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KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH



**ASSESSING THE INFLUENCE OF INFORMATION, EDUCATION
AND COMMUNICATION (IEC) STRATEGIES IN THE PREVENTION
OF MALARIA IN PREGNANCY IN EJISU-JUABEN DISTRICT OF
GHANA**

BY

ROSE ODOTEI ADJEI

SEPTEMBER, 2005

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GHANA**

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IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF
THE DEGREE OF MASTER OF SCIENCE IN HEALTH EDUCATION AND
PROMOTION**

BY

ROSE ODOTEI ADJEI

SEPTEMBER, 2005

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
DEFINITION OF TERMS	v
ABBREVIATION/ACRONYMS	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	x
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF APPENDICES	xii
ABSTRACT	xiii
CHAPTER ONE	1
1.0 INTRODUCTION	1
1.1 BACKGROUND INFORMATION	1
1.2 PROBLEM STATEMENT	3
1.3 RATIONALE OF STUDY	4
1.4 CONCEPTUAL FRAMEWORK	5
1.5 RESEARCH QUESTIONS	8
1.6 GENERAL OBJECTIVE	8
1.6.1 Specific Objectives	8
1.7 PROFILE OF STUDY AREA	9
1.7.1 Boundaries	9
1.7.2 Geography	9
1.7.3 Demography	10
1.7.4 Ethnicity and Religion	10
1.7.5 Occupation	10
1.7.6 Dependency Ratio	11
1.7.7 Administration	11
1.7.8 Post & Telecommunication	12
1.7.9 Electricity	12
1.7.10 Water	12
1.7.11 Education	13
1.7.12 Transport	13
1.7.13 Health and Health Services	14

1.7.14 Health Providers and Facilities.....	14
1.7.15 Disease Prevalence in the District	15
1.8 SCOPE OF STUDY	17
1.9 ORGANISATION OF REPORT	17
2.0 LITERATURE REVIEW	18
2.1. INTRODUCTION.....	18
2.1.1 Definition, Principles and Concepts of IEC	18
2.2 KNOWLEDGE ON MALARIA IN PREGNANCY	20
2.2.1 Malaria-related knowledge among pregnant women	24
2.3 ATTITUDES, BELIEFS AND PRACTICES ON MALARIA IN PREGNANCY	25
2.4 QUALITY OF IEC SERVICES IN THE PREVENTION OF MALARIA IN PREGNANCY	26
2.5 STRATEGIES FOR IMPROVING IEC PROGRAMMES.....	31
CHAPTER THREE.....	34
3.0 STUDY METHODS	34
3.1 RESEARCH METHODS AND DESIGN	34
3.2 DATA COLLECTION TECHNIQUES AND TOOLS	34
3.2.1 Quantitative Data	34
3.2.2 Qualitative Data.....	35
3.3 STUDY POPULATION	35
3.4 STUDY VARIABLES.....	36
3.5 SAMPLING	36
3.6 PRE-TESTING.....	37
3.7 DATA HANDLING.....	37
3.8 DATA ANALYSIS	37
3.9 ETHICAL CONSIDERATIONS	37
3.10 LIMITATION OF STUDY.....	38
3.11 ASSUMPTIONS	38
CHAPTER FOUR.....	39
4.0 RESULTS	39
4.0 INTRODUCTION.....	39
4.1 BACKGROUND CHARACTERISTICS ON RESPONDENTS	39
4.2 KNOWLEDGE ON MALARIA IN PREGNANCY	40

