said they went on their own initiative. Clinic/ hospital workers and doctors together were noted by about 14 percent. Only 8 percent of the SD mothers reported that their husbands had advised them to go (Table 6.3.3).

Sixty-five percent of the SD mothers walked to the clinic, 32 percent went by rickshaw, and one percent each by Baby Taxi, bus or other mode of transport.

The mean time required for travelling was four minutes; and the mean cost of travel was Tk.3.

**Table 6.3.3: Parameters for acceptance of immunization site (SD)**

	Mother
	(Percent)
<b>a. Knew the location of an immunization site</b>	
Yes	84.7
<b>b. Person who advised going to the EPI clinic/site</b>	
Self	24
Spouse	8
Relative/friend/neighbor	40
H&FP worker	36
Clinic/hospital worker	10
Doctor	4
Other	2
<b>c. Mode of transport</b>	
Walking	65
Rickshaw	32
Baby taxi	1
Bus	1
Other	1
<b>d. Mean time required (minutes)</b>	4.3
<b>e. Mean cost (Taka)</b>	2.6
N*	199

\* N is the number of mothers who knew the location of an immunization site.

#### 6.3.4 Reasons for non-acceptance of immunization (SD)

Thirty-one percent (73) of the SD mothers had never accepted any vaccines for their youngest child. This is double that for LMC and is clearly the most serious problem identified for SD populations. As for LMC, the major reason, given by 45 percent, was lack of awareness of the need for immunization. Another 6 percent said that they didn't know the time or location of EPI sessions.

Nineteen percent of the mothers had postponed going because the child was sick or for other excuses, though only 3 percent had been refused immunization for their sick child. Twelve percent of the mothers said that they were busy and could not bring their child to the EPI center.

Twelve percent gave fear of side-effects and worry about complications for reasons (Table 6.3.4).

**Table 6.3.4: Reasons for never-acceptance of child immunization (SD)**

Reasons	Mothers
	(Percent)
Unaware of need for immunization	45
Postponement due to child's illness or other excuses	19
Mother's preoccupations	12
Child ill, brought but vaccine not given	3
Place and/or time of immunization unknown	6
Fear of side effects and misconception about complications	12
Place of immunization too far/Vaccinator absent/Unsatisfactory behavior	2
Other	1
N	73

N is the total of mothers who never accepted any vaccine.

#### 6.3.5 Reasons for dropouts of child immunization (SD)

Although "left-outs" comprised nearly one-third of respondents in this categories, there were only 28 dropouts among all the 235 SD mothers (12 percent). The major excuses for dropout was postponement due to child's illness or for other reasons (28 percent). Again, an equally important reason was the lack of awareness of the need for further immunization (21 percent). Eleven percent said that the child was refused vaccination, when brought, because (s)he was sick. Also, 7 percent (2 mothers) said that they didn't take their child because they didn't know the time of the sessions. Fear of side-effects was mentioned as the reason for dropout by 11 percent, of the SD mothers.

The only expression of dissatisfaction with service was one mother who said that the site was too far away. Though another said the vaccinator was not there, no one complained that the vaccinator didn't behave properly, or of other inconvenience (Table 6.3.5).

It is interesting that the dropout rate was almost the same for the three socio-economic categories (14-16 percent excluding mothers having babies under 3 months for DPT and Polio and under one year for Measles) and that there was little variation in major excuses for dropout--postponement, mainly due to child's illness; lack of awareness of the need for further immunization; refusal to vaccinate a sick child or not taking a sick child for vaccination.

**Table 6.3.5: Reasons for dropouts of child immunization (SD)**

Reasons	Mothers
(Percent)	
Postponement due to child's illness or other excuses	28
Refusal to vaccinate sick child	11
Unaware of need for 2nd and 3rd dose	21
Mother's preoccupation	8
Fear of side effects and misconceptions about complications	11
Date and/or time of immunization unknown	7
Place of immunization too far/Vaccinator absent/ Time inconvenient/Long wait/Unsatisfactory behavior	8
Other	8
N	28

N is the total of mothers who have not completed/are not continuing the series of vaccines.

#### 6.4 Selected differentials (SD)

##### 6.4.1 Differentials in acceptance of complete doses by selected characteristics of mothers (SD)

**Age:** Younger SD mothers (<25 years) are more likely to accept vaccines than older mothers (25 years or above) (Table 6.4.4a at Appendix F).

**Parity:** The number of children a mother had was inversely related to her acceptance of vaccines. Acceptance of complete doses of vaccines decreased substantially with increase in the

number of living children. The rate of acceptance of vaccines decreased from 56 percent for SD mothers having one child to 39 percent among those having three children or more (Table 6.4.4b at Appendix F).

**Education:** There was no difference in the acceptance of complete doses of vaccines between those who attended school than those never attended (Table 6.4.4c at Appendix F).

**Employment:** Acceptance of vaccines was lower for the employed SD mothers than for unemployed (Table 4.4.4d at Appendix F).

#### **6.4.2 Differentials in acceptance of complete doses by sources of information (SD)**

Among the SD mothers the acceptance is highest for those who received messages from H&FP worker, followed by neighbour/relative/friend (Table 6.4.5 at Appendix F). However, these data should be cautiously utilized since there were multiple sources of information.

#### **6.4.3 Differentials in acceptance of complete doses by Division and type of urban area (SD)**

Among the SD mothers the rate of acceptance of vaccines was highest in Khulna followed by Rajshahi Division and lowest in Chittagong (Table 5.4.6 at Appendix F).

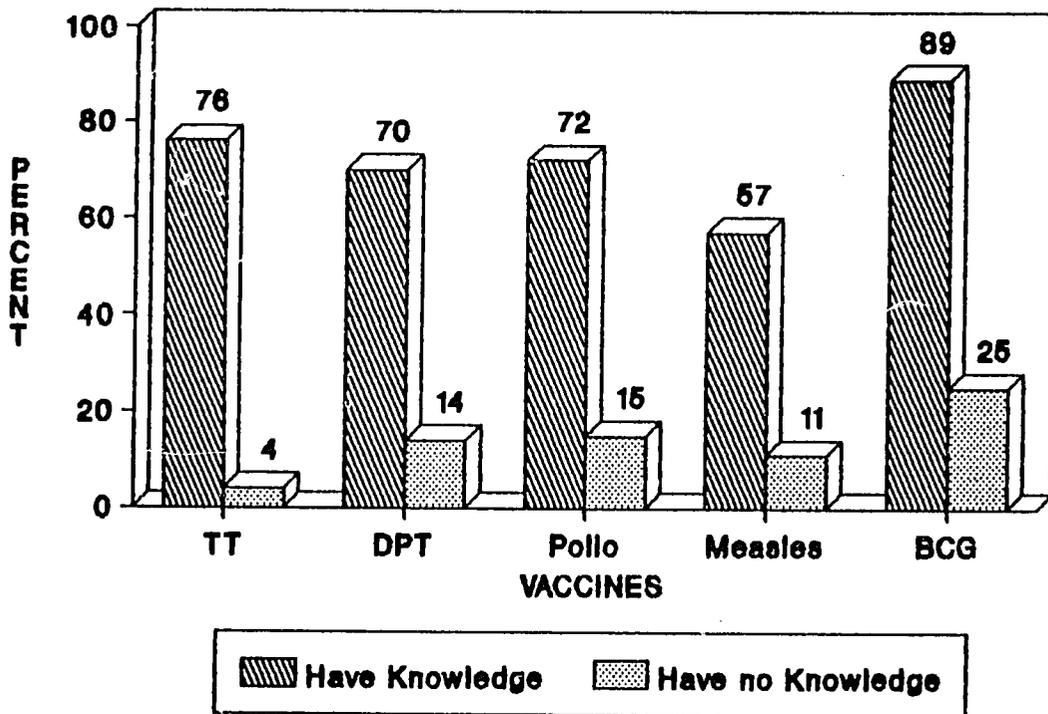
Among the SD mothers acceptance of complete doses of vaccines is relatively lower in cities than in towns (Table 6.4.7 at Appendix F).

