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DEPARTMENT OF COMMUNITY HEALTH

MSC HEALTH SERVICES PLANNING AND MANAGEMENT

MANAGERIAL AND CLIENT – RELATED PROBLEMS ASSOCIATED WITH IMMUNIZATION IN THE ADANSI EAST DISTRICT OF ASHANTI – GHANA

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MANAGERIAL AND CLIENT – RELATED PROBLEMS ASSOCIATED WITH IMMUNIZATION IN THE ADANSI EAST DISTRICT OF ASHANTI – GHANA

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A DISSERTATION SUBMITTED TO THE HEAD OF POSTGRADUATE STUDIES, KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI, IN PARTIAL FUFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE, HEALTH SERVICES PLANNING AND MANAGEMENT.

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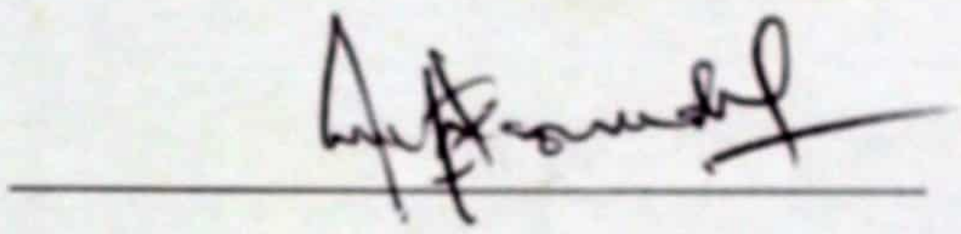
DECLARATION

I DECLARE THAT THIS DISSERTATION IS AN ORIGINAL WORK UNDERTAKEN BY ME UNDER SUPERVISION.



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ABSTRACT

Immunization is administering a substance, which is capable of inducing a protective immunity against a specific infection or disease without itself producing that disease.

The purpose of these immunizations is to ensure that all the children in the communities receive adequate and lasting protection against the six vaccine preventable diseases, namely: Diphtheria, Pertussis, Tetanus, Measles, Tuberculosis and Poliomyelitis. Achieving this aim will involve ensuring that potent vaccines are readily available at point of delivery.

In all countries, provision is made to immunize children against the six vaccine preventable diseases to reduce infant and child mortality rates. In Ghana, there is a Draft Document on Policies and Priorities for the Health Sector (1994-95) on immunizable disease, which focus on making available daily immunization services at all delivery points including hospitals.

Globally, it has been observed that not all the children who start an immunization schedule finish it. The number reduces towards the end of the schedule.

The Adansi East District has an estimated population of 174,254 (1999), with the largest forest cover to total land ratio in the region.
Educational and Health facilities are inadequate; most health facilities are MCH centers.

The D.H.M.T. has found that for the past three (3) years, the number of mothers who do not complete their children's immunization schedule has not seen any appreciable change. This study was therefore carried out, to find the number of women with children aged 0 – 2 years in the community who have not completed their children's immunization and the reasons for non-compliance.

Methods employed for the study included Direct Observation of an immunization clinic, interview of mothers with children 0 – 2 years using interview guide, and interview of health staff using self-administered questionnaire. In all, two out of five sub-districts were randomly selected for the study. Eight communities from each sub-district were also selected by random (i.e. total of sixteen communities).

Twenty-five (25) mothers were interviewed in each village given the total of (200) two hundred mothers. Community leaders (one per village) were also interviewed using interview guide.

Over (50%) percent of the respondents were between 20 – 29 years, and (46%) percent had no formal education. Fourteen and half percent (14.5%) could not even mention their age. Most of the respondents and their husbands were farmers.

From the study the major key findings accounting for the dropout were related to lack of education and knowledge, varying perceptions, inadequate logistic and manpower support misconception, laziness and ignorance among others.

The major broad areas of interventions that have been recommended include:

- Improving female education
- More human and vehicular support
- Intensification of health education
- Training for health staff
- Presenting vaccines in smaller dose vials

The findings and recommendations would be disseminated to all stakeholders to assist them in reducing dropout rate.

ACKNOWLEDGEMENT

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ABBREVIATIONS

WHO	-	World Health Organization
EPI	-	Expanded Programme of Immunization
NIDS	-	National Immunization Days
OPV	-	Oral Polio Vaccine
BCG	-	Bacillus Calmete and Geurin
T B	-	Tuberculosis
DPT	-	Diphtheria, Pertussis, Tetanus
MOH	-	Ministry of Health
MIS	-	Management Information System
RTH	-	Road to Health
AFP	-	Acute Flaccid Paralysis
KAP	-	Knowledge, Attitudes, Practices
DHA	-	District Health Administration
RHA	-	Regional Health Administration

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HEALTH SUB-DISTRICTS

ADANSE WEST DIST

ADANSE WEST DIST

AMANSIE EAST DIST.

EASTERN REGION

CENTRAL REGION

NEW EDUBIASE

- REGIONAL BOUNDARY
- DISTRICT BOUNDARY
- ◎ DISTRICT CAPITAL
- • TOWNS
- FIRST CLASS ROAD
- SECOND CLASS ROAD
- THIRD CLASS ROAD
- FOOTPATH/Tractor Trail
- HEALTH SUBDISTRICT(HS) BOUNDARY

HS	
1	NEW EDUBIASE
2	ATAASE NKWANTA
3	ASOKWA
4	ABOABO NO 2
5	AKUTRESO

Scale 1: 62,500

FIG

CHAPTER ONE

INTRODUCTION

1.1 STATEMENT OF THE PROBLEM

Adansi East District, one of the 18 Administrative districts in the Ashanti Region has over the past 3 years, not seen any appreciable reduction in the dropout rates in immunization.

The trend can be seen from Table 3:

IMMUNIZATION PERFORMANCE 1997 – 1999 (CHILDREN 0 – 11MONTHS)

ADANSI EAST DISTRICT

Table 3: Immunization Performance for the Adansi East District 1997-99

YEAR	BCG	MEASLES	BCG – MEASLES	DOR	OPV 1	OPV 3	1-3	DOR	DPT 1	DPT 3	1-3	DOR
1997	4120	3952	168	4.1%	3698	2941	757	20.5%	3363	3080	583	15.9%
1998	3841	4167	-326	*8.5%	3434	2968	466	13.6%	3062	3041	21	0.7%
1999	5242	5614	-372	*7.1%	5271	4611	660	12.5%	5188	4602	586	11.3%

Source: Annual Reports – DHA

CALCULATION OF DROPOUT RATE (DOR)

The MOH 1992 Document on MIS Exercise workbook among things to be done in institutions shows how to calculate for dropout rate.

For Measles;

$$\frac{\text{N}^{\text{o}} \text{ of BCG Vaccination} - \text{N}^{\text{o}} \text{ of measles vaccination}}{\text{N}^{\text{o}} \text{ of BCG Vaccination}} \times 100\%$$

For OPV and DPT,

$$\text{Dropout rate} = \frac{N_1 - N_3}{N_1} \times 100\%$$

Where N_1, N_3 represent first and third doses of **OPV** and **DPT.**

Worked example (using 1997 figures)

For OPV,

$N_1 = 3698$ and $N_3 = 2943$

Substituting values into the above dropout rate equation,

$$\text{Dropout Rate} = \frac{3698 - 2943}{3698} \times 100\% = 20.5\ \%$$

Table 4: DROPOUT RATES FOR THE ADANSI EAST DISTRICT (1997 – 1999)

YEAR	ANTIGEN	DROPOUT RATE (%)
1997	BCG – Measles	4.1
	OPV	20.5
	DPT	15.9
1998	BCG – Measles	*8.5
	OPV	13.6
	DPT	0.7
1999	BCG – Measles	*7.1
	OPV	12.5
	DPT	11.3

Source: Calculation based on Hospital Records

Key: * ***indicates percentage increase.***

1998 and 1999 recorded an increase in measles vaccination over BGC. Dropout rate for DPT in 1998 was not so significant (0.7%), but significant dropouts were recorded for the other years particularly for OPV and DPT.

This study therefore seeks to find out from all stakeholders the causes or reasons for the observed dropouts in the Adansi East District.

1.2 RESEARCH QUESTIONS

- What is the community's perception about immunization programme?
- To what extent does the community see it as a problem?
- Are Health Staff adequate and given all the required logistics and motivation?
- Do EPI programmes receive adequate communication?
- What is the perception and knowledge of nursing mothers on the need to complete immunization?
- Are the mothers aware of the benefits of completing the immunization schedule?

1.3 HYPOTHESIS

Immunization programmes are ineffective when there is poor knowledge, wrong perception and lack of adequate resources.

1.4 MAIN OBJECTIVES

To identify the reasons why some mothers did not complete the immunization schedule for their children aged 0 – 11 months within the period of January 1999 to December 1999.

1.5 SPECIFIC OBJECTIVES

- To assess the knowledge and perception of nursing mothers and the community in general about immunization.

- To assess the distribution and number of personnel, adequacy of logistics support for EPI activities in the District.

- To review the service planning and operational strategies currently being used for EPI in the district.

- To identify the barriers to EPI activities.

- To identify the mode of communication of EPI activities.

- To make recommendations towards rectifying the problem.

1.6 SCOPE OF STUDY

Data for the study was limited to children within the age of 0 – 11 months, i.e. the EPI performance for this target group.

1.7 BACKGROUND INFORMATION

Immunization seeks to prepare the body to fight an infection if the causal agent enters the body of a person. This agent called vaccine produces antibodies, which protect the person against certain diseases.

There are different types of vaccines, some made out of a toxic product (toxin) released by the infective agent (as in the case of whooping cough) and others obtained by growing the infective agent in the laboratory in such a way as to lose their sting and the individual is protected without suffering.