4.2.1 Knowledge on Communicability of Malaria	55
4.3 BELIEFS, ATTITUDES AND PRACTICES ON SYMPTOMS AND PREVENTION OF MALARIA.....	58
4.3.1 ITN Use among Pregnant Women.....	59
4.3.2 Utilisation of ANC of Pregnant Women.....	60
4.3.3 Respondents' Attitude on Waste Disposal.....	61
4.4 IEC ON MALARIA IN PREGNANCY	62
4.5 QUALITY OF IEC ON MALARIA IN PREGNANCY AT ANC	67
5.0 DISCUSSIONS.....	69
5.0 KNOWLEDGE ON MALARIA IN PREGNANCY.....	69
5.1 BELIEFS, ATTITUDES AND PRACTICES OF HEALTH WORKERS TOWARD PREGNANT WOMEN.....	71
5.2 INFORMATION, EDUCATION AND COMMUNICATION ON MALARIA IN PREGNANCY	72
5.3 QUALITY OF IEC SERVICE IN THE PREVENTION OF MALARIA IN PREGNANCY.....	73
CHAPTER SIX.....	76
CONCLUSIONS AND RECOMMENDATIONS	76
6.0 CONCLUSIONS.....	76
6.1 RECCOMENDATIONS.....	77
6.1.1 IMPROVING IEC STRATEGIES	77
To the Ghana health service (national level):	77
6.1.3 District Health Management Team (DHMT)	78
6.2.1 INTERSECTORAL COLLABORATION	79
6.2.3 Non Governmental Organizations	79
6.3.1 HEALTH EDUCATION	79
6.3.1 DHMT	79
APPENDICES	83
APPENDIX: 1 - QUESTIONNAIRE	83
APPENDIX: 2 - FOCUS GROUP DISCUSSIONS	88
APPENDIX: 3- KEY INFORMANT INTERVIEW GUIDE.....	90
APPENDIX: 4- MAP OF GHANA	92
APPENDIX: 5- MAP OF STUDY AREA	93

DECLARATION

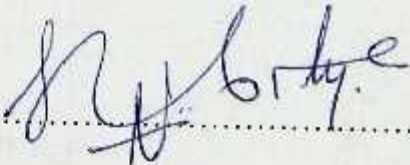
I Rose T. Odotei Adjei (Mrs.), hereby declare that, except for references to other people's works which have been duly acknowledged, this work is the result of my own original research. I hereby also declare that, this work has neither in whole nor in part been presented for any degree elsewhere.

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DEDICATION

This work is dedicated to my husband, Mr. Justice Odotei Adjei and Dr. Edmund Nii Laryea Browne, Senior Lecturer, Department of Community Health, School of Medical Sciences without whose support and encouragement I would not have come this far. I am most grateful to you all and God bless you!!

DEDICATION

This work is dedicated to my husband, Mr. Justice Odotei Adjei and Dr. Edmund Nii Laryea Browne, Senior Lecturer, Department of Community Health, School of Medical Sciences without whose support and encouragement I would not have come this far. I am most grateful to you all and God bless you!!

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DEFINITION OF TERMS

Beliefs Attitudes and Practices: - beliefs and practices that contribute to the prevention of malaria in pregnancy

Information Education and Communication (IEC):- is a comprehensive programme intervention with aims of achieving or consolidating behaviour or attitude changes in designated audience using a combination of communication technologies, approaches and processes in a flexible and participatory manner through a systematic and well researched manner.

Knowledge of Malaria in Pregnancy: - knowledge about signs and symptoms of malaria, ways of transmission and effects of malaria on the pregnant woman and the baby.

Quality of IEC Services:- The processes, through which IEC messages on the prevention of malaria in pregnancy, are designed, organised and delivered to pregnant women.

ABBREVIATION/ACRONYMS

IEC	Information Education and Communication
ANC	Antenatal Clinic
ITN	Insecticide Treated Net
WHO	World Health Organization
RBM	Roll Back Malaria
DHMT	District Health Management Team
IPT	Intermittent Preventive Treatment
SP	Sulphurdoxine Pyrimethasine
GDHS	Ghana Demographic and Health Survey
UNFPA	United Nations Population Fund
FGD	Focus Group Discussion
IDI	In-depth Interview

LIST OF TABLES

TABLE 1.1: Population distribution by Sub-districts, 2004

TABLE 1.2: Top ten (10) causes of OPD visits

TABLE 1.3: Top five (5) causes of admissions

TABLE 1.4: Top five (5) causes of death

TABLE 1.5: Reported cases and death of HIV/AIDS

TABLE 1.6: Key study variables

TABLE 4.1: Action taken by respondents who have malaria and knowledge about preventive methods.