#### **6.4.4 Differentials in acceptance of complete doses of specific vaccines by knowledge of doses and timing (SD)**

A major correlating factor for acceptance of complete doses was the knowledge of doses and timing of vaccines. For example, the rate of acceptance of complete doses of vaccines ranged from 70-89 percent among the SD mothers having knowledge of doses and timing; while it ranged from only 14-25 percent among those not having the knowledge (Table 6.4.8 at Appendix F and Figure 6.4.1). These differences were more strongly apparent among SD respondents than for other categories and may reflect the fact that for this categories, the H&FP worker is the most important source of knowledge.

This finding suggests that EPI communications should include information on doses and timing for each specific vaccine. It is important to note that for the SD mothers and fathers H&FP worker is the most important source of information (Table 4.43 at Appendix F and Figure 4). Thus, H&FP worker should be trained to disseminate accurate information on doses and timing of each specific vaccine.

Figure 6.4.1: Acceptance of complete doses of specific vaccines by knowledge of doses and timing (SD).



## Section 7

### DISCUSSIONS AND CONCLUSIONS

Acceptance of complete doses of vaccines is highest among Middle Class (75 percent), intermediate among Lower Middle Class (60 percent), and lowest among Slum Dwellers (48 percent). Acceptance is significantly higher among those who have one or two children than among those having more; those who attended school than those who never attended; those who are employed than those who are not; those who know the timing and doses of vaccines than those who do not; those who understand the consequences of vaccine preventable diseases than those who do not.

Major reasons for non-acceptance of vaccine or dropout were lack of awareness of the need for immunization, ignorance of the consequences of vaccine preventable diseases, ignorance of the need for 2nd and 3rd doses, fear of side-effects, lack of knowledge that vaccines can be given to a sick child, and refusal of vaccinators to vaccinate sick children. It is important to note that although the rate of acceptance is lower among Slum Dwellers and Lower Middle Class, the rate of dropout was same for all the three socio-economic categories.

Sources of information varied between socio-economic categories as well as between mothers and fathers. Generally, for the Middle Class mothers and fathers the major sources were TV, radio, H&FP worker, and doctor; for Lower Middle Class mothers, H&FP worker, TV, relation/neighbor/friend, radio; and for LMC fathers, TV, radio, H&FP worker; for the Slum Dweller mothers and fathers, H&FP worker and relation/ neighbor/friend.

Although this research did not investigate the role of husbands in influencing their wives to accept vaccines, it appears from the findings that males play an important role for diffusion of knowledge about vaccines, especially for those groups who rely mainly on interpersonal or word-of-mouth communication (most of the mothers and fathers in SD and most of the mothers in LMC). H&FP workers play a very vital role in providing information on immunization; their role is indispensable in organising EPI camps and informing local people about exact date and time of these camps. This information is often given, or modified at short notice and very localized. Thus, mass media cannot cater to this.

Coverage of messages through mass media, especially TV and radio, has improved substantially and has been made attractive to audiences. This is likely to improve coverage to Upper Class, Upper Middle Class, and Middle Class populations.

What can be done for the Lower Middle Class and Slum Dwellers who have limited access to mass media even in urban areas. Given the socio-cultural context of Bangladesh, this target population should be reached through interpersonal communication, especially by government and non-government H&FP workers. These H&FP workers should be given a full-range of information about the timing and doses of each vaccine and the consequences of vaccine preventable diseases. These workers should be motivated to disseminate this vital information to the mothers.

Mothers may need sanctions from their husbands to take TT for themselves and the other vaccines for their children, but this study shows that mothers are more concerned, more knowledgeable, and more responsible for having their children vaccinated than the fathers. However, without ignoring the fathers completely, leave the focus on the dissemination of information on immunization toward mothers.

Although general awareness of EPI is high, unprompted knowledge of any vaccine is very low among the Slum Dwellers (43 percent, mothers and 27 percent, fathers). Also, knowledge about doses and timing is low.

Understanding of the consequences of vaccine preventable diseases is much lower for Diphtheria and Pertussis in all the socio-economic categories. Therefore, in developing future communication strategy, Slum Dwellers must get top priority. Message content should include:

- (a) details of consequences of the vaccine preventable diseases, especially Measles, Diphtheria, and Pertussis;
- (b) timing and doses of vaccines;
- (c) safety and desirability to vaccinate a sick child;
- (d) need to returning for 2nd and 3rd doses;
- (e) need to have Measles vaccine at nine months; and
- (f) benefits of two doses of TT for the mother and the newborn.

It is important to ascertain the determinants of never acceptance (left-outs) and discontinuation (drop-outs) of vaccines. However, analysis of differentials in the major reasons by source of information do suggest for a need of further qualitative research in order to more precisely identify the determinants of drop-outs and left-outs.

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**APPENDIX A**

**DISTRIBUTION OF SURVEY SAMPLE BY URBAN AREA**

**AND SOCIO-ECONOMIC CLASS**

**Table 3.1 Number of Respondents by Division, Type of Urban area, and Social Category**

Social categories	Dhaka		Chittagong		Khulna		Rajshahi		All	
	City	Town	City	Town	City	Town	City	Town	City	Town
Middle class	184	16	81	12	25	30	20	20	310	78
Lower Middle class	543	48	257	36	81	64	60	61	935	209
Slum Dwellers	182	16	81	12	35	30	20	23	318	81
<b>Total</b>	<b>909</b>	<b>80</b>	<b>419</b>	<b>60</b>	<b>141</b>	<b>124</b>	<b>100</b>	<b>104</b>	<b>1563</b>	<b>368</b>

**Table 3.2 Number and Distribution of Mothers in Sample by Type of Urban area, and Social Category**

Socio-Economic Group	Dhaka		Chittagong		Khulna		Rajshahi		All	
	City	Town	City	Town	City	Town	City	Town	City	Town
Middle class	108	8	50	6	15	18	12	12	185	44
Lower Middle class	331	28	157	21	51	40	36	36	569	125
Slum Dwellers	107	8	49	6	20	18	12	15	188	47
<b>Total</b>	<b>546</b>	<b>44</b>	<b>250</b>	<b>33</b>	<b>86</b>	<b>76</b>	<b>60</b>	<b>63</b>	<b>942</b>	<b>216</b>

**APPENDIX B**

**QUESTIONNAIRE**

ASSESSMENT OF EPI COMMUNICATION  
INTERVENTIONS IN URBAN AREAS

QUESTIONNAIRE



ASSOCIATES FOR COMMUNITY AND POPULATION RESEARCH  
House #60, Road #2A, Dhanmondi R.A., Dhaka-1209

**INTERVIEW SCHEDULE**

CONVERTED H.H.NO. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	BATCH NO. <input type="text"/> <input type="text"/>	STARTING TIME: _____
---	---	----------------------