Immunization is a proven cost-effective weapon in the control, prevention and even elimination of diseases. According to the Global Policy Framework and WHO programme framework WHO (1994), one of the main health goals is to ensure survival and healthy development of children by reducing infant mortality rate to less than 50 per 1000 live births, and also by reducing the mortality rate among children under 5 years of age to less than 70 per 1000 live births, particularly through substantial reduction in mortality due to the six vaccine preventable diseases, viz. Diphtheria, Pertussis, Tetanus, Measles, Tuberculosis and Poliomyelitis.

WHO estimates that 45 million cases of measles occur each year and out of this an estimated 1.19 million deaths result. It becomes clear that there is a greater burden on the health of children in developing countries due to measles than to any other vaccine preventable disease.

According to WHO publication, (WHO/EPI/GEN/94.2), a revised plan of action for measles control was prepared in 1994, which is now being finalized. Measles control will progress over the next few years by ensuring that political support and financial resources are made available to achieve the mid-decade goals and beyond.

EPI will press every country to achieve high, uniform measles vaccine coverage in every district and community, and ensure that individuals at highest risk are effectively immunized. Strategies will include; supplementing routine immunization by selective urban or national immunization campaigns, and providing a technical basis for programme managers to respond to measles out breaks in an appropriate manner, in order to eliminate measles globally.

Globally, TB is a serious and highly prevalent infectious disease and remains a significant problem despite Public Health Control efforts. In the developing countries of Africa, the incidence of pulmonary TB is as high as 300 / 100,000.

BCG vaccination is the mainstay of TB control programme in most countries. Because BCG is effective in preventing the severe forms of childhood TB e.g. Meningitis and Miliary TB.

WHO recommended that BCG vaccine be administered as early as possible to children in countries where the disease has a high prevalence. Based on recommendations by the WHO, EPI, developing countries have adopted the policy of vaccinating children as new borns and young infants.

In all countries, provision is made to immunize children against the six childhood killer diseases in order to reduce infant and child mortality rates. In Ghana, there is a Draft Document on Policies and Priorities for the Health Sector (1994 – 95) on immunizable diseases, which focuses on making available daily immunization services at all delivery points including hospitals. In addition, immunization against tetanus is offered at all antenatal clinics.

It is expected that children receive all the antigens against the six childhood killer disease by the age of 11 months.

In addition special days are set aside (NIDS), where children aged 0-5 years are given

OPV a programme with assistance from Donor Countries or agencies e.g. DANIDA.

The purpose of these immunizations is to ensure that all the children in the communities receive adequate and lasting protection from the six vaccine preventable diseases. Achieving this aim will involve ensuring that potent vaccines are readily available at point of delivery.

Provision of adequate resources, improved managerial skills and increased community participation will all help achieve a high success rate.

Globally, it has been observed that not all the children who start an immunization schedule finish it. The number reduces towards the end of the schedule.

The Vaccination Schedule recommended for EPI is shown in Table 1.

Table 1: Immunization Schedule for EPI

AGE	**TYPE OF VACCINATION**
At birth	BCG
At 6 weeks	OPV I, DPT I
At 10 weeks	OPV II, DPT II
AT 14 weeks	OPV III, DPT III
AT 9 months	Measles

Source: MOH – Immunization Manual for Medical Students and Physicians 1993

The drops in the number of children thus occur between BCG (highest at birth) and the OPV, DPT periods, the number dropping further by the ninth month when measles vaccination is given.

Data on the number of OPV I and II, as well as DPT I and II were not immediately available at the Region. Nevertheless, OPV III and DPT III are given within the same month i.e. at 14 weeks, so that their figures will not be expected to vary much.

The dropouts thus will be expected to occur at birth (BCG), 14 weeks (OPV III, DPTIII),

then at the ninth month (Measles).

The number of children vaccinated for **BCG > OPV III/DPT III > Measles.**

Table 2: Immunization Coverage (%) With Vaccines of the EPI Based on Data Available in August 1994

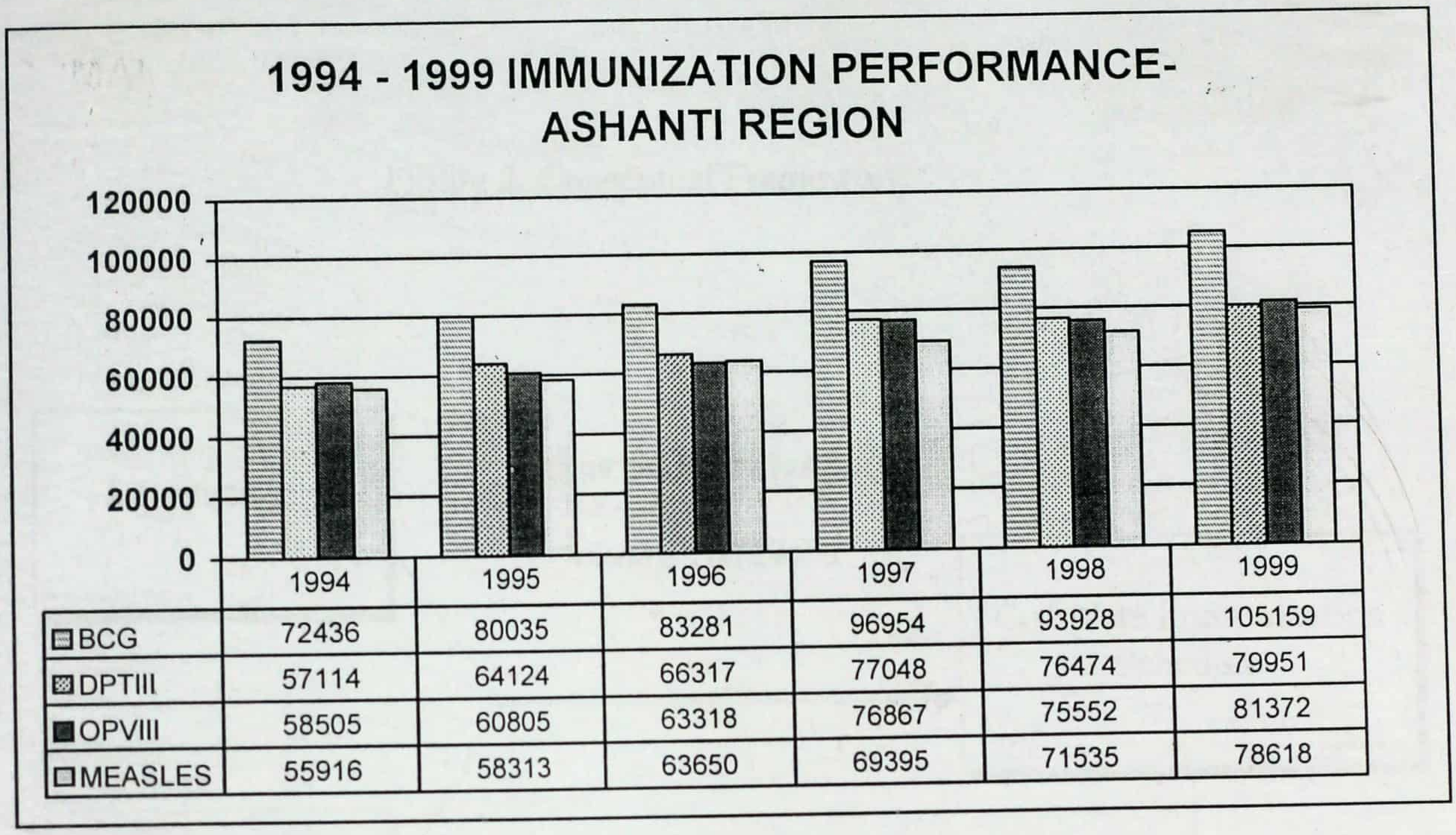
Countries	BCG	DPT III	OPV III	Measles
Least Developed	71	53	49	49
25 Most Populous Developing	87	81	83	79
All Developing	85	78	80	77
Global Total	85	79	80	78

Source: W. H. O. Programme Report 1994.

For the developing countries, of which Ghana is one, BCG coverage was 85% dropping to 80% for OPV III, and then to 77% for Measles.

The picture for the Ashanti Region of Ghana is not different as shown by the available figures and graph in Figure 1 for 1994 – 99.