LIST OF FIGURES

FIGURE 1.1: Conceptual framework of IEC for malaria in pregnancy

FIGURE 4.1: Background variables

FIGURE 4.2: Knowledge about malaria

FIGURE 4.3: Communicability of malaria

FIGURE 4.4: How malaria is transferred

FIGURE 4.5: Most common and severe health problems; use of ITN; reason for non usage of ITN and malaria.

FIGURE 4.6: Reason for not using ITN

FIGURE 4.7: ANC utilisation in perspective

FIGURE 4.8: Availability of gutter and the disposable of waste water and refuse

FIGURE 4.9: Source of IEC in the community

FIGURE 4.10: IEC in perspective

FIGURE 4.11: IEC on malaria in the community

FIGURE 4.12: Activities at ANC

FIGURE 4.13: Quality of malaria IEC at ANC

LIST OF APPENDICES

APPENDIX 1: QUESTIONNAIRE

APPENDIX 2: FOCUS GROUP DISCUSSIONS

APPENDIX 3: KEY INFORMANT INTERVIEW GUIDE

APPENDIX 4: MAP OF GHANA

APPENDIX 5: MAP OF STUDY AREA

ABSTRACT

More than 30 million pregnant women and children in Africa are particularly vulnerable to the adverse consequences of malaria caused by the most lethal parasite, *Plasmodium Falciparum*. Malaria Control Programmes in Ghana and elsewhere in the developing world need to give the highest priority to an effective and sustained strategy to bring about behaviour change to reduce the incidence of malarial infection.

One way to achieve this is through effective Information, Education and Communication (IEC) strategies. Thus, a full range of activities and approaches from mass media campaigns to the use of interventions aimed at personal protection need to be used. IEC programmes need to be integrated into various components of programmes such as Insecticide Treated Nets' (ITNs) distribution and re-treatment; and early diagnosis and prompt treatment.

A descriptive study with a cross-sectional design using quantitative and qualitative methods were used to assess the effectiveness of information, education and communication (IEC) strategies in the prevention of malaria in pregnancy. Four (4) focus group discussions (FGDs) and three (3) key informant interviews (KIIs) were conducted for baseline information. 200 women were also interviewed through the use of a structured questionnaire to explore the practices, attitudes, beliefs and behavioural tendencies amongst study women and their relatives, health staff, community leaders and opinion leaders.

The study revealed that knowledge about malaria and how it can be prevented was high, yet the malaria in pregnancy and its prevention is a problem in the district due to lack of regular

IEC programmes that are needed to reinforce and stimulate women to practice what they know.

It is therefore recommended that effective implementation of IEC strategies requires that the District Health Administration provide regular and well focused IEC strategies, that are frequent and focused on encouraging pregnant women to adopt practical and positive attitudes and practices towards the prevention of malaria in pregnancy.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Information Education and Communication (IEC) generally on health issues and malaria in pregnancy in particular could contribute significantly in changing trends in the burden of disease among the vulnerable groups, especially in developing countries. Africa bears 90% of the world's burden of malaria (WHO, 2004). More than 30 million pregnant women and children in Africa are particularly vulnerable to the adverse consequences of malaria caused by the most lethal parasite, *Plasmodium Falciparum*. The African region experiences a major proportion of the global burden of malaria-associated maternal illness and low birth weight. Pregnant women in malaria-endemic areas do not always receive the necessary prevention and treatment care they need, and this contributes to the extremely high numbers of maternal and infant deaths caused by malaria (WHO, 2004).

Reducing the ill-health impact associated with malaria has become a global priority. The focus of this commitment is on Africa, which experiences the vast majority of malaria related illness and death. This renewed commitment is supported by more effective malaria control approaches that have been defined in the past decade. Prevention of the serious health impact of malaria during pregnancy in Africa represents one of the most imminently achievable public health goals of the Roll Back Malaria (RBM) partnership.