SAMPLE IDENTIFICATION			
NAME OF RESPONDENT _____			
NAME OF SPOUSE _____			
ADDRESS _____			
DIVISION _____	MUNICIPALITY _____	WARD _____	
STRATUM:	<input type="checkbox"/> 1 SLUM	<input type="checkbox"/> 2 LOWER MIDDLE CLASS	<input type="checkbox"/> 3 MIDDLE CLASS

INTERVIEW INFORMATION				
INTERVIEWER CALL	1	2	3	4
DATE				
RESULT CODE*				
INTERVIEWER CODE	<input type="text"/> <input type="text"/>			
*RESULT CODES				
Completed	1	Deferred	3	
No competent respondent	2	Refused	4	
		Other _____	5	
		(Specify)		

SUPERVISION RECORDS		
FIELD EDITED	REINTERVIEWED OR SPOT CHECKED	OFFICE EDITED
BY <input type="text"/> <input type="text"/>	BY <input type="text"/> <input type="text"/>	BY <input type="text"/> <input type="text"/>
DATE _____	DATE _____	DATE _____

## INTRODUCTION

We have come to you to discuss about immunization/vaccination; to hear from you what you know about the immunization program and the services you have received from this program. The information you provide will help us understand more specifically what you intend to receive from the immunization program and how best improvements can be made to serve you better. What ever you say shall be kept confidential and be used only for research purposes.

### Section-1

#### BACKGROUND CHARACTERISTICS

	RESPONSE	GO TO				
101. Would you tell me your name, please ?  Name: _____						
102. How old are you ? (Probe) (Completed Years)	<table border="1" style="margin: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> <tr> <td colspan="2" style="text-align: center;">Age</td> </tr> </table>			Age		
Age						
103. Did you ever attend school ? IF YES, What is the highest class you passed ? (IF NO, please write 00)	<table border="1" style="margin: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> <tr> <td colspan="2" style="text-align: center;">Class</td> </tr> </table>			Class		
Class						
104. (If never attended school) Can you read Bangla ?	Yes    1  No    2    --> 106					
105. (If never attended school) Can you write Bangla, say a letter ?	Yes    1  No    2					
106. Did your husband /wife ever attend school ? IF YES, What is the highest class (s)he passed ? (IF NO, please write 00)	<table border="1" style="margin: auto;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> <tr> <td colspan="2" style="text-align: center;">Class</td> </tr> </table>			Class		
Class						

	RESPONSE	GO TO
107. (If never attended school) Can (s)he read bangla ?	Yes 1 No 2	--> 109
108. (If never attended school) Can (s)he write Bangla, say a letter ?	Yes 1 No 2	
109. Now I would like to ask you some questions about you and your children. Do you have any living children ?	Yes 1 No 2	(Terminate interview)
110. How many children do you have now ?	Son(s) <input type="text"/> Daughter(s) <input type="text"/> Total <input type="text"/> <input type="text"/>	
111. How old is your youngest child ?	Age <input type="text"/> <input type="text"/> months	
112. What is his/her name ? Name: _____		
113. What type of dwelling house do you and your family live in ?	Bamboo/Thatched 1 Bamboo/Thatched tin shed 2 Tin shed wallup 3 Building 4 Multistoried coloney 5	

114. Do you or does your household own any of the following ?

Sl. No.	Household possession	Ownership status			
01	Cot	1	Yes	2	No
02	Chair/bench	1	Yes	2	No
03	Sofaset	1	Yes	2	No
04	Wardrobe/almirah	1	Yes	2	No
05	Bicycle	1	Yes	2	No
06	Motorcycle	1	Yes	2	No
07	Private car	1	Yes	2	No
08	Watch/clock	1	Yes	2	No
09	Radio	1	Yes	2	No
10	TV	1	Yes	2	No
11	FAN	1	Yes	2	No

	RESPONSE	GO TO
115. Are you currently working for payment ?	Yes 1 No 2 → 117	
116. What is your occupation ? Occupation: _____	<input type="text"/>	
117. What is the Major Occupation of your husband/wife ? Occupation: _____	<input type="text"/>	
118. What is the monthly income of your family, cash or kind ? (PROBE) Monthly income in cash Tk. _____ Monthly income in kind Tk. _____	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Total Taka	

Section-2

AWARENESS OF THE COMMUNICATION  
MESSAGES ON IMMUNIZATION

	RESPONSE	GO TO
201. There is a nationwide EPI (Vaccine) program trying to protect women and children under one year of age from several deadly diseases. Have you heard any thing about this program ?	Yes 1	--> 204
	No 2	
202. Whom did you hear from ?	Health and family planning workers 01	
	Imams 02	
	School teachers 03	
	Medical practitioner 04	
	Traditional healers 05	
	Friends 06	
	Relations 07	
	Neighbours 08	
	Midwife 09	
	Gram theater 10	
	Radio 11	
	TV 12	
	Other _____ 13 (specify)	
203. What did they say about immunization ?	Vaccinate your child 1	
	Immunization is preventive 2	
	Mothers need TT to protect themselves and their new-borns 3	
	At six weeks, the child must have the first dose 4	
	By one year all the doses must be completed 5	
	Remember your child needs several doses for full protection 6	
	There is a vaccination site close to your house---free ! 7	
	Other _____ 8 (specify)	

	RESPONSE	GO TO
204. Have you seen any advertisement on immunization/vaccination ?	Yes 1 No 2	
INTERVIEWER: SHOW THE MONILOGO AND ASK:		
205. Have you ever seen this Monilogo anywhere ?	Yes 1 No 2	--> 301
206. (On) What type of advertisement have you seen (this Monilogo) ? (INTERVIEWER: TICK BELOW THE MATERIALS (S) HE MENTIONS)	Poster 01 Brochures/leaflets/ flipcharts 02 News papers(features/ articles) magazines 03 Cinema slides 04 TV 05 Wall paintings 06 Rickshaw plates 07 Bill boards/tin plates 08 Hoarding/banner 09 Stickers 10 Other _____ 11 (Specify)	
207. Where did you see these (communication) materials ?	Immunization center 1 Own house 2 Relatives' house 3 Neighbour's house 4 FP Health workers 5 Markets/Public places 6 Other _____ 7 (Specify)	
INTERVIEWER: PLEASE SHOW		
1. SIX DISEASE POSTER		
2. FLIPCHART		
3. FOUR IN ONE LEAFLET		
4. FLASH CARD		

	RESPONSE	GO TO
208. What did these communication materials say about immunization ?	Vaccinate your child	1
	Immunization is preventive	2
	Mothers need TT to protect themselves and their new borns	3
	At six weeks, the child must have the first dose	4
	By one year all the doses must be completed	5
	Remember your child needs several doses for full protection	6
	There is a vaccination site close to your house--free !	7
	Other _____ (specify)	8

Section-3

KNOWLEDGE AND EVER USE OF VACCINE AND RESPONDENTS'  
ATTITUDE TOWARDS SERVICE

301. There are different vaccines for women and children. Would you please tell me what are the vaccines you know of ? (PROBE)

INTERVIEWER: DO NOT READ OUT ANYTHING TO THE RESPONDENT ABOUT IMMUNIZATION/VACCINATION. CIRCLE RESPONSES IN COLUMN-A OF TABLE-3.1. ONLY IF THE RESPONDENT SPONTANEOUSLY MENTIONS THE NAME OF ANY VACCINE. PROBE AND FIND WHETHER THE RESPONDENT IS ABLE TO NAME ANY OTHER VACCINE, IF YES, CIRCLE RESPONSES IN COLUMN-A.