Figure 1. 1994-99 Immunization Performance for the Ashanti Region



	1994	1995	1996	1997	1998	1999
BCG	72436	80035	83281	96954	93928	105159
DPTIII	57114	64124	66317	77048	76474	79951
OPVIII	58505	60805	63318	76867	75552	81372
MEASLES	55916	58313	63650	69395	71535	78618

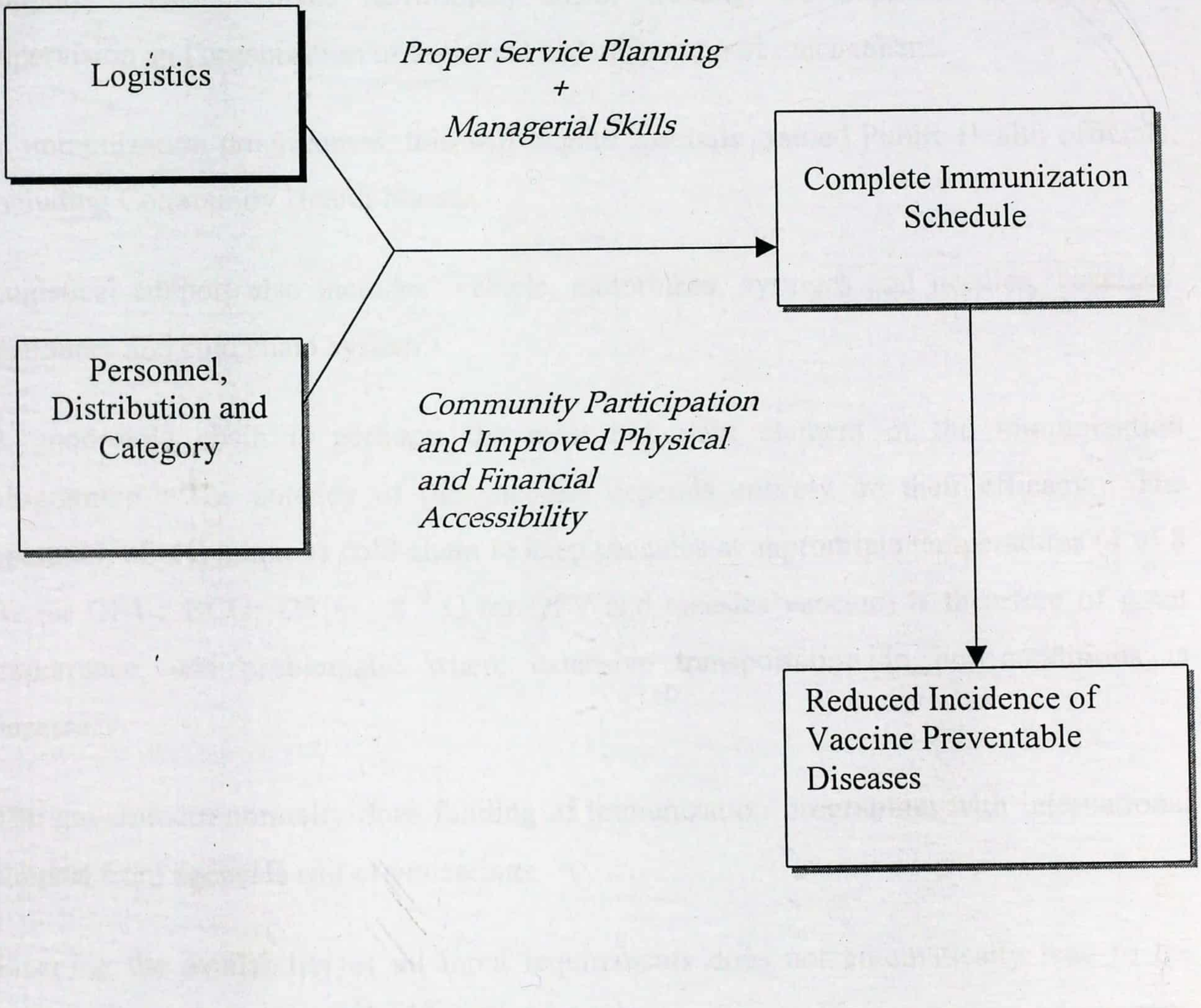
Source: Annual Reports – RHA

With the improvement in logistics management within the MOH, it was expected that immunization dropouts would be reduced significantly.

However, this expectation has not been fulfilled in most districts in the Ashanti Region of which the Adansi East is a part.

1.8 CONCEPTUAL FRAMEWORK

Figure 2: Conceptual Framework



Source: Researcher's own imagination

The conceptual framework is based on Donabadian's dimensions of the health system with regard to the structure/input, process and outcome. Input refers to all the

requirements that need to be put together before the commencement of any programme, and this includes human, material and financial resources

The evaluation of any programme for improving the effectiveness of basic health services to a defined population looks at the entire components of the quality system, namely: input, process, output and outcome.

First, it is necessary to develop personnel with requisite skills and to provide for their support. This involves recruitment and/or training, development of supportive supervision and organisation of logistical and other support mechanisms.

In immunization programmes, this will require specially trained Public Health officials, including Community Health Nurses.

Logistical support also includes: vehicle, motorbikes, syringes and needles, vaccines, stationery and cold chain system.

A good cold chain is perhaps, the most important element of the immunization programme. The potency of the vaccines depends entirely on their efficacy. The operation of a continuous cold chain to keep vaccines at appropriate temperatures (4 to 8 ^{0}C for DPT / BCG; -20 to +8 ^{0} C for OPV and measles vaccine) is therefore of great importance, and problematic where extensive transportation in hot conditions is necessary.

The government normally does funding of immunization programme with international support from agencies and organizations.

Ensuring the availability of all input requirements does not automatically lead to the achievement of set objectives. It will, however, require an efficient process component. The services need to be planned to capture all the target groups with the little resources available.

Services must be accessible and affordable to those intended to benefit, and such barriers have to be identified and addressed. No meaningful achievement will be realized without active community participation. The planning process must have an in-built monitoring,

evaluation and feedback mechanism to ensure programme effectiveness. All stakeholders must be committed and motivated.

The output that will be expected will be an increase in the number of children with complete immunization status, which in turn will result in a reduced incidence of vaccine preventable diseases (outcome).

It is emphasized here that, the successful achievement of intended goal depends on the functional co-ordination of all the individual system components.

1.9 PROFILE OF STUDY AREA

The Adansi-East District lies in the Southern part of Ashanti Region, with a current estimated population of 17425 (1999). The total land area of the district is 1,347.38sq km (about 5.4% of Ashanti region total land area).

It has the largest forest cover to total land ratio in the region, with a relatively high cultural variability. It has a very large number of small settlements at the expense of urbanization leading to high geographical inaccessibility (186 communities and about 750 hamlets). Most of the people are engaged in land tenure farming systems. The District has many rivers - Pra, Subin, Munia, Fosu etc and small streams, which provide good drainage but at the same time, is the cause of high incidence of water borne diseases.

1.10 RATIONALE FOR THE STUDY

The study was to provide information to the Health authorities and policy makers so that they have an insight into the causes/reasons for the dropouts in the Adansi-East District of Ashanti. The findings of the study will help to suggest ways of improving EPI

programmes within the district.

1.11 LIMITATION OF STUDY

Geographical accessibility is a problem, bad roads, especially during the rainy season made it impossible to consider certain remote areas for the study. Time and financial constraints restricted the study to be carried out on a smaller sample size.

The study was based on review of primary data and limited by its inherent errors. In the area of logistics support only adequacy of transport was considered.

CHAPTER TWO

METHODOLOGY

2.1 STUDY TYPE, VARIABLES, DATA COLLECTION TOOLS

Study Type:

Cross-sectional study was employed, facilitated by review of primary data and direct observation.

Variables:

Variable	Indicators
Resources	
□ Equipment	Vehicle/motorbike
□ Time	Time of visit to the community
□ Personnel	Number and Category
Perception	Knowledge, Attitudes, Beliefs
Motivation	
□ Passive (community)	Community's interest Information feed back
Management Skills	Programme supervision, monitoring, evaluation and motivation (incentives)
Geographical Distribution	Accessibility (physical and financial) to health facilities – distribution of service delivery points, road network

Background variables: (Demographic characteristics of mothers)

- Marital status
- Educational background
- Religion
- Age

Data collection tools:

Use was made of:

- Available Information: Data from Hospital records was collected and analysed.

- Observation: Study subjects were observed directly whilst giving out an immunization programme.

- Interview: Mothers and key informants were required to answer questions orally using interview guide.

- Questionnaire: Health staff were given self-administered questionnaire to answer.

2.2 SAMPLING

The sample for the study comprised;

(a) Women with children up to 2 years

(b) Key Informants (community leaders)

(c) Health Staff

Sampling method:

There are five sub-districts; a simple random was used to select two. A listing of all the communities in each sub-district was compiled and simple random used to select four communities from each sub-district so that the total number of communities was eight. Since data was not available on the proportion of the population representing mothers with children aged 0 – 2 years, an estimated 200 mothers were interviewed; 25 from each community (one study subject from each household).

2.3 DATA COLLECTION

Consent to proceed with the data collection was sought from the District Director of Health Services, the District Chief Executive and the Chief of each community.

The researcher himself and one assistant collected the data. One week was devoted to each group of study subject i.e. Health workers, mothers and key informants in each community.

Separate files were created for data from each study subject and the data stored at the District Health Administration.

2.4 DATA PROCESSING AND ANALYSIS

Data collected were examined and analysed manually.

2.5 ETHICAL CONSIDERATION

To ensure the co-operation and participation of respondents the purpose of the study was explained to them and permission sought from the heads of the selected centres and communities.

2.6 PRE-TESTING

All data tools used to collect information in the survey were pre-tested outside the study areas for reliability and validity and necessary modifications were made.

CHAPTER THREE

LITERATURE REVIEW

In all communities in Ghana, provision is made to immunize children against the six communicable diseases, which cause a great deal of ill health and death.

According to the WHO (1990) Bulletin, EPI activities prevent approximately 2.2 million deaths each year from Measles, Neo-natal Tetanus, and Whooping cough, as well as roughly 335,000 cases of poliomyelitis. The urgency of continuing to increase immunization coverage levels and reducing dropout rates is emphasized by the occurrence, at current levels, of approximately 2.8 million deaths from measles, neonatal tetanus, and pertussis as well as 200,000 cases of Poliomyelitis, all of which are preventable through immunization.

It was revealed in the weekly Epidemiological Record of 26 May 2000 that, the World Health Assembly (WHA) resolved to eradicate polio globally by the year 2000. Although substantial progress has been made towards interrupting poliovirus transmission, in Eastern and Southern Africa, poliovirus remains endemic in Western Africa, Ghana had the highest number of reported AFP cases in the West African Region in 1988, and in 1999, it had the highest number of confirmed polio cases.