Malaria Control Programmes in Ghana and elsewhere in the developing world have given priority to an effective and sustained strategy to bring about behaviour change to reduce the incidence of malaria infection (RBM/GHS, 2004). One way to achieve this is through effective IEC strategies. Thus, a full range of activities and approaches from mass media campaigns to the use of interventions aimed at personal protection need to be used. Early diagnoses require knowledge of malaria symptoms and signs, and hence the use of IEC materials at home, community and at the health facility levels.

IEC activities are usually integrated into various components of programmes such as Insecticide Treated Nets (ITNs) distribution and re-treatment; and early diagnosis and prompt treatment (Babu 2004), could make a desirable impact on the management of malaria in pregnancy.

In Ghana, most women reside in areas of relatively stable malaria transmission, (RBM/GHS, 2004). The principal impact of malaria infection during pregnancy in these areas is associated with malaria – related anaemia in the mother and the presence of parasites in the placenta. The resultant impairment of foetal nutrition contributing to low birth weight (LBW) is a leading cause of poorer infant survival and development in Ghana. Lack of adequate health care infrastructure and the low capacity of public sector health workers, combined with poor access to health information, have contributed to an escalating burden of disease from malaria and other communicable diseases (GHS, 2001). Most pregnant women do not understand disease cycle and also do not access proper treatment when danger signs persist (Babu, 2004). Additionally, many families fail to understand the importance of using ITNs, as a preventive measure and those that

do, often fail to maintain ITNs properly. Communities lack access to healthcare as well as understanding of malaria infection which constitutes a significant health problem in developing countries especially to their socio- economic development (Babu, 2004).

1.2 PROBLEM STATEMENT

In Africa 30 million women living in malaria endemic areas become pregnant each year. Malaria is thus a threat both to mothers and their babies, with up to 200,000 newborn deaths each year as a result of malaria in pregnancy (WHO/UNICEF, 2003).

Despite the fact that serious impact of malaria infection during pregnancy has been known for half a century, coverage of pregnancies at risk of malaria infection according to WHO and national guidelines has been unacceptably low in most endemic countries (WHO, 2004; RBM/GHS, 2004).

Ghana has been undertaking integrated malaria control activities in the context of the Roll Back Malaria (RBM) initiative. It is aimed at providing at least 60 % of those at risk access to insecticide treated bed nets; prompt and effective treatment; and intermittent preventive treatment (IPT) for at least 60 % of pregnant women. In spite of these control and preventive strategies adopted for the past years, maternal morbidity and mortality have not changed.

The Ejisu Juaben District Health Administration is an integral part of the Ghana Health Services. Malaria constitutes more than 40% of OPD cases, admissions and deaths in the district. According to the 2003 Annual Report of the District Health Administration, malaria accounts for more than 50% of the top ten morbidity cases for 2002 and 2003. A similar trend was evidenced in relation to the top five admissions and deaths in the

district. Despite efforts being made, including the use of IEC strategies to reduce the burden of malaria in the district, the trends have not changed and no efforts have been made to assess the extent to which IEC activities have influenced change in attitudes towards the prevention of the disease in the district. This study therefore seeks to assess the extent to which IEC activities in Ejisu Juaben District have influenced attitudes and practices towards the prevention of malaria in pregnancy with more emphasis on the effectiveness of IEC activities.