302. Just to be sure, have you ever heard of \_\_\_\_\_ ?  
Vaccine

INTERVIEWER: FOR EACH VACCINE NOT CIRCLED IN COLUMN-A, READ OUT TO THE RESPONDENT ABOUT THOSE VACCINES AND CIRCLED RESPONSES COLUMN-B.

303. When to begin with \_\_\_\_\_ ?  
Name each vaccine

INTERVIEWER: FOR VACCINES CIRCLED 1 IN COLUMN-A AND 2 IN COLUMN-B ASK: Q.303 AND CIRCLE RESPONSES IN COLUMN-A.

304. Could you tell me how many times you should be taking your child to the immunization center ?

INTERVIEWER: FOR VACCINES CIRCLED 1 IN COLUMN-A AND 2 IN COLUMN-B ASK: Q.304 AND RECORD RESPONSES IN COLUMN-D, IF YES, RECORD NUMBER OF TIMES. IF NO, WRITE '0'.

- 305a. Did you take TT injection during your last pregnancy ?

INTERVIEWER: FOR WOMEN ONLY WHOSE RESPONSES WERE CIRCLED 1 IN COLUMN-A AND 2 IN COLUMN-B FROM THE FIRST ROW, ASK: Q.305a AND CIRCLE RESPONSES IN COLUMN-E. IF YES, RECORD NUMBER OF DOSES, IF NO, WRITE '0'.

- 305b. Was \_\_\_\_\_ given \_\_\_\_\_ ? IF YES, how many doses?  
(name of youngest child) (vaccine)

INTERVIEWER: FOR VACCINES CIRCLED 1 IN COLUMN-A AND 2 IN COLUMN-B (OTHER THAN 'TT') ASK: Q.305b AND CIRCLE RESPONSES IN COLUMN-E. IF YES, RECORD NUMBER OF DOSES, IF NO, WRITE '0'.

TABLE-3.1: KNOWLEDGE AND EVER USE OF VACCINE

Vaccine	A	B	C	D		E
	Know- ledge (unprom- pted)  301	Know- ledge (promp- ted)  302	Correct knowled- ge when to begin with the series 303	Knowledge on number of times to report to clinic  304	Ever use	305
01 TT (A vaccine to protect women and new born against tetanus)	1 Yes	2 Yes 3 No	1 Yes 2 No	<input type="text"/> Number	1 Yes 2 No Doses	<input type="text"/>
02 DPT (Vaccines to protect chil- dren against diphtheria, hooping cough, tetanus)	1 Yes	2 Yes 3 No	1 Yes 2 No	<input type="text"/> Number	1 Yes 2 No Doses	<input type="text"/>
03 Polio (A vaccine to prevent phy- sical defor- mity, usually leg weakness)	1 Yes	2 Yes 3 No	1 Yes 2 No	<input type="text"/> Number	1 Yes 2 No Doses	<input type="text"/>
04 Measles (A vaccine to prevent Hum or Lunti)	1 Yes	2 Yes 3 No	1 Yes 2 No	<input type="text"/> Number	1 Yes 2 No Doses	<input type="text"/>
05 BCG (A vaccine to protect agai- nst tuber- culosis)	1 Yes	2 Yes 3 No	1 Yes 2 No	<input type="text"/> Number	1 Yes 2 No Doses	<input type="text"/>
06 Other _____ (Specify)	1 Yes	2 Yes 3 No	1 Yes 2 No	<input type="text"/> Number	1 Yes 2 No Doses	<input type="text"/>

	RESPONSE	GO TO
306. Do you know where the immunization services are available ? (PROBE)	Yes 1	
	No 2	--> 311
307. How did you come to know where the immunization service is available ? Was it someone who told you about service centre, or was it some information material telling you location of service centers?	Some one told me 1	
	Received information through communication/ media/material 2	
	At clinic/HC 3	
	By her own effort 4	
308. Who influenced you to go to clinic to have vaccines for yourself/your children ?	Self 01	
	Husband 02	
	Relative/friend/ neighbour 03	
	Other family members 04	
	Clinic/Hospital worker 05	
	Health and FP worker 06	
	Imams 07	
	School Teachers 08	
	Medical practitioner 09	
	Midwife 10	
	Traditional healers 11	
	Other _____ 12 (Specify)	

	RESPONSE	GO TO
309. How long does it take to go to the nearest immunization center from your house?	By walking	<input type="text"/> <input type="text"/> <input type="text"/> Hr. Min.
	By rickshaw	<input type="text"/> <input type="text"/> <input type="text"/> Hr. Min.
	By bus	<input type="text"/> <input type="text"/> <input type="text"/> Hr. Min.
	By baby taxi	<input type="text"/> <input type="text"/> <input type="text"/> Hr. Min.
	Others	<input type="text"/> <input type="text"/> <input type="text"/> Hr. Min.
	310. How much does it cost to travel to immunization center from your residence and back ? (If less than one Taka, write 00; if more than 95, write 95.)	Taka

INTERVIEWER: CHECK TABLE 3.1. IF THE RESPONDENT HAD NOT HAD VACCINES FOR HER CHILD, OR HAD INCOMPLETE VACCINES ASK: 311 AND RECORD THE REASONS IN TABLE-3.2. FOR THOSE WHO COMPLETED ALL DOSES DO NOT ASK Q.311 AND GO TO SECTION-4.

311. Why did not you (complete all doses/take vaccines) for your child ?

TABLE-3.2: REASONS FOR IMMUNIZATION FAILURE

Partially/not immunized:

Time to take a dose/complete all doses not mature	10
<u>Lack of information:</u>	
Unaware of need for immunization	11
Unaware of need to return for 2nd and 3rd dose	12
Place and/or time of immunization unknown	13
Fear of side-effects	14
Wrong ideas about complications	15
Other:	16
<u>Lack of motivation:</u>	
Postponed until another time	21
No faith in immunization	22
Rumors	23
Other:	24
<u>Obstacles:</u>	
Place of immunization too far to go	31
Time of immunization inconvenient	32
Vaccinator absent	33
Vaccine not available	34
Vaccinator's behavior not satisfactory	35
Mother had to go to work or look after house	36
Family problem, including illness of mother	37
Child ill-not brought	38
Child ill-brought but not given immunization	39
Long waiting time	40
Other:	41

Section-4

ATTITUDE TOWARDS IMMUNIZATION AND FELT URGENCY

	RESPONSE	GO TO
401. Have you seen any one suffering from tetanus, or polio, or diptheria, or pertussis, or tuberculosis?	Yes	1
	No	2 -->402b

402a. What happened to the child when attacked by \_\_\_\_\_ ?  
(disease name)

402b. What may happen to a child if attacked by : \_\_\_\_\_ ?  
(disease name)

INTERVIEWER: IF THE RESPONDENT HAS SEEN ANY CHILD SUFFERING FROM ANY DISEASE FROM ASK Q.408a ABOUT THAT DISEASE. FOR ALL OTHER DISEASES ASK Q.408b. CIRCLE REPOSSES IN TABLE-4.1. REMEMBER THERE MUST BE A RESPONSE AGAINST ALL THE DISEASES.