OPV is recommended as the standard EPI antigen for the control of poliomyelitis because of its ease of use, low cost, and record of efficacy.

The 42nd W.H.A. 42.32 placed emphasis on raising and sustaining immunization coverage in every district. Immunization schedule was drawn and there was emphasis on the "OPV Zero" at birth. Children who are born in hospitals or come into contact with health services early in life should be administered an extra dose of OPV ("OPV Zero"). It should be noted that the OPV Zero does not replace any of the recommended schedule doses of OPV at 6,10 and 14 weeks.

Globally, Tuberculosis is a serious and highly prevalent infectious disease and remains a significant problem despite Public Health Control efforts. In the developing countries of Africa, the incidence of pulmonary TB is as high as 300/ 100,000.

To achieve a high success rate in the immunization programme, it was suggested that emphasis will be placed on general strengthening of the EPI infrastructure through training, improved supervision, adoption of appropriate immunization schedules and strategies, and improved social communication activities.

In the WHO review report (1994), the weaknesses in the existing immunization services were attributed to:

- Inadequate managerial skills in the health workers offering immunization service.
- Shortage of human and material resource invested in immunization services.
- Limited community participation in programmes.

Other factors were thought to be low accessibility to services and political conflicts.

According to the WHO EPI update (October 1991), communication activities in support of EPI have often focussed on creating consumer demand. Mass media have helped mobilize populations and rapidly increase coverage. However, health communication can also address complex issues of long-term sustainability, hard to reach groups and certain negative repercussions of high rates (such as diminishing concern about the seriousness of disease).

Many countries are now reporting data, which indicate high access to immunization services (good BCG, DPT I and OPV I rates) but lower complete coverage, due to dropouts.

Dropouts reflect a problem in one or both of two areas:

- Service barriers (such as missed opportunities to vaccinate); and
- Consumer barriers (such as lack of correct information, fear of side effects, competing belief systems).

In many countries, it has been found out that, it is more difficult to achieve and maintain the final 10% or 20% of coverage than it was to achieve the initial 60% or even 80%. Communication offers practical strategies for reducing both service and consumer barriers to complete coverage and for sustaining appropriate immunization behaviour.

Unicef, (1998), in a KAP study, also identified the following factors accounting for non-immunization of children in Ghana.

- Fear of side effects of immunization.
- Preoccupation with work.
- Financial/Social constraints.
- Lack of belief in the importance of child health.
- Long waiting time.
- Vaccination too costly.
- Discourteous treatment by Health Personnel.
- Absence from Home or town.
- Forgetfulness.
- Lack of information on the time/place of immunization.
- Previous experience with occurrence of disease in older siblings after being immunized.
- Distance from home to immunization sites too long.

Antwi Dennis J. et al, (1996), also made the following observations in their study into the reasons for low immunization coverage in the Kumasi metropolis;

- Mothers are not aware of the exact number of times they are required to visit the immunization clinic to complete the schedule.

- Mothers have adequate knowledge on the types of vaccines their babies need to receive but cannot list them in the order of which comes first.
- Static immunization centres are most preferred by both nurses and the mothers.
- Waiting time is too long.
- Mothers are likely to at least start immunization but not ensure completion.

Non-compliance with immunization schedule is attributed to the following:

- Lack of information/knowledge.
- Postponements due to lack of supplies at centres.
- Time constraints (mother too busy)
- Misconceptions.
- Lack of nice clothing.
- Not all health facilities have permanent storage facilities for storing vaccines.

Ebrahim et al, (1988), also made the following observations:

- Parents, who are knowledgeable and aware of the need, create a demand for immunization.
- Failure to inform the parents about reactions and the side effects of immunization causes unnecessary panic when they occur, and lead to lack of co-operation in the future.

These highlight the fact that education of both health workers and parents is very necessary to be able to reduce dropout and achieve a high success rate.

Colfelt B., (1990) in her study into the knowledge, attitudes and Practices of Rural Ghanaian Women about immunization in children under five years old also came out with the following observations:

- Most mothers had a very good understanding of the concept of diseases prevention by immunization, but could not draw a clear line between vaccine preventable disease and other diseases
- Some mothers did not send their children for immunization because they relied on traditional medicine as an alternative means of health care
- Many opportunities to immunize children are lost because of fear of adverse reactions, misunderstanding of contraindications, and not using every health contact as an opportunity to assess the child's status and provide services

In this study, the researcher wants to find out the cause of dropouts in the Adansi-East District in particular since there is the need to achieve complete polio eradication and reduce the incidence of all other immunizable childhood diseases.

CHAPTER FOUR

FINDINGS

4.0 RESULTS AND ANALYSIS

Eight villages/towns (four from each sub district) were visited between October 10th and 26th, 2000. Twenty-five mothers from each community were interviewed, thus 200 mothers with children 0 – 2 years.

Eight village leaders were also interviewed (one from each community), and five health workers were also interviewed using self-administered questionnaires.

Health workers conducting an immunization clinic at one of the Health facilities were directly observed.

Table 5: Population of Study Village (1999 Projection)

Village/Town	Population
Menan	1563
New Edubiase	8224
Ansa	419
Nyamebekyere	237
Pewodie	560
Anwiaso	1030
Adiembra	505
Brofoyedru	2530
Population Total	15068

Source: DHA

4.1 DIRECT OBSERVATION

This was carried out at an immunization clinic at the New Edubiase Hospital. The nurses prepared the place early in the morning; they cleaned the place and made benches, chairs and tables available. A Weighing scale was provided.

The clinic started around 9:00am with an opening prayer. This was followed by general Health education talk, which touched on breastfeeding, HIV/AIDS, and the need for the child's immunization.

During the service delivery, I observed that some mothers were turned off because the number of children for the day was too small for a full vaccine, and therefore vaccines could not be opened and wasted. This happened when these mothers had spent over two hours, waiting. They were asked to go and come in a month's time. Some of the vaccines were not available e.g. BCG and mothers were sent away to come back the following month.

Some babies as young as forty (40) days were sent for immunization by their older sisters some as young as twelve years old.

It was also observed that whilst the clinic started at 9:00am some mothers came in as late as 1:00pm and missed the Health Education Talk. Some mothers also complained of long waiting time and that some of those who came in late were even seen first. Mothers were also asked to pay a token fee of ¢500. In addition, they were asked to buy iodated salt and food supplements.

When babies were given the vaccines, the mothers were neither told the type of vaccine nor the disease they prevent. However, they were told about the possible side effects and how to manage them.

Generally, the attitude of the health staff towards the mothers was very good.

4.2 VILLAGE LEADERS

Table 6: Responses by Village Leaders

The results are shown in Table 6:

Village	Services	Measles	NT	Polio	Tetanus	TB	WC
1	Traditional	Y	N	Y	N	Y	Y
2	Hospital	Y	N	Y	Y	N	Y
3	None	Y	N	N	N	N	N
4	None	Y	N	Y	N	N	N
5	Traditional	Y	N	N	N	Y	Y
6	Traditional	Y	N	Y	N	Y	Y
7	Traditional	Y	N	Y	Y	Y	Y
8	Traditional	Y	N	Y	N	N	N

Y=Yes N= No

Source: Results from Questionnaire

Availability of Service:

Only one out of the eight leaders mentioned that there was no immunization service available in his village and that the mothers have to travel to the nearest village on immunization days in order to take part. Immunization takes place at routine outreach clinics with occasional mass campaigns.

Three leaders responded that the response to immunization was good whilst the other five said it was fair.

The response to whether there is community involvement in the service planning and delivery, and their suggestions as to how dropouts will be avoided will be shown elsewhere.

4.3 DEMOGRAPHIC CHARACTERISTICS OF HEALTH STAFF AND MOTHERS

4.3.1 Health staff

Five female nurses were interviewed, three from the New Edubiase, and two from the Asokwa Sub districts. Of these, one was a senior community Health nurse, three community Health nurses and one Nursing Officer. Their number of years post qualification ranged from less than a year (one), to 14 years. The number of years of working at the MCH unit varied from less than a year to 13 years.

4.3.2 Mothers

The majority of women were married (83.5%), 16.5% were not married (representing all those never married, divorced or widowed).

Christianity was the religion of 80% of the mothers interviewed, 15% did not belong to any religious sect, and 5% were Moslems.

Table 7: Ages of respondents.