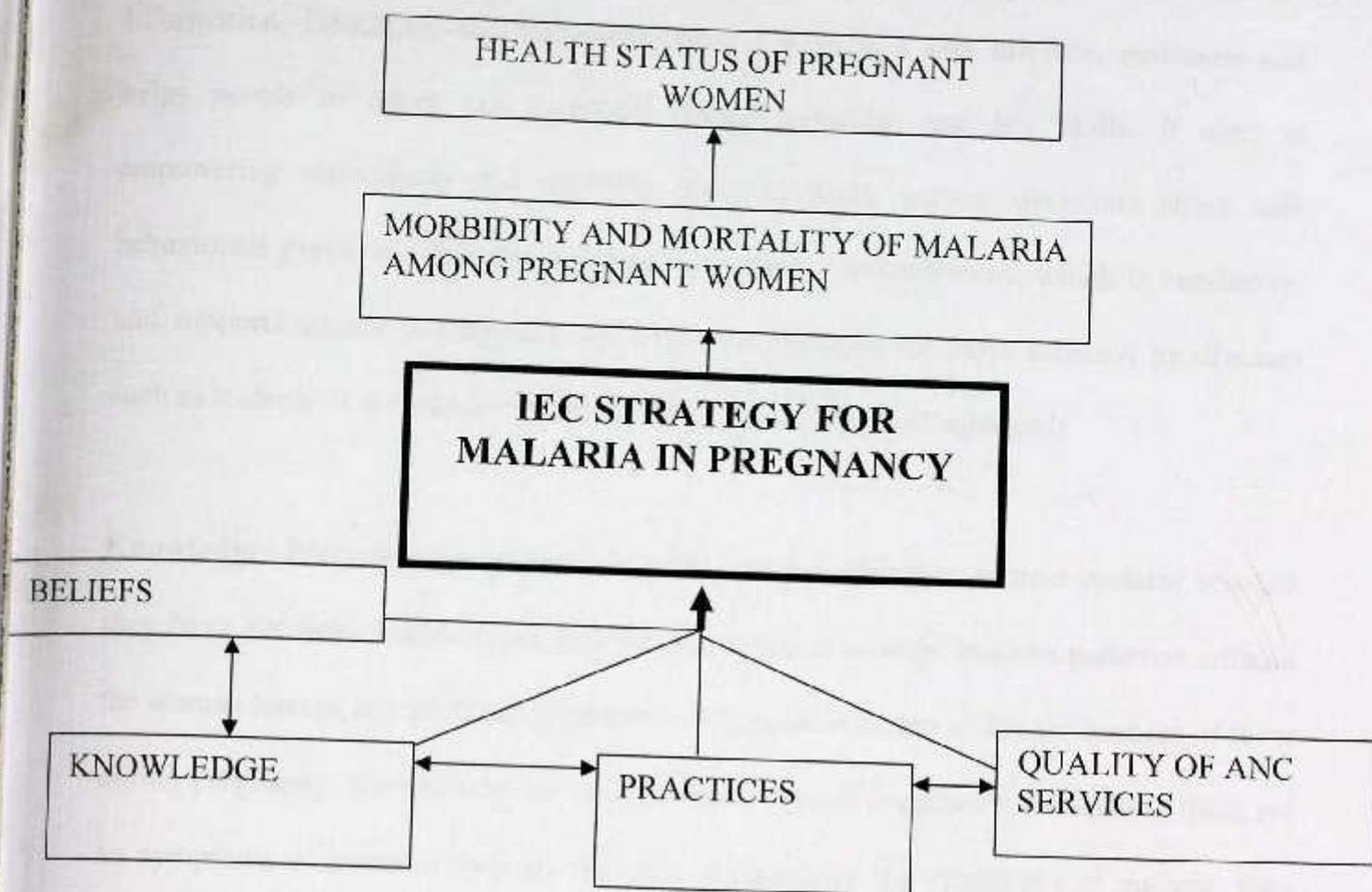
1.3 RATIONALE OF STUDY

Although modern and cost effective methods of malaria control programmes exist, malaria is one of the leading causes of morbidity and mortality, especially among pregnant women and children under age five (GHS, 2001). In view of this, there is the need to strengthen antenatal services and provide preventive measures, care, counselling and education to improve health in pregnant women who do not attend antenatal clinics or who attend only once either in their early or late pregnancy.

There is also the need to assess the effect of IEC strategies as a tool to complement other programme and activities aimed at reducing malaria in pregnancy. This would provide valuable information as to the extent to which individuals, households, communities, service providers such as the Ghana Health Service and NGOs; donors and policy makers would have to re-adjust their perceptions, priorities and practices towards the use of IEC as a major tool in the control of malaria in pregnancy.