TABLE-4.1

Name of diseases	Tetanus	Polio	Diphtheria	Pertussis	TB	Measles
Child died/is likely to die	1	1	1	1	1	1
Child has suffered/will suffer seriously	2	2	2	2	2	2
Child developed/will develop deformity	3	3	3	3	3	3
Child has lost/will lose body resistance against diseases	4	4	4	4	4	4
Child is suffering/will suffer intermitantly	5	5	5	5	5	5
Child's health is not improving/will not improve	6	6	6	6	6	6
Other	7	7	7	7	7	7
Don't know	8	8	8	8	8	8

	RESPONSE	GO TO
403. It is believed that the children under one year of age are most susceptible to several child hood diseases such as _____ (Name six diseases) Now, do you think any measure can be taken in advance so that the child do not suffer from any of these diseases ?	Yes 1	--> 405
	No 2	
404. IF YES, How can these diseases be prevented ?	Go to doctor 1 Immunize 2 Keep clean 3 Pray 4 Nutrition 5 Pora pani 6 Tabiz 7 Other _____ 3 Specify	
405. IF NO, Do you believe some thing should be done effectively to protect children against these diseases ?	Yes 1 No 2	
406. Is immunization beneficial for the baby ?	Yes 1 No 2	-->408
407. IF YES, How ?	Protection aganist illness 1 Protection aganist death 2 Protection aganist disability 3 Other _____ 4 Specify	
408. IF NO, Why ?	Fever 1 Swelling 2 No benefit 3 Other _____ 4 Specify	

**APPENDIX C**

**LIST OF SURVEY PERSONNEL**

## LIST OF SURVEY PERSONNEL

### Professional staff:

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## **APPENDIX D**

### **TABLES OF SELECTED DIFFERENTIALS (MC)**

**Table 4.4.1: Differentials in knowledge of vaccines by division (MC)**

Information	Chittagong		Dhaka		Khulna		Rajshahi	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father
(Percent)								
<b>a. Sources of information</b>								
Unaware of EPI	-	-	-	-	-	-	-	-
H&FP workers	36	38	35	25	55	36	67	31
Doctor	57	38	35	24	30	14	17	25
Friend/relation/ neighbour	36	11	40	13	46	36	46	19
Radio	39	57	42	61	52	64	46	63
T.V.	80	87	84	85	91	86	83	88
Other	-	5	2	2	-	5	-	-
<b>b. Place where advertisement was seen</b>								
Not seen	2	5	-	1	-	-	-	-
Immunization center	88	49	79	35	94	73	92	50
Own home	70	73	73	58	94	82	79	69
Relative's/ neighbour's home	4	-	6	10	-	9	8	6
Market/public places	50	81	38	69	24	50	13	38
Other	5	16	5	6	3	14	13	31
<b>c. Message contents</b>								
Not aware of EPI messages	2	5	-	1	-	-	-	-
Vaccinate your child	89	89	88	95	91	100	92	81
Immunization is preventive	32	3	60	20	64	55	67	38
Mothers need IT to protect them- selves and their newborns	5	3	14	13	49	46	42	31
At six weeks, the child must have the first dose	20	11	22	18	30	36	21	44
By one year all the doses must be com- pleted	7	11	16	10	24	41	21	38
Remember, your child needs several doses for full protection	5	8	11	14	18	14	25	6
Other	7	11	3	7	-	14	-	6
<b>d. Knowledge of vaccine (Unprompted)</b>								
Know at least one vaccine	91	87	96	89	94	86	100	81
<b>e. Knowledge of specific vaccines (unprompted+prompted)</b>								
TT	100	97	99	99	100	100	100	100
DPT	100	97	99	100	100	100	100	100
Polio	98	97	98	100	100	100	100	100
Measles	98	97	99	99	100	100	100	100
BCG	98	97	98	100	100	100	100	100
<b>f. Knowledge of doses and timing</b>								
TT	96	65	94	62	97	82	100	63
DPT	95	68	90	75	97	73	100	88
Polio	82	65	86	67	100	77	100	56
Measles	79	38	76	50	97	77	100	56
BCG	82	38	85	63	94	73	100	75
N	56	37	116	84	33	22	24	16

**Table 4.4.2: Differentials in knowledge of vaccines by type of urban area (MC).**

Information	City		Town	
	Mother	Father	Mother	Father
	(Percent)			
<b>a. Sources of information</b>				
Unaware of EPI	-	-	-	-
H&FP workers	36	22	64	62
Doctor	41	25	27	29
Friend/relation/neighbour	40	16	41	18
Radio	40	56	57	77
T.V.	84	85	84	88
Other	1	4	-	-
<b>b. Place where advertisement was seen</b>				
Did not see advertisement	1	2	-	-
Immunization center	83	36	91	77
Own house	75	68	82	59
Relative's/neighbour's house	4	5	7	15
Market/public places	38	72	27	44
Other	6	11	5	15
<b>c. Message contents</b>				
Not aware of EPI messages	1	2	-	-
Vaccinate your child	89	91	91	100
Immunization is preventive	55	23	52	21
Mothers need TT to protect themselves and their new borns	12	10	50	44
At six weeks, the child must have the first dose	20	16	32	41
By one year all the doses must be completed	12	9	27	47
Remember, your child needs several doses for full protection	12	14	11	3
Other	4	10	-	6
<b>d. Knowledge of vaccine (Unprompted)</b>				
Know at least one vaccine	96	86	91	94
<b>e. Knowledge of specific vaccines (unprompted+prompted)</b>				
TT	100	98	100	100
DPT	100	99	100	100
Polio	98	99	100	100
Measles	99	98	100	100
BCG	98	99	100	100
<b>f. Knowledge of doses and timing</b>				
TT	96	59	96	88
DPT	91	71	100	85
Polio	86	64	100	77
Measles	78	46	98	74
BCG	86	56	93	74
N	185	125	44	34

**Table 4.4.3: Differentials in understanding of messages by source of knowledge (MC).**

Understanding of messages	Sources of knowledge									
	H and FP worker		Doctor		Television		Radio		Neighbour/relative/friend	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father
	(Percent)									
Unaware of EPI messages	-	-	1	5	-	2	-	1	1	4
Vaccinate your child	90	98	85	90	90	93	90	94	91	92
Immunization is preventive	64	25	55	22	55	19	63	19	57	46
Mothers need TT to protect themselves and their new borns	24	21	22	27	20	17	26	22	24	23
At six weeks, the child must have the first dose	16	13	29	34	20	24	25	27	25	19
By one year all the doses must be completed	8	19	15	24	15	18	19	24	20	12
Remember, your child needs several doses for full protection	11	6	14	12	13	14	11	12	7	15
Other	2	8	3	7	2	8	3	12	2	4
N	95	48	87	41	192	136	99	96	92	26

**Table 4.4.4: Differentials in acceptance of complete doses of vaccines by selected characteristics of mothers (MC)**

Characteristics	(N)	Percent
<b>a. Age (Years)</b>		
<25	116	73
25+	113	71
<b>b. Number of living children</b>		
1	103	73**
2	68	68
3+	58	66**
<b>c. Education</b>		
Never attended school	7	71
Attended school	222	72
<b>d. Employment</b>		
Employed	15	73
Unemployed	214	72

\*\* The difference in the rate of acceptance of complete doses of vaccines by parity of mothers among all the three social categories are found statistically significant at  $p < 0.05$ .