Age in years	Number of Respondents	Percentage
15 – 19	11	5.5
20 – 24	51	25.5
25 – 29	57	28.5
30 – 34	17	8.5
35 – 39	32	16.0
40+	5	2.5
Unknown	29	14.5

Table 8: Occupation of Respondents

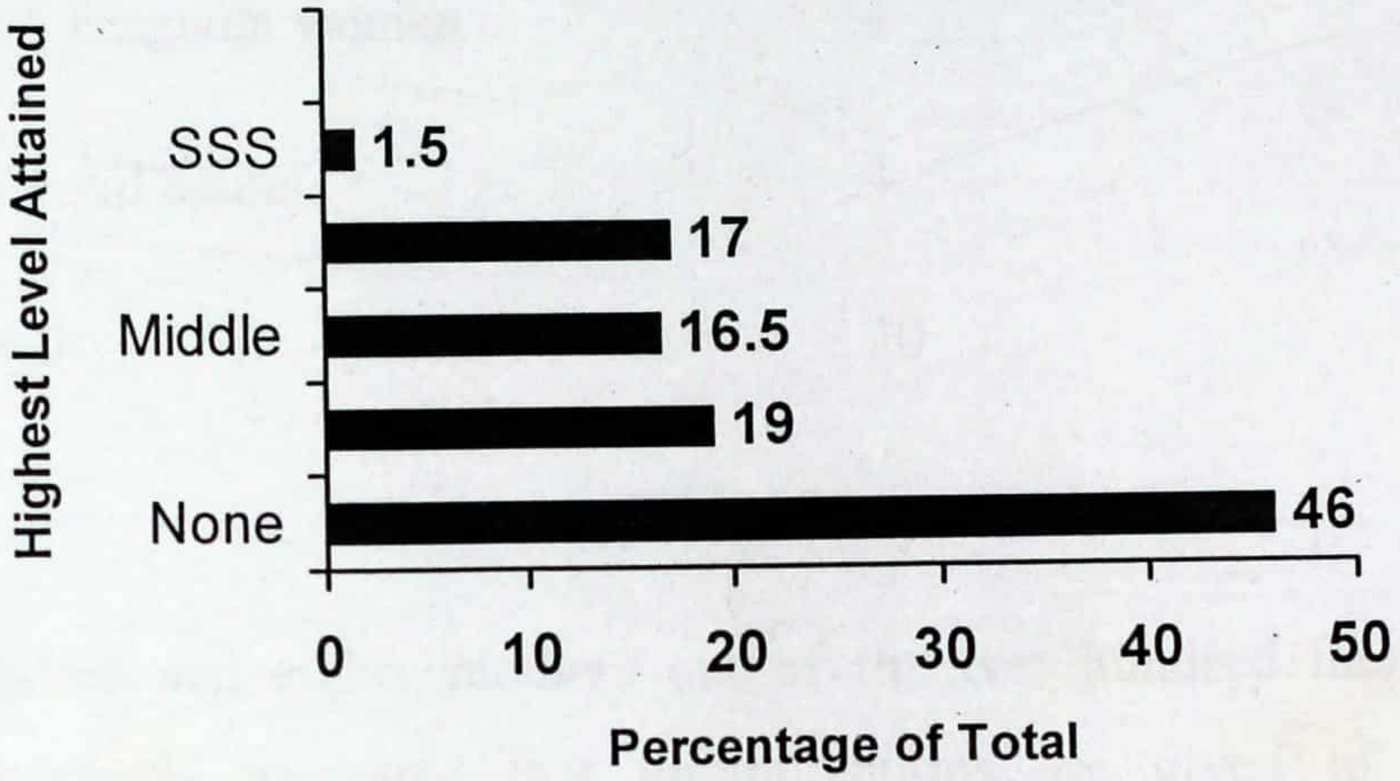
Occupation	Number	Percentage
Farmer	62	31
Trader	42	21
Housewife	40	20
Other*	56	28

*Other [Apprenticeship / unskilled labour / none]

Table 9: Occupation of Respondent's Husbands

Occupation	Number	Percentage
Farmer	104	52
Skilled labour	24	12
Teacher	5	2.5
Trader	21	10.5
Other	46	23

Figure 3: Educational level among Respondents



4.4 QUESTIONS RELATED TO KNOWLEDGE

4.4.1 Mothers

All but three of the mothers stated that they had heard about immunization. 70 percent obtained their information from either the clinic or hospital, 18% heard about immunization through the radio or television while 16% heard it through announcements in the community.

Only three mothers who had not heard about the immunization did not know where to take their children for immunization.

Table 10: Responses to the question 'who should be immunized'

Target population to be immunized

Target group	Number of responses
Children	172
Children + Pregnant women	4
Children + All adults	4
Not known	20

One hundred and eighty mothers out of the two hundred interviewed (90%) correctly answered that immunizations are given to prevent diseases or at least promote good health. 5 % thought they were given to cure people, whilst the remaining 5% did no know.

Responses to questions about which diseases are prevented by immunization are shown in tables 11 and 12 below. Both EPI and non-EPI diseases were mentioned. None of the mothers was able to list all six of the EPI diseases. One hundred and forty, (70%), mothers listed only EPI diseases, thirty-five (17.5%) could not mention any diseases, the remaining 12.5% (25 mothers) mentioned both non-EPI and EPI diseases.

Table 11: EPI diseases mentioned as prevented by immunization

Disease	**Number of mothers**	**Percentage**
Measles	136	77.7
Polio	120	68.6
Pertusis	118	67.4
Tuberculosis	100	57.1
Tetanus	92	52.6
Diphtheria	0	0

Source: Answers to Questionnaire

Table 12: Non-EPI diseases mentioned as prevented by immunization.

Diseases	**Number of mothers**
Fever	12
Asthma	4
Kwashiorkor	5
Chicken Pox	3
Ulcer	3
Diarrhoea	2
Convulsion	2

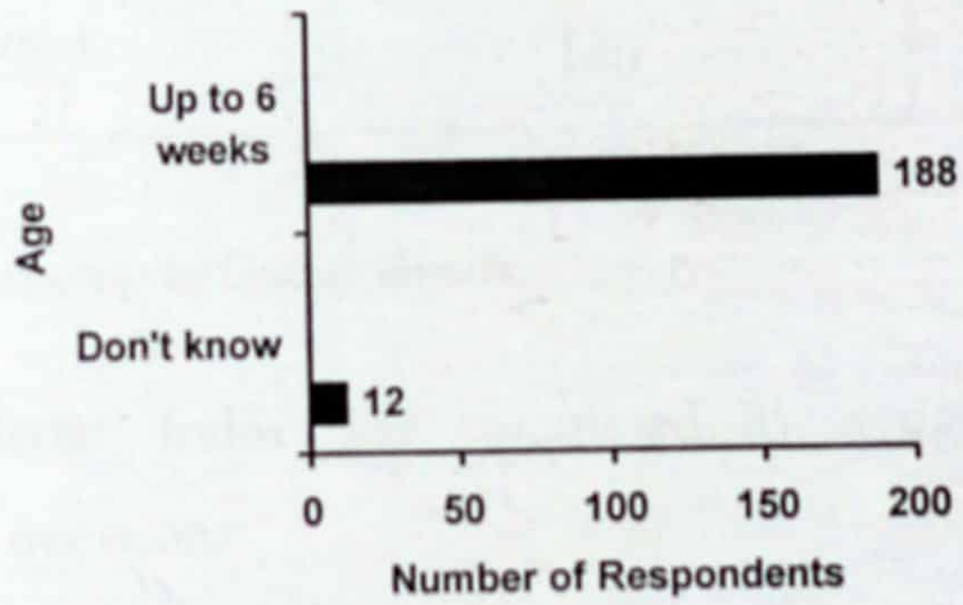
Source: Answers to Questionnaire

Questions related to practical knowledge of immunization were also asked. These included,

- The age of first immunization
- Age for measles vaccination
- Number of visits needed for complete immunization

Correct responses for age of first immunization were any age up to and including six weeks, for measles, the correct response is nine months. The correct number of visits to complete immunization was five. See fig 4 and 5 and table 13.

Figure 4: Age at which first vaccination was given



Source: Response to Questionnaire

Figure 5: Age at which child should receive measles vaccination

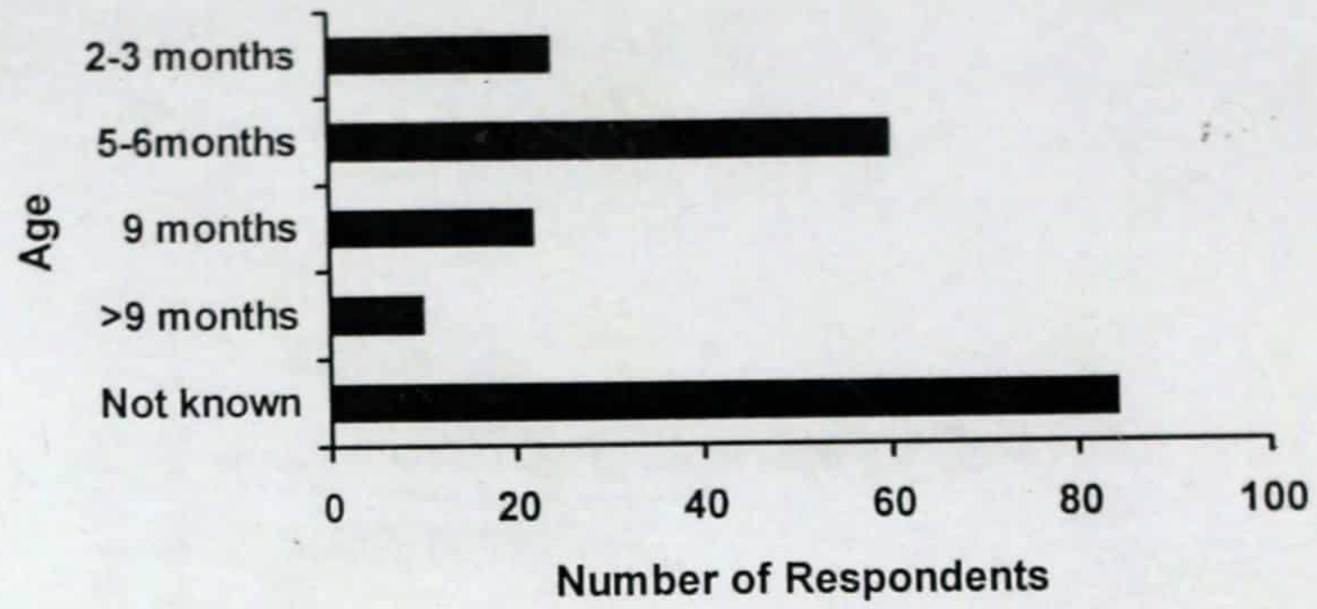


Table 13: Number of visits for complete immunization

Number of Visits	Number of mothers	Percentage
3 – 4	4	2
5	24	12
6	32	16
Not known	140	70