1.4 CONCEPTUAL FRAMEWORK

Figure 1:1 IEC for Malaria in Pregnancy



Source: Author, 2005

IEC: There seems to be a lack of development of simple, key messages especially with regards to malaria. There is adequate emphasis on the mosquito being the vector of malaria and in some cases the need to sleep under the protection offered by an insecticide treated bed net but not enough attention has been given to the need to promote basic information regarding the cause, effects and treatment of malaria, this fundamental void has yet to be comprehensively addressed (Hencher, 2003), thus, the need for Information, Education and Communication (IEC). Healthy habits and behaviours cannot be established unless stakeholders concerned are well informed about the health issues at

stake. People need to know what factors lead to certain diseases, effects of certain forms of behaviour, causative organisms and modes of transmission.

Information, Education and Communication is a process that informs, motivates and helps people to adopt and maintain healthy practices and life skills. It aims at empowering individuals and enabling them to make correct decisions about safe behavioural practices. IEC also attempts to create an environment, which is conducive, and supports access to diagnosis and treatment services for those affected by diseases such as malaria. It is multidisciplinary and client-centred in its approach.

Knowledge: Pregnant women are not taking steps to prevent or treat malaria because they have not been made aware that the placenta can conceal malaria parasites without the woman having any physical symptoms. They are not aware of the seriousness of fever during pregnancy; they believe fever is a normal sign of pregnancy; sometimes there are no symptoms of malaria; they are not able to recognize the symptoms of malaria; they attribute low birth weight or miscarriages to witchcraft or infidelity, not malaria. Some pregnant women also have the fear that chloroquine and SP are dangerous to pregnancy. (Babu 2004)

Beliefs and Practices: The population's perception of malaria is one of the critical factors in determining whether malaria, will be treated effectively. In some endemic areas malaria is generally viewed as febrile disease, but severe complications such as convulsions, splenomegaly and anaemia are sometimes thought to be completely unrelated. Among some ethnic groups in Ghana, convulsion, for example, is believed to

have supernatural origins. Under such circumstances, it is easy to understand why people delay to seek care, even when they live closer to health services. Health workers and malaria programme managers need to understand people's beliefs about malaria and its complication.

Quality of Service: The weak infrastructure of the health system and low capacity of public sector health staff, combined with poor access to health information, have contributed to an escalating burden of disease from malaria and other communicable diseases. The worst affected populations include rural dwellers who may not understand the malaria disease cycle and who may not have access to proper treatment when danger signs persist.

In order for a communication campaign to be successful, the relevant health services infrastructure should be prepared to satisfy the increased demand for services created by the campaign. IEC interventions are more cost-effective when there are clear links with health care service delivery programmes rather than when they are conceived as stand-alone

From a communication perspective, this makes vital the quality of client-provider contact. The lack of a supportive environment from the health care provider is also a factor that can hinder individual behaviour change. All health functionaries at different levels must be trained to practice health education on malaria while discharging their routine duties. Health education teaching must be incorporated into all types of training provided under the malaria control programme. Provider behaviours require monitoring, reinforcement, and updating; and these must be incorporated into the detailed plan.

The interaction between health care providers (at all levels) and clients is important for successful IEC interventions. This is where one stage of decision-making takes place.

Provider behaviour is critical and the need for behaviour and attitude change among health workers has been established. Training of health care providers in interpersonal communication and counselling skills is absolutely critical to successful IEC programming.

1.5 RESEARCH QUESTIONS

1. What do pregnant women know about malaria in pregnancy?
2. What are the attitudes, beliefs and practices of pregnant women concerning malaria in pregnancy?
3. What is the quality of IEC services provided to pregnant women?
4. Are there any strategies in place for pregnant women?

1.6 GENERAL OBJECTIVE

To assess the extent of influence of Information, Education and Communication strategies in preventing pregnancy associated malaria in the Ejisu-Juaben District of Ghana.