**Table 4.4.5: Differentials in acceptance of complete doses of specific vaccines by source of knowledge (MC)**

Vaccines	Sources of knowledge				
	H and FP worker	Doctor	Tele- vision	Radio	Neighbour/re lative/frien
	(Percent)				
TT	92	92	90	93	90
DPT	75	81	79	83	78
Polio	76	81	80	83	78
Measles	67	83	72	74	75
BCG	81	75	81	88	84
N	95	87	192	99	92

**Table 4.4.6: Differentials in acceptance of complete doses by division (MC)**

Vaccine	Chittagong	Dhaka	Khulna	Rajshahi
	(Percent)			
TT	95	89	82	100
DPT	82	75	79	88
Polio	82	75	82	88
Measles	71	76	76	77
BCG	88	80	61	92
N	56	116	33	24

**Table 4.4.7: Differentials in acceptance of complete doses by type of urban area (MC)**

Information	City	Town
	(Percent)	
TT	90	91
DPT	81	71
Polio	81	71
Measles	76	68
BCG	81	80
N	185	44

**Table 4.4.8: Differentials in acceptance of complete doses of specific vaccines by knowledge of doses and timing (MC\*)**

Vaccines	Knowledge doses & timing	N	Acceptance of vaccines				
			TT	DPT	Polio	Measles	BCG
			(Percent)				
TT	Yes	219	94				
	No	10	10				
DPT	Yes	213		80			
	No	16		56			
Polio	Yes	203			81		
	No	26			65		
Measles	Yes	132				77	
	No	18				61	
BCG	Yes	200					85
	No	29					48

\* The difference in the rate of acceptance of complete doses of vaccines by knowledge and timing are found statistically significant at  $p < 0.05$ .

**Table 4.4.9: Differentials in acceptance of complete doses of specific vaccines by understanding of consequences, witnessed or perceived, of vaccine preventable diseases (MC)**

Vaccines preventable diseases	Knowledge doses & timing	N	Acceptance of vaccines				
			TT	DPT	Polio	Measles	BCG
(Percent)							
Tetanus	Yes	209	90				
	No	20	95				
Diphtheria/ Pertussis	Yes	205		79			
	No	24		75			
Polio	Yes	195			79		
	No	34			82		
Measles	Yes	120				73	
	No	30				83	
TB	Yes	192					80
	No	37					81

**Table 4.4.10: Differentials in major reason for non-acceptance by source of information (MC)**

Major reason	Sources of knowledge				
	H and FP worker	Doctor	Television	Radio	Neighbour/relative/friend
(Percent)					
Unaware of need	-	-	14	-	-
Place and time unknown	-	-	-	-	-
Postponement due to child's illness or for other reasons	50	50	58	67	67
Child ill but refused by vaccinator	50	50	29	33	33
Fear of side-effects and misconception about complications	-	-	-	-	-
N	2	2	7	3	3

**Table 4.4.11: Differentials in major reason for dropout by source of information (MC)**

Major reason	Sources of knowledge				
	H and FP worker	Doctor	Television	Radio	Neighbour/relative/friend
(Percent)					
Unaware of need	6	-	3	-	-
Place and time unknown	-	10	3	8	-
Postponement due to child's illness or for other reasons	59	40	47	50	64
Child ill but refused by vaccinator	12	30	17	8	21
Fear of side-effects and misconception about complication	-	-	-	-	-
Mother's preoccupation with other activities	-	10	7	-	-
N	17	10	30	12	14

## **APPENDIX E**

### **TABLES OF SELECTED DIFFERENTIALS (LMC)**

**Table 5.4.1: Differentials in knowledge of vaccines by division (LMC).**

Information	Chittagong		Dhaka		Khulna		Rajshahi	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father
(Percent)								
<b>a. Sources of information</b>								
Unaware of EPI	2	-	1	-	-	-	-	-
H&FP workers	49	57	56	38	65	32	65	61
Doctor	20	23	15	18	10	20	11	10
Friend/relation/ neighbour	40	19	50	16	47	26	39	27
Radio	19	44	28	57	29	65	39	43
T.V.	48	65	53	63	47	65	42	39
Other	3	9	1	6	-	6	3	2
<b>b. Place where advertisement was seen</b>								
Not seen	4	1	6	1	1	-	-	-
Immunization center	72	45	75	38	82	52	83	61
Own home	37	40	43	34	41	26	42	27
Relative's/ neighbour's home	28	35	23	23	30	20	4	10
Market/public places	33	74	22	71	18	63	11	57
Other	5	12	5	5	2	19	11	14
<b>c. Message contents</b>								
Not aware of EPI messages	4	1	6	1	1	-	-	-
Vaccinate your child	88	94	83	91	78	87	75	86
Immunization is preventive	29	4	45	31	39	32	43	31
Mothers need IT to protect them- selves and their newborns	1	4	13	11	20	19	29	35
At six weeks, the child must have the first dose	10	-	13	11	12	30	14	27
By one year all the doses must be com- pleted	2	3	14	7	19	28	24	35
Remember, your child needs several doses for full protection	2	7	9	6	24	13	33	16
Other	1	2	1	5	1	6	-	4
<b>d. Knowledge of vaccine (Unprompted)</b>								
Know at least one vaccine	60	62	76	65	78	63	85	62
<b>e. Knowledge of specific vaccines (unprompted+prompted)</b>								
TT	94	97	95	98	100	98	99	94
DPT	97	97	95	99	99	98	97	96
Polio	95	97	94	98	98	96	93	96
Measles	94	96	96	97	100	98	97	100
BCG	95	97	96	97	100	100	94	98
<b>f. Knowledge of doses and timing</b>								
TT	83	46	82	53	92	57	92	67
DPT	77	56	75	57	89	48	79	59
Polio	69	52	72	53	86	48	78	57
Measles	58	24	67	31	71	41	64	45
BCG	62	26	70	40	87	52	78	55
N	172	115	359	232	91	54	72	49

**Table 5.4.2: Differentials in knowledge of vaccines by type of urban area (LMC).**

Information	City		Town	
	Mother	Father	Mother	Father
(Percent)				
<b>a. Sources of information</b>				
Unaware of EPI	1	-	-	-
H&FP workers	55	42	62	58
Doctor	17	20	6	13
Friend/relation/neighbour	46	18	43	23
Radio	24	52	37	57
T.V.	50	64	48	51
Other	2	7	1	-
<b>b. Place where advertisement was seen</b>				
Did not see advertisement	4	1	4	12
Immunization center	75	41	81	47
Own house	41	34	44	31
Relative's/neighbour's house	24	26	19	17
Market/public places	23	74	23	49
Other	5	9	5	13
<b>c. Message contents</b>				
Not aware of EPI messages	4	1	4	-
Vaccinate your child	85	91	74	89
Immunization is preventive	43	27	27	11
Mothers need TT to protect themselves and their new borns	9	8	28	32
At six weeks, the child must have the first dose	11	7	16	32
By one year all the doses must be completed	9	5	27	38
Remember, your child needs several doses for full protection	9	8	25	8
Other	1	4	2	2
<b>d. Knowledge of vaccine (Unprompted)</b>				
Know at least one vaccine	73	61	75	75
<b>e. Knowledge of specific vaccines (unprompted+prompted)</b>				
TT	96	98	95	98
DPT	95	98	98	98
Polio	94	98	98	96
Measles	95	96	98	100
BCG	95	97	98	100
<b>f. Knowledge of doses and timing</b>				
TT	84	50	89	71
DPT	76	52	88	71
Polio	71	48	86	71
Measles	62	26	75	58
BCG	68	34	86	63
N	569	366	125	84