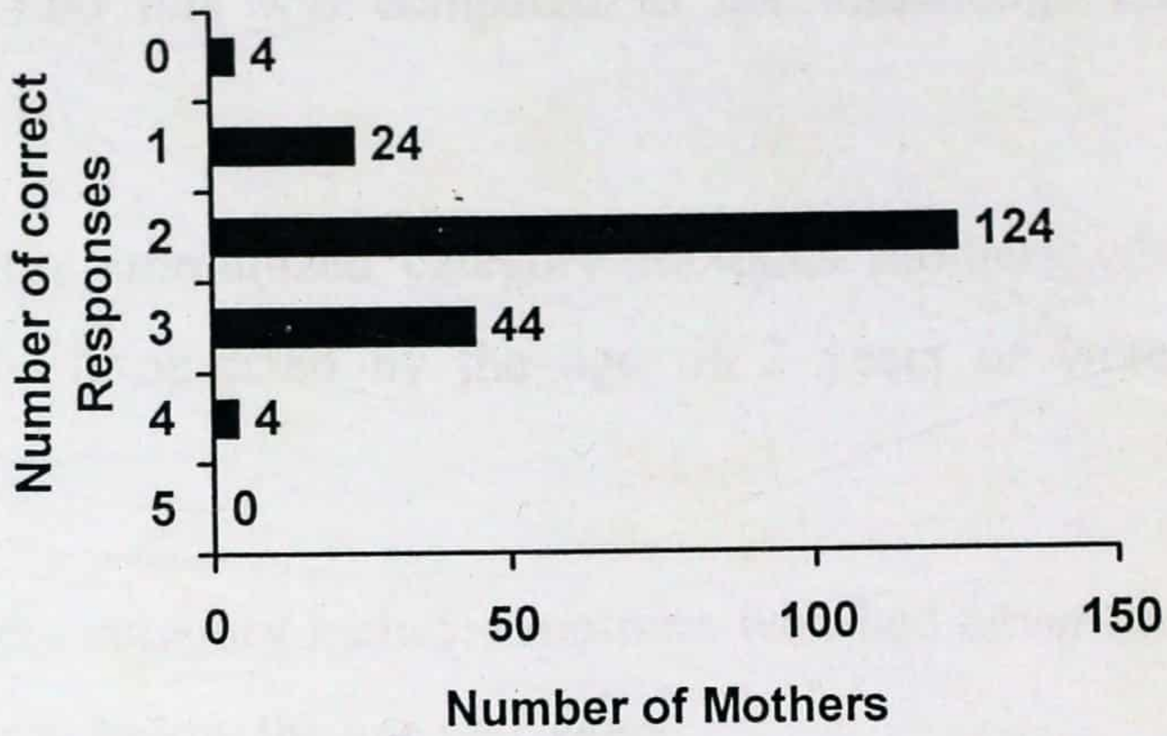
Source: Response to Questionnaire

A Knowledge Index was calculated by assigning one point to the following questions:

- Age of first immunization
- Age of measles immunization
- How many times for full immunization
- Who should be immunized
- Why immunizations are given.

See Figure 6 below for the results.

Figure 6: Knowledge Index of mothers



Source: Response to Questionnaire

4.4.2 Nurses

Questions on the immunization plan of the Ministry of Health yielded the following results:

- Type of Vaccine

All the five nurses except one (who did not provide any answer) were able to state the various types of vaccines that a child needed to receive in the first year of life. However, one of them added CSM. Three mentioned Tetanol for women in the fertile age group.

Varied responses were given for the age for complete immunization. Three of them mentioned 9 months, one said 2 years and the other 11 months.

Only two of the nurses were able to state correctly i.e. five times as the number of times a baby should visit the clinic for complete immunization. Two said once in every month. The other one gave her answer as six times.

4.4.3 A comparison of knowledge index of mothers and the immunization status of their children

The immunization status of children aged 0 – 2 years was also investigated, and this was compared to the knowledge index of their mothers.

The completely immunized category includes mothers whose children were all fully immunized by the age of 2 years or were not behind schedule.

The incomplete category included mothers who had never immunized any of their children below the age of 2 years.

These results were compared to their individual knowledge index as reported earlier.

Table 14: Immunisation status of the children

Status	Number of mothers
Completely immunized	78
Incomplete	122

Source: Response to Questionnaire

Table 15: Comparison of knowledge index and immunisation status

The Chi-Square was also calculated.

Knowledge Index	Immunization status		
	Complete	Incomplete	Total
3 – 5 (+)	25	23	48
0 – 2 (-)	53	99	152
Total	78	122	200

Source: Calculations based on data collected

Calculations based on table 15, gave chi-square (χ^2) value of 4.57

Tabular $\chi^2 = 3.841$

Degree of freedom = 1

$\alpha = 0.05$

Therefore reject the null hypothesis that there is no relationship between knowledge level and immunization status.

4.5 PERCEPTION

4.5.1 Why do Mothers Immunize their Babies?

All the 200 mothers interviewed perceive immunization as being good and will recommend it to others but are not aware of the various stages involved in the immunization schedule. One hundred and sixty four of them (82 %) said they send their children personally, whilst the remaining 28 sometimes send theirs through other relations. The remaining 12 mothers had never sent their children for an immunization.

All 5 nurses interviewed were of the view that mothers had understood the importance and benefits of immunization against the six vaccine preventable diseases, and that the mothers received this information through church leaders, community leaders, on the radio and television, as well as at the clinic (during ANC).

4.5.2 Non compliance with Immunization Schedule

The nurses gave a number of reasons as to why a mother will not bring her baby for immunization. The result is shown in table 16.

Table 16: Reasons for non-immunization

Reasons given	Number of Respondents
1. Fear of side effects	1
2. Ignorance	2
3. Traditional Beliefs	1
4. Laziness	1
5. Lack of Education/knowledge	2

Source: Response to Questionnaire

Reasons as to why the mothers themselves do not immunize their babies yielded similar results. These include:

- Too busy (Lack of time) 16 (8 %)
- Financial 33 (16.5 %)
- Fear of side effects 10 (5 %)
- Forgetfulness 24 (12%)
- Illness 22 (11%)
- Children get sick even if vaccinated 30 (15%)
- No reason 35 (17.5 %)

Both nurses and mothers gave reasons as to why the mothers sometimes do not bring the babies themselves for immunization. These include:

- Illness
- Lack of time
- Laziness
- Lack of nice clothing.

The main focus of the research was to find out why mothers take the initiative to begin the immunization schedule but never complete it. The nurses interviewed stated the following reasons:

- Previous experience of side effects.
- Lack of knowledge / education on importance for completion
- Laziness
- Travel
- Ignorance about importance of immunization
- Interest of mothers on child welfare die down with age

When the mothers were interviewed similar reasons were given. The results are shown below (Table 17):

Table 17: Reasons for Non-Completion of Immunization – Mothers

Reason	Number of Respondents
Lack of Information / Knowledge	
a. Unaware of the need for completion	122
b. Fear of side effects	28
c. Unaware of the age for completion	195
Lack of motivation	
d. Unavailability of vaccines / Number of children too small and therefore asked to come back later	32
e. Lack of service in own village	20
f. Lack of free food supplements e.g. cooking oil/"Tom brown"	102
Obstacle	
g. Lack of clothing	10
h. Lack of money for transport	20
i. Laziness	16
Attitude	
j. Waning of enthusiasm towards immunization with age of child.	80

Source: Response to Questionnaire

4.5.3 Attitude of Health Staff Towards Mothers

All the mothers who had at least once attended an immunization clinic felt that attitude of the nurses was good, and this encourages them to attend clinic.

4.6 MANAGEMENT AND PLANNING OF SERVICE

4.6.1 Operational Strategies / Preferences

The operational strategies in place included mass, static and outreach immunization. Mass immunization was however done occasionally. Static clinics were held only at the sub district headquarters once a week i.e. at the New Edubiase Hospital and the Asokwa Health Centre in addition to outreach services. Ninety – five percent of the mothers preferred outreach clinics. They said this was more convenient for them, since it reduces their transportation costs. All eight villages visited were served by outreach clinics except one, where the mothers were asked to join the clinic in the nearest village due to a low turnout in that village

However, a few (5%) of the mothers interviewed preferred the static because they thought it is less tiresome for the nurses. They said mass immunization does not offer the nurses time to give Health Education talks or weigh the babies. Three of the nurses preferred static, one outreach and one mass.

4.6.2 Activities

The nurses were asked to give details of what they actually do on a typical immunization day. To this they all (5) answered that they Register patients, weigh babies, give health Education talks, immunize babies and give counselling.

On a typical immunization day, the nurses said they offer services to groups of mothers with numbers between 40 and 120. The mothers were comfortable with the immunization days set for each community.

The only exception was a village in the Asokwa sub district where the day coincided with a major market day in another village. 80 % of the mothers interviewed were of the view that there was no problem with waiting time.

4.6.3 Community Participation

Questions were asked to find out whether there was community participation in the service planning. To this, all five nurses answered in the affirmative. The community leaders also confirmed this. The community leaders were involved in the information dissemination, organisation and mobilization of the mothers for clinic days.

4.6.4 Evaluation and Feedback

All the 5 nurses said they evaluate and submit reports to the DHMT monthly. They also discussed any relevant information during meetings with the community leaders.

4.6.5 Management of Vaccine Sites

All the nurses reported that after immunizing the babies with BCG, the site will swell, and may develop into sore. The mothers should not apply anything and that the wound will heal by itself.

For DPT, they again told the mothers that the babies may develop fever and advised them to give paracetamol. They should also apply cold compresses to the vaccine site.