1.6.1 Specific Objectives

- (i) To assess the level of knowledge on malaria in pregnancy.
- (ii) To describe attitudes, beliefs and practices related to malaria in pregnancy.
- (iii) To assess quality of IEC programmes on malaria in pregnancy.
- (iv) To recommend IEC strategies to improve control of malaria in pregnancy

1.7 PROFILE OF STUDY AREA

Ejisu-Juaben district is one of the 21 districts in the Ashanti Region of Ghana. Its projected population for the year 2004 is 141,945 with an annual growth rate of 2.7% (District Annual Health Report, 2003).

1.7.1 Boundaries

The district is located in the southern part of the region and shares boundaries with Kwabre, Afigya-Sekyer East and West districts to the North, Ashanti Akim North and South districts to the East, Bosomtwe-Atwima Kwawonma District to the South and Kumasi Metropolis to the West.

The North-South distance is approximately 25 km and the West-East distance is about 5km. The total land area is 1,635 sq. km. Kumasi serves as the major referral centre from the Juaben hospital and it is quiet far.

1.7.2 Geography

The District occupies the forest belt of the country with tropical rainforest vegetation. Some transitional zones are noted because of farming and logging activities. The temperature variation is 20-36°C with a monthly rainfall varying between 2mm in February and 400mm in July. There are two rainy seasons. The major rainy season is from March to July and the minor season is from September to November. The relevance of this is that, it speaks volumes of the anticipated diseases that are likely to engulf the

district; hence the type of prevalent diseases will be necessary when planning health care interventions.

1.7.3 Demography

The district has a total population of 141,945 as estimated by the District Health Administration for 2004 and indicated in the DHMT's Annual Report, 2003.

Table 1.1 Population distributions by Sub-District, 2004

Sub- District	Population	% of District Population
Ejisu	49,823	35
Juaben	25,692	18
Kwaso	31,686	22.2
Bomfa	21,292	15
Achiase	14,052	9.8

Source: Ejisu-Juaben District Health Administration

1.7.4 Ethnicity and Religion

The District is still typically homogenous. Eighty percent (80%) of the population in the District are Ashantis. Other tribes identified in the District are the other Akan tribes (10.45%), Ewes (3.4%), Mole –Dagbon (1.4%) with 2.75% being the rest who are also non-Akans.

1.7.5 Occupation

Majority of the inhabitants of the district are subsistence farmers, thus farming being the primary occupation. Plantain, cassava, cocoyam and maize are the crops grown in the District. The types of cash crops cultivated in the district include cocoa and palm oil

plantation at Juaben. Trading is a secondary occupation in the district, especially in one of the communities named Bonwire – a historic centre for Kente weaving. Because of unavailability of funds (due to the subsistence farming), the youth resort to other means of income generation to provide their basic needs.

1.7.6 Dependency Ratio

The district dependency ratio has reduced from 1:0.88 to 0.81 from the last sample survey. With the current population of 55.1% in the working group and the high unemployment and underemployment rate, the economic dependency ratio is having negative impact on the District economic development. The ability of the few workers to save is highly limited. It is hoped with the needed economic opportunities created by the inland port, jobs from the port activities and other auxiliary services would create jobs multiplier effect as well as increase production and productivity.

1.7.7 Administration

The District has been divided into five (5) sub-districts. These are the Ejisu sub-district, Juaben sub-district, Kwaso sub-district, Bomfa sub-district and Achiase sub-district. The district is being run by a District Assembly (DA), two-thirds of whose members are popularly elected on a non-partisan basis and the rest appointed by the District Chief Executive (DCE) – a political head of the district but has to be ratified by the DA.

1.7.8 Post & Telecommunication

Ghana Post and Ghana Telecom branches are located at Ejisu, and promote service to the five (5) sub-districts of the district. Ejisu and Juaben have other mobile telephone facilities, such as Spacefon, and Buzz. There are also private communication centres located in Kwaso sub districts, Ejisu and its surrounding communities, and Juaben. The communities, which do not have telecommunication facilities, communicate by message or par shuttle vehicles delivery.

1.7.9 Electricity

Ejisu sub-district, Kwaso sub-district and the Juaben sub-district have electricity, but currently, wiring for onward transmission of electricity to Bomfa sub-district and Achiase sub-district is taking place. Irrespective of that, there is no office of the Electricity Company of Ghana (E.C.G.) but there are paying points in the District. Electricity is served from Effiduase that is, a town in the neighbouring district to the Ejisu-Juaben District..