**Table 5.4.3: Differentials in understanding of messages by source of knowledge (LMC).**

Understanding of messages	Sources of knowledge									
	H and FP worker		Doctor		Television		Radio		Neighbour/relative/friend	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father
	(Percent)									
Unaware of EPI messages	4	1	4	1	0	-	1	0	3	1
Vaccinate your child	83	90	83	89	86	96	95	94	86	88
Immunization is preventive	45	19	37	25	45	24	45	24	40	34
Mothers need IT to protect themselves and their new borns	10	11	13	14	13	15	17	18	15	8
At six weeks, the child must have the first dose	10	9	20	11	15	15	17	19	11	4
By one year all the doses must be completed	11	12	10	12	15	13	18	15	14	8
Remember, your child needs several doses for full protection	14	8	13	8	13	9	15	8	9	11
Other	0	2	-	4	0	1	-	1	0	5
N	390	202	104	84	344	276	185	238	318	85

**Table 5.4.4: Differentials in acceptance of complete doses of vaccines by selected characteristics of mothers (LMC)**

Characteristics	(N)	Percent
<b>a. Age (Years)</b>		
<25	371	62
25+	323	60
<b>b. Number of living children</b>		
1	214	66**
2	194	62
3+	286	56**
<b>c. Education</b>		
Never attended school	204	56
Attended school	490	63
<b>d. Employment</b>		
Employed	28	57
Unemployed	666	61

\*\* The difference in the rate of acceptance of complete doses of vaccines by parity of mothers among all the three social categories are found statistically significant at  $p < 0.05$ .

**Table 5.4.5: Differentials in acceptance of complete doses of specific vaccines by source of knowledge (LMC)**

Vaccines	Sources of knowledge				
	H and FP worker	Doctor	Tele- vision	Radio	Neighbour/re lative/frien
	(Percent)				
TT	69	79	77	77	73
DPT	60	70	64	67	56
Polio	60	69	64	66	56
Measles	65	59	69	66	60
BCG	72	72	72	73	65
N	390	104	344	185	318

**Table 5.4.6: Differentials in acceptance of complete doses by division (LMC)**

Vaccine	Division			
	Chittagong	Dhaka	Khulna	Rajshahi
	(Percent)			
TT	79	71	67	69
DPT	55	65	52	56
Polio	55	64	52	56
Measles	55	67	67	59
BCG	65	71	69	67
N	172	359	91	72

**Table 5.4.7: Differentials in acceptance of complete doses by type of urban area (LMC)**

Information	Urban area	
	City	Town
	(Percent)	
TT	72	74
DPT	61	55
Polio	60	55
Measles	63	62
BCG	69	40
N	569	125

**Table 5.4.8: Differentials in acceptance of complete doses of specific vaccines by knowledge of doses and timing (LMC\*)**

Vaccines	Knowledge doses & timing	N	Acceptance of vaccines				
			TT	DPT	Polio	Measles	BCG
			(Percent)				
TT	Yes	587	83				
	No	107	11				
DPT	Yes	540		70			
	No	154		21			
Polio	Yes	513			71		
	No	181			27		
Measles	Yes	295				76	
	No	124				32	
BCG	Yes	493					85
	No	201					30

\* The difference in the rate of acceptance of complete doses of vaccines by knowledge and timing are found statistically significant at  $p < 0.05$ .

**Table 5.4.9: Differentials in acceptance of complete doses of specific vaccines by understanding of consequences, witnessed or perceived, of vaccine preventable diseases (LMC\*)**

Vaccines preventable diseases	Knowledge doses & timing	N	Acceptance of vaccines				
			TT	DPT	Polio	Measles	BCG
(Percent)							
Tetanus	Yes	593	73				
	No	101	67				
Diphtheria/ Pertussis	Yes	558		63			
	No	136		46			
Polio	Yes	551			62		
	No	143			48		
Measles	Yes	332				65	
	No	87				53	
TB	Yes	543					71
	No	151					61

\* The difference in the rate of acceptance of complete doses of vaccines by understanding of consequences of VP diseases is found statistically significant at  $p < 0.05$ .

**Table 5.4.10: Differentials in major reason for non-acceptance by source of information (LMC)**

Major reason	Sources of knowledge				
	H and FP worker	Doctor	Television	Radio	Neighbour/relative/friend
(Percent)					
Unaware of need	19	33	25	28	33
Place and time unknown	10	8	14	11	10
Postponement due to child's illness or for other reasons	39	33	28	39	21
Child ill but refused by vaccinator	8	-	6	-	6
Fear of side-effects and misconception about complications	6	8	3	6	-
N	52	12	36	18	52

**Table 5.4.11: Differentials in major reason for dropout by source of information (LMC)**

Major reason	Sources of knowledge				
	H and FP worker	Doctor	Television	Radio	Neighbour/relative/friend
(Percent)					
Unaware of need	2	27	3	-	5
Place and time unknown	2	-	3	-	2
Postponement due to child's illness or for other reasons	27	20	44	50	37
Child ill but refused by vaccinator	14	7	22	5	12
Fear of side-effects and misconception about complication	-	27	3	5	2
Mother's preoccupation with other activities	14	-	-	14	12
N	44	15	36	22	41

**APPENDIX F**

**TABLES OF SELECTED DIFFERENTIALS (SD)**

**Table 6.4.1: Differentials in knowledge of vaccines by division (SD).**

Information	Chittagong		Dhaka		Khulna		Rajshahi	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father
(Percent)								
<b>a. Sources of information</b>								
Unaware of EPI	6	5	5	5	-	-	-	-
H&FP workers	58	50	59	55	68	78	93	63
Doctor	9	8	10	8	3	7	7	-
Friend/relation/ neighbour	42	34	50	19	50	26	41	19
Radio	13	21	11	33	3	41	11	25
T.V.	18	42	14	24	18	22	15	19
Other	-	11	4	2	-	-	4	6
<b>b. Place where advertisement was seen</b>								
Not seen	16	11	24	13	5	-	-	13
Immunization center	44	29	63	37	68	56	85	75
Own home	11	16	10	2	5	7	15	-
Relative's/ neighbour's home	35	34	18	16	29	22	7	13
Market/public places	22	74	17	52	13	48	7	19
Other	2	11	2	8	13	7	7	19
<b>c. Message contents</b>								
Not aware of EPI messages	16	11	24	13	5	-	-	13
Vaccinate your child	60	53	63	63	84	85	82	75
Immunization is preventive	13	5	32	17	42	19	37	25
Mothers need IT to protect them- selves and their newborns	2	-	7	5	21	7	22	25
At six weeks, the child must have the first dose	2	-	9	2	5	15	15	19
By one year all the doses must be com- pleted	-	3	5	4	24	19	15	25
Remember, your child needs several doses for full protection	-	3	8	2	16	-	22	-
Other	2	3	2	1	-	-	-	-
<b>d. Knowledge of vaccine (Unprompted)</b>								
Know at least one vaccine	11	16	46	25	66	44	67	38
<b>e. Knowledge of specific vaccines (unprompted+prompted)</b>								
IT	73	87	84	80	100	100	100	75
DPT	67	79	80	82	95	96	96	88
Polio	64	79	76	80	92	93	96	94
Measles	64	71	74	81	90	93	96	94
BCG	71	82	79	83	95	96	93	100
<b>f. Knowledge of doses and timing</b>								
IT	51	8	61	30	92	48	96	44
DPT	38	13	53	22	71	41	82	44
Polio	31	13	50	22	71	37	78	44
Measles	16	3	34	16	61	30	67	44
BCG	16	3	46	21	76	41	82	44
N	55	38	115	83	38	27	27	16