For OPV, 4 nurses reported that they told the mothers that the vaccines prevents poliomyelitis. Only one mentioned that in case the child gets diarrhoea, the mother should report back.

For Measles, three of the nurses said they tell the mothers the disease it prevents, i.e. measles. One said it produces fever and rash and the other nurse said she tells the mothers that this vaccine does not have any reaction.

4.6.6 Motivation

To the question as to whether the nurses were given any form of motivation in carrying out the immunization, two said they received some money from the DHMT, one said by attending workshops; the other two however did not give any answer.

4.7 RESOURCE AVAILABILITY AND ADEQUACY

4.7.1 Personnel

At the Asokwa sub district, the number of staff involved in the immunization programmes was given as two, with support from a disease control officer.

At the New Edubiase sub district, the number was given as 4.

On the issue of adequacy, all the respondents felt that this was inadequate considering the fact that they had to provide other health duties on a population of about 91, 000. In the case of the Nursing Officer at Asokwa, she was the only one providing clinical care as well.

4.7.2 Logistics for immunization programmes (Transport).

The nurses mentioned that each sub-district had only one motorbike. Transportation sometimes became a problem and they got to the outreach points late. Sometimes they failed to go at all.

4.8 RECOMMENDATIONS BY RESPONDENTS

Recommendations were asked from community leaders, nurses and the mothers as to how dropouts could be avoided. Twenty of the mothers and two nurses did not give any recommendations.

4.8.1 Community Leaders

- Food Supplements should be re-instituted
- Committee members should be trained to do house to house education of mothers
- Immunization services should be provided for every village and even hamlets
- Local announcements should be intensified

4.8.2 Nurses

- Staff strength should be increased to provide a more effective service e.g. house to house, market places and churches
- Health education on the importance of complete immunization should be intensified in the villages
- Home visiting to identify defaulters

4.8.3 Mothers

- The service should be completely free
- Other family members should be encouraged to support the mothers in times of difficulties
- Re-introduction of food supplements to motivate mothers
- Services should be provided in every village
- Health workers should trace defaulters and educate them to patronize the service
- Vaccines should always be available in the clinics

CHAPTER FIVE

DISCUSSION OF RESULTS

5.0 DIRECT OBSERVATION

One area of concern was a mother having to wait for a long time at the clinic, and eventually being told to go home because their number for the day did not merit opening a full vaccine. This could be a major reason for mothers to drop out eventually and it was surprising that none of the respondents could mention this as a reason.

The unavailability of some vaccines was also observed. Some mothers sent their babies through minors. This could pose serious health problems as these minors cannot handle the young babies well and feed them.

These minors cannot understand the language (Health Education Talk) of the health workers let alone transmit these messages to their mothers. Mothers reported for the clinic at different times, some even at an hour intervals. In such a situation, it becomes difficult for the nurses to provide a comprehensive health Education talk. It becomes difficult to tell whether there will be enough babies to merit opening a vaccine.

Even though token fees were being collected, the reason for its collection was not explained to the mothers.

The nurses advised the mothers on how to manage possible side effects after vaccination. However, they failed to tell them the type of vaccines or the disease they prevent. However, in the self-administered questionnaire, three of the nurses said they tell the mothers the disease measles vaccine prevents and four of them said they did the same for OPV. This suggests that there is a difference between what the nurses say and practice.

The nurses' attitude towards the mothers was encouraging. The mothers themselves confirmed this.

5.1 VILLAGE LEADERS

All the eight leaders reported that measles was still a problem in their villages and that no single leader mentioned Neo-natal tetanus.

Six (75 %) of them mentioned Poliomyelitis, only 2 (25 %) mentioned TB and 5 (62.5 %) of them mentioned Whooping Cough. Only 2 (25 %) said they had seen cases of Tetanus in their villages.

Most of the villages in this study relied on traditional healers for provision of health services. There was only one Hospital, the rest were MCH centres at the sub district headquarters.

5.2 CHARACTERISTICS OF THE SAMPLE

From the study, it was found that majority (80 %) of the nurses were community Health Nurses with a minimum of one year to a maximum of thirteen years post qualification experience. Four (80 %) of them had experiences between 10 to 13 years. This suggests their permanency in the service.

For the mothers, the survey revealed that over 50 % of them were between the ages of 20 and 29 years. There were only 5.5 % of teenage mothers, and 14.5 % could not tell their ages. This could have a reflection on their knowledge index and ability to learn.

Thirty one percent of the mothers were found to be farmers. Farmers occupied the highest percentage compared to other occupations. This is not surprising as the study area is rich in forest. This is emphasised by 52 % of their husbands also being farmers.

On the level of education, as high as 46 % had no formal education, and only 1.5 % had reached the highest level which was only at the secondary level. This finding could suggest serious child health development problems.

Esrey in 1982 made findings into the relationship between the level of education among mothers and the occurrence of diarrhoea in their children. It was revealed that the more educated the mother is, the less likely her chid develops diarrhoea. This finding can be extended to the general health concerns of mothers about their children.

5.3 KNOWLEDGE

This research revealed that 40 % of the nurses could not tell the correct age for the child to complete immunization and 60 % could not answer correctly the number of times a baby needed to visit the clinic to complete immunization and only two (40 %) had good written communication skills.

If these health workers were lacking in these skills, the immunization programme was more likely to be weak and mothers in turn would not see the need for completion. This weakness has been emphasised in the W.H.O. review report of 1994. In this report one of the weaknesses was cited to be due to:

- Inadequate managerial skills in the health workers offering immunization services.

On the part of the mothers it is interesting to note that 197 (98.5 %) mothers had heard about immunization and 90 % knew that immunizations were given to prevent diseases or promote health of their children. Diphtheria was the only one of the six vaccine preventable diseases that the mothers did not mention.

Other non-EPI diseases were also mentioned as being vaccine preventable. These included: fever, asthma, chicken pox, diarrhoea, ulcer and convulsion.

188 (94 %) of the mothers interviewed were able to mention that the age for first immunization was any age up to 6 weeks. This is overwhelming and supports the findings made by Antwi Dennis, et al, (1996) in their study on the reasons for low immunization coverage. They stated that, mothers are likely to at least start immunization (though not ensuring completion).

In that study, they also mentioned that mothers have adequate knowledge on the types of vaccines their babies need to receive but cannot list them in the order in which they occur. The research findings revealed that most mothers only knew of the measles and polio vaccines. Perhaps, this study was carried out in rural areas compared to theirs in the metropolis.

Only 22 (11 %) of the mothers could answer correctly the age for measles vaccination (which is supposed to be the last). So that whilst almost all the mothers (94 %) knew when to start, only a few (11 %) knew when to complete it.

Furthermore, as high as 84 (42 %) were ignorant about the age for completion. The number of visits a mother needed to visit the clinic for complete immunization was also asked since this is vital in deciding the dropout rate. To this question, only 24 (12.5%) mothers could give the correct answer. As high as 88% did not know the number of times they had to visit the clinic for completion. They are therefore likely to drop out due to lack of education.

A knowledge index was determined based on the correct responses to 5 key questions. The results showed that 152 (76 %) mothers could answer only 2 out of the 5 questions, thus scoring below average (poor) only 48 (24 %) could answer 3 out of the 5 questions i.e. (good)

The knowledge index of mothers was compared to the immunization status of their children below the age of 2 years. Chi-square values obtained shows that mothers with higher knowledge index had better immunization status for their children. The importance of this is that it provides data supporting the value of education and health education in general in immunization program.

Review of primary data on immunization performance in the district revealed that there was rather an increase in the number of children who received measles vaccination over

BCG in 1998 and 1999. The findings from the study suggested otherwise, as 89 % of mothers interviewed did not know the age for measles vaccination.

A possible explanation from the district disease control officer was that some children were first seen at nine months who had never had BCG at birth. There was also the possibility of double registration of children.

5.4 PERCEPTION

The research revealed that mothers had understood the importance and benefits of immunization. Educational Programmes on Radio, T V, ANC, and community mobilization have accounted for this. This finding is supported by observations made by Ebrahim et al (1998) that "Education of both health workers and parents is very necessary to create awareness.

Both nurses and mothers gave several reasons as to why mothers do not comply with immunization schedules. These included: ignorance, interest in child welfare die down with age, experience and rumours on side effects, financial constraints, laziness, lack of time and support from other family members.

These findings have already been found in researches carried out by UNICEF in 1988. There was a positive attitude of health workers towards mothers. Although, in the UNICEF (1988) study, findings suggested that bad attitudes deter mothers to come for subsequent visits, this study did not encounter this as a problem.

5.5 MANAGEMENT AND PLANNING OF SERVICE / PREFERENCE

The main areas under management and planning of service investigated were, the decision making process, organizing and controlling. The researcher's concern was to find out whether the community was involved in the decision making process, especially, in identifying the main strategies employed in the service delivery and the selection of convenient days.

In order to make planning of service effective, there should be well-defined strategies. In collaboration with the community, acceptable strategies were reached between the health staff and the community leaders. Even though the main strategies included mass, static and outreach programmes, outreach clinics were the most predominant considering certain peculiarities within the district.

Ninety-five percent of mothers preferred outreach clinics. This was more convenient for them. They did not have to look for expensive clothing and the problem of transportation is reduced. Moreover, most of the mothers lived in scattered hamlets with bad road network. The mothers feel that their community leaders easily mobilize them. However, three (60 %) of the nurses preferred static clinics.

Most mothers dropped out as a result of the side effects that they encounter, therefore, the management of such side effects was investigated. Findings of the research point to the fact that nurses educate mothers on reaction to vaccines and management of side effects. This is a very healthy activity and this education should be intensified to erode the misconceptions some mothers hold about immunizations. Some mothers attributed their discontinuation (dropping out) to previous encounter with such side effects.

Organizing the service delivery is also as important as planning the service delivery. The findings showed that the community leaders played a major role in the mobilization of mothers on clinic days. They made local announcements on clinic days, reminding mothers to send their children for immunization. The mothers prepared the place and provided benches and tables for the days' activity.

The days and time set for each community/village was found to be convenient. These were days the villagers are not allowed to go to their farms (taboo). There was only one exception, where the day coincided with the market day of a nearby town. Most mothers did not have any problem with waiting time.

The research revealed that the community was involved in the service planning and delivery. Convenient days for each village were reached with the community leaders. They were also involved in the dissemination of information and the mobilization of mothers for clinic days.

Immunization reports were regularly evaluated by the nurses and reports were submitted to the DHMT. Information feedback to all parties concerned with the programme was also given the due attention, and the necessary corrective mechanisms instituted. Majority of the nurses interviewed felt that there was some sort of motivation by the DHMT.

5.6 RESOURCE AVAILABILITY AND ADEQUACY

Six nurses were found to be in charge of the two sub districts with a total population of 91,478 (1999 projection). In addition to carrying their normal EPI activities, these nurses also provide clinical care to this population. These nurses said they see between 40 and 120 mothers (with babies) in a day every month.

The MOH document on staffing norms (1996) gives a nurse: population ratio of 1: 5000. However, in the study area this was found to be about 1: 15,000.

The MOH transport policy (1992) also specifies that, every sub district should have at least two motorbikes.

Nevertheless, the sub districts had only one motorbike each. Most of the people live in hamlets and have to be reached. This is an area of great concern and must be addressed. It was therefore not surprising that all the nurses interviewed were of the view that logistics (motorbikes) and personnel are woefully inadequate.

5.7 RECOMMENDATIONS

Recommendations made by all the respondents have some similarities. In all they include:

- Re-introduction of food supplements to motivate mothers
- Health Education should be intensified including community participation in this respect
- The staffing levels should be increased, and logistics should be made available always
- Accessibility to immunization facilities should be improved
- Defaulter tracing and counseling

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.0 CONCLUSION

The main purpose of the study was to identify the causes of dropouts in the Adansi East district of Ashanti for policymakers to take positive steps towards reducing dropout rate

Based on the findings of the study, the conclusions below can be made:

- Most mothers who attend the immunization clinics are Christians and married. Most of them and their husbands are engaged in farming activities.
- Majority of them are in the fertile age group (20 – 29 years).
- Majority of the mothers have no formal education with low knowledge on immunization.
- Outreach immunization clinic is the most preferred type of service by the mothers.
- Women with a higher knowledge on immunization have better immunization status for their children.
- The knowledge levels of some of the nurses were not encouraging.
- Lack of logistics and larger dosage forms of vaccines were contributory factors towards non-completion of immunization.
- Community participation and Health workers attitude were encouraging
- Main sources of information on immunization to mothers include; health talks at ANC, Radio, T V and community leaders
- Monies ranging from ¢ 500 to ¢1,500 were charged at immunization centers. Mothers are aware that some monies were collected for

iodated salt and food supplements, but are not aware of the reason for the token fee for immunization.

- Mothers know when to start immunization but not when to complete it
- Mothers are aware of the benefits of immunization against the vaccine preventable diseases of childhood but unaware of the fact that these benefits are only realized after a successful completion of the schedule and on time.
- Non-compliance with immunization schedule is attributed to the following:
  - Lack of information
  - Time constraints
  - Enthusiasm towards child's immunization wanes as the child grows older
  - Previous experience with side effects of vaccines
  - Ignorance about the need for completion
  - Inadequate supply of logistics and personnel are contributory factors to drop outs
  - Mothers are not aware of the various stages involved in the schedule

- Mothers are told how to manage reactions.
- Immunization days are suitable to the mothers.
- The findings of this research did not agree with the picture the primary data painted on drop out rate with measles vaccination during the last two years.

6.1 RECOMMENDATIONS

Based on the research findings the following recommendations are being made to provide information for the Health Authorities and Policy makers to design and implement appropriate programs that will serve to reduce drop outs within the Adansi East District of Ashanti.

In the short term, the following recommendations are being made:

1. More training and workshops should be organized for health staff to improve upon their knowledge on immunization.

2. Dosage forms should be in smaller quantities that can serve fewer babies. Even though this might have cost implications, it can help in an immense way to reduce the number of mothers who might be turned off.
3. Mothers should be well informed about the purpose of the "token fee", because in a poor community, a fee of ¢500 could be a barrier to the service.
4. Health Education should stress that benefits of immunization are only realized after completing the schedule on time. It should also stress the total number of times a mother will need to visit the clinic and the age of child at completion of immunization.

Long term recommendations include:

5. There should be a collaborative effort between the Ministry of Health and Education to draw up strategies to encourage female education and therefore knowledge within the district.
6. Immunization programs should be given more logistics and personnel support since most of the people live in hamlets and prefer outreach immunization clinics.

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SAMPLE QUESTIONNAIRES

INDIVIDUAL QUESTIONNAIRE:

Date of interview: .....

Interviewer: .....

Part One

1. Name of Mother:
2. Age:
3. Marital Status:
4. Education: (highest level completed)

a. No Formal Education

b. Primary School

c. Middle School

d. Secondary School

e. University

f. Other:

5. Occupation
6. Religion
7. Husband's occupation

8. How many children under 2 years old do you have?

Number	Age	Sex	Immunization Status	RTH Card

Part Two:

1. Have you ever heard about immunization?
2. Where?
3. Who should be immunized?
4. Why are immunizations given?
5. Which diseases do they prevent?
6. Have you had all your babies immunized? If No, why
7. Do you know where to immunize your child?
8. a. At what age should your children first be immunized?
   b. At what age should your children receive measles vaccination?
9. How many times must you take your children for immunization?
10. Do you always bring your babies for immunization yourself, or not?
11. Do you think immunization is good, bad, or neither?
12. Would you recommend it to other mothers?
13. What are the various vaccines a child must receive? Do you pay for these? How much?
14. What do you have to say about Health Workers attitude towards you at the clinic?
15. Does it affect your willingness to come to the clinic?
16. Do you prefer Mass, Static or Outreach immunization? Why?
17. Do you have anything to say concerning the immunization time/days/place/waiting time?
18. Why won't other mothers complete immunization for their children?
19. The Ministry of Health wants to encourage every mother to complete the immunization schedule for her children. What recommendations can you give to help achieve this objective?

QUESTIONNAIRE FOR STAFF

SECTION A: Background Information

1. Rank.....

2. Name of Center/Institution:.....

3. N^{o} of Years Post Qualification;.....

4. N^{o} of Years at Present Wing/Unit;.....

SECTION B

5.a What is the accepted immunization plan for the Ministry of Health?

TYPE OF VACCINE	AGE FOR IMMUNIZATION

b. At what age should a baby complete immunization schedule?

_____

c. How often does the baby need to visit the clinic to complete immunization (excluding weighing visits)?

_____

6. **What do you do on a typical immunization day?**

List: -

a. **Static**

b. **Outreach**

c. **Mass**

7. **State the average number of mothers who attend clinic in a day.**

SECTION C- PERCEPTION

11. a. Why do you think mothers bring their babies for immunization?

_____

_____

_____

_____

b. Where do they get information on immunization?

_____

_____

_____

12. Are there any reasons why a mother would not bring her child for immunization?

_____

_____

13. For those who come, why would they not complete immunization schedules?

List: -

_____

_____

_____

14. Do mothers bring their babies to the clinic themselves on all visits?

YES NO

15. If No, Give reasons.

_____

_____

_____

_____

SECTION D – MANAGEMENT AND EFFECTIVENESS OF SERVICE

16. What do you tell the mothers after immunizing the babies with;

- **BCG**

- **DPT**

- **OPV**

- **MEASLES**_____

_____

_____

17. a. Which of the vaccines produce adverse reactions?

_____

_____

_____

_____

_____

b. State the reaction(s).

_____

_____

_____

_____

18. What advice do you give to a mother whose baby reacts to vaccines?

19. Which of these immunization types do you prefer?

a) Static **b) Outreach** **c) Mass**

Give Reasons:

_____

_____

_____

___

20. Is the community involved in the service planning and delivery?

YES NO

If YES, state how

_____

_____

_____

___

21. Are you given any form of motivation in carrying out the immunization?

YES NO

If YES, state

_____

_____

_____

_____

22. **Do you evaluate your immunization reports regularly?**

YES NO

If NO, Give Reasons:

_____

_____

If YES, do you give information feedback to the community?

YES NO

And if NO Give Reasons:

_____

_____

23. **Supposing there is a need to reduce dropout rate, what recommendations will you give?**

List

_____

_____

_____

_____

___

Thank you very much for completing this questionnaire.

QUESTIONNAIRE FOR KEY INFORMANT

Village/Town:..... Date of

Interview:.....

Name of

Chief:.....

Respondent's Name and Title:.....

1. Health Services available:
   a. Hospital
   b. Health Center
   c. Village Health Worker
   d. Traditional Healers, TBAs
   e. Other
2. Are the following diseases a problem in your village/ town?
   f. Measles
   g. Polio
   h. Tetanus
   i. Neo-natal Tetanus
   j. T. B.
   k. Whooping Cough
3. Is immunization available in your village or town?
   a. YES/NO
   b. Where?
   c. How? Mass or Routine
4. What is the response to immunization here?

   Good, Fair, Poor.

5. Do the health staff involve any member of the community in carrying out the immunization? YES/NO If YES, in what way?

6. In your opinion, how can the dropouts be avoided in your village/town?