**Table 6.4.2: Differentials in knowledge of vaccines by type of urban area (SD).**

Information	City		Town	
	Mother	Father	Mother	Father
(Percent)				
<b>a. Sources of information</b>				
Unaware of EPI	4	5	4	-
H&FP workers	63	55	68	74
Doctor	10	8	2	6
Friend/relation/neighbour	46	25	51	21
Radio	11	31	6	29
T.V.	18	28	6	27
Other	3	5	-	3
<b>b. Place where advertisement was seen</b>				
Did not see advertisement	17	10	13	12
Immunization center	62	41	62	47
Own house	10	6	12	6
Relative's/neighbour's house	24	19	17	27
Market/public places	16	58	17	35
Other	3	12	11	3
<b>c. Message contents</b>				
Not aware of EPI messages	17	10	13	12
Vaccinate your child	68	62	68	79
Immunization is preventive	32	19	19	3
Mothers need TT to protect themselves and their new borns	5	4	30	15
At six weeks, the child must have the first dose	6	2	11	21
By one year all the doses must be completed	3	3	28	27
Remember, your child needs several doses for full protection	7	2	17	-
Other	2	2	-	-
<b>d. Knowledge of vaccine (Unprompted)</b>				
Know at least one vaccine	44	25	40	38
<b>e. Knowledge of specific vaccines (unprompted+prompted)</b>				
TT	84	83	92	88
DPT	88	83	87	88
Polio	76	80	85	94
Measles	75	79	83	91
BCG	80	85	85	94
<b>f. Knowledge of doses and timing</b>				
TT	64	23	83	53
DPT	52	19	72	47
Polio	48	19	68	47
Measles	33	11	57	44
BCG	44	15	66	50
N	188	130	47	34

**Table 6.4.3: Differentials in understanding of messages by source of knowledge (SD).**

Understanding of messages	Sources of knowledge									
	H and FP worker		Doctor		Television		Radio		Neighbour/relative/friend	
	Mother	Father	Mother	Father	Mother	Father	Mother	Father	Mother	Father
	(Percent)									
Unaware of EPI messages	11	7	-	-	3	2	4	4	17	5
Vaccinate your child	76	64	79	75	76	80	75	80	66	72
Immunization is preventive	36	17	26	17	43	20	50	18	27	21
Mothers need IT to protect themselves and their new borns	10	6	-	8	11	9	13	10	12	5
At six weeks, the child must have the first dose	7	5	11	8	5	11	4	14	7	-
By one year all the doses must be completed	9	9	5	17	3	11	8	12	6	8
Remember, your child needs several doses for full protection	9	1	16	8	5	7	4	4	10	-
Other	0	1	-	-	-	-	-	-	-	-
N	151	96	19	12	37	45	24	50	110	39

**Table 6.4.4: Differentials in acceptance of complete doses of vaccines by selected characteristics of mothers (SD)**

Characteristics	(N)	Percent
<b>a. Age (Years)</b>		
<25	116	52*
25+	119	42*
<b>b. Number of living children</b>		
1	72	56**
2	57	51
3+	106	39**
<b>c. Education</b>		
Never attended school	184	47
Attended school	51	47
<b>d. Employment</b>		
Employed	41	41
Unemployed	201	48

\* The difference in the rate of acceptance of complete doses of vaccines by age of Slum Dweller mothers is statistically significant at  $p < 0.05$ .

\*\* The difference in the rate of acceptance of complete doses of vaccines by parity of mothers among all the three social categories are found statistically significant at  $p < 0.05$ .

**Table 6.4.5: Differentials in acceptance of complete doses of specific vaccines by source of knowledge (SD)**

Vaccines	Sources of knowledge				
	H and FP worker	Doctor	Tele- vision	Radio	Neighbour/re lative/frien
	(Percent)				
TT	58	58	51	54	56
DPT	49	63	49	58	47
Polio	49	63	49	58	47
Measles	56	69	48	53	48
BCG	62	74	60	58	56
N	151	19	37	24	110

**Table 6.4.6: Differentials in acceptance of complete doses by division (SD)**

Vaccine	Division			
	Chittagong	Dhaka	Khulna	Rajshahi
	(Percent)			
TT	47	48	63	67
DPT	29	49	55	48
Polio	29	49	55	48
Measles	31	52	62	53
BCG	49	52	68	63
N	55	115	38	27

**Table 6.4.7: Differentials in acceptance of complete doses by type of urban area (SD)**

Information	Urban area	
	City	Town
	(Percent)	
TT	48	68
DPT	45	47
Polio	45	47
Measles	48	50
BCG	53	64
N	188	47

**Table 6.4.8: Differentials in acceptance of complete doses of specific vaccines by knowledge of doses and timing (SD\*)**

Vaccines	Knowledge doses & timing	N	Acceptance of vaccines				
			TT	DPT	Polio	Measles	BCG
			(Percent)				
TT	Yes	159	76				
	No	76	4				
DPT	Yes	131		70			
	No	104		14			
Polio	Yes	123			72		
	No	112			15		
Measles	Yes	64				80	
	No	75				21	
BCG	Yes	113					89
	No	122					25

\* The difference in the rate of acceptance of complete doses of vaccines by knowledge and timing are found statistically significant at  $p < 0.05$ .

**Table 6.4.9: Differentials in acceptance of complete doses of specific vaccines by understanding of consequences, witnessed or perceived, of vaccine preventable diseases (SD\*\*)**

Vaccines preventable diseases	Knowledge doses & timing	N	Acceptance of vaccines				
			TT	DPT	Polio	Measles	BCG
(Percent)							
Tetanus	Yes	175	55				
	No	60	43				
Diphtheria/ Pertussis	Yes	153		54			
	No	82		29			
Polio	Yes	167			52		
	No	68			28		
Measles	Yes	100				49	
	No	39				46	
TB	Yes	166					57
	No	69					51

\*\* The difference in the rate of acceptance of complete doses of vaccines by understanding of consequences of VP diseases is found statistically significant at  $p < 0.05$ .

**Table 6.4.10: Differentials in major reason for non-acceptance by source of information (SD)**

Major reason	Sources of knowledge				
	H and FP worker	Doctor	Television	Radio	Neighbour/relative/friend
(Percent)					
Unaware of need	20	100	38	25	63
Place and time unknown	10	-	-	-	4
Postponement due to child's illness or for other reasons	17	-	-	13	11
Child ill but refused by vaccinator	7	-	-	13	-
Fear of side-effects and misconception about complications	10	-	-	-	4
N	30	1	8	8	27

**Table 6.4.11: Differentials in major reason for dropout by source of information (SD)**

Major reason	Sources of knowledge				
	H and FP worker	Doctor	Television	Radio	Neighbour/relative/friend
(Percent)					
Unaware of need	5	67	-	-	18
Place and time unknown	10	-	-	-	-
Postponement due to child's illness or for other reasons	29	3	40	67	27
Child ill but refused by vaccinator	5	-	-	-	-
Fear of side-effects and misconception about complication	14	-	20	-	-
Mother's preoccupation with other activities	10	-	-	-	9
N	21	7	5	3	11