1.7.10 Water

Water supply in the District is very poor. With the exception of Juaben that enjoys pipe borne water, Most of the communities either get water from Boreholes, hand-dugged wells or fetch from streams and ponds. Currently, there is construction of the Ejisu-Kumasi highway, and it is believed that water supply to the district would be improved.

1.7.11 Education

The Ghana Education Service (GES) carries out the policies of the Ministry of Education in the District, and is responsible for both the first and second cycle institutions. There is a School Health Co-ordinator in the District who liaises between the Ghana Health Service and the Ghana Education Service. There are five (5) government secondary schools and two private schools in the District. Out of the number, two of the schools are technical schools and one is a secondary commercial school. The District has 74 Junior Secondary Schools and 86 Primary Education Schools. Considering the fact that many people are interested in sending their children to school makes it easier for people to understand why the health of the youth is important, and hence the need for the youth to be well catered for.

1.7.12 Transport

All the majority roads to the various sub-districts in the district are tarred. Numerous commercial vehicles shuttle between the district and Kumasi. The Accra-Kumasi highway passes through the district. The Accra-Kumasi Railway line also passes through four (4) communities in the district. Currently, there is a daily train shuttle from Ejisu to Kumasi. The transportation system may encourage a lot of human activities which can increase transmission of the HIV/AIDS and hence poses risk to the youth in the district. The present government is constructing a dual carriage from the City to the District that is, Kumasi – Ejisu. It is believed that the road work would improve the transportation status of the district as well as increasing vehicular accidents due to over speeding and careless driving.

1.7.13 Health and Health Services

Access to good health is a fundamental human right and very basic in life. To improve health status of the people in the District, provision of quality health services which is accessible and affordable and delivered by well-motivated staff with involvement of all stakeholders. The District Health Administration (DHA) is at Ejisu. It provides mainly preventive health services and is the entrance to the district's health needs and delivery system. There is only one government hospital, four health centres, and two Maternal & Child Health (MCH) centres owned by the government. In addition to these, there are four mission and private hospitals in the District. This results in poor sex education, hence ignorance which leads them to fall victims to their predator either by rape, sexual abuse or homosexual practices.

The district health system is based on a 3-tier Primary Health Care System; the district, the sub-district and the community. Activities at the district level are run by the DHMT, while the Sub-District Health Team (SDHT) oversees health activities in the sub-district. The Village Health Committee (VHC) manages the community level. There is also a community volunteer network for surveillance activities.

1.7.14 Health Providers and Facilities

Below are the various health facilities and providers in the district.

The District Hospital – Juaben

Four Health Centres – Ejisu, Kwaso, Bomfa and Achiase

MCH Clinics – Apromase (under Ejisu), Tikrom (Under Ejisu) and Peminase (Under Achiasse). Mission Clinics - Onwe SDA, Boamadumasi Presbyterian, Donyina – St. Anne's Catholic, EP Clinic Krapa

1.7.15 Disease Prevalence in the District

Table 1.2, represents the diseases prevalent in the district. As shown below, the major health problems in the district are malaria, Respiratory Tract Infection (RTI), rheumatic & joints conditions, skin diseases, ulcers and hypertension.

Table 1.1: Top 10 Causes of OPD Visits

DISEASE	2002	% of top ten	2003	% of top ten
Malaria	7145	64.8	6527	59.2
RTI	1236	11.2	1216	11.0
Rheumatic & Joint Conditions	562	5.1	1061	9.6
Skin Diseases & Ulcers	452	4.1	1053	9.6
Hypertension	398	3.6	619	5.6
Home/Occupational Injuries	415	3.8	577	5.2
Pregnancy Related Complications	244	2.2	494	4.5
Gynaecological Disorders	218	2.0	417	3.8
Diabetes Mellitus	189	1.7	209	1.9
Intestinal Worms	160	1.5	197	1.8
TOTAL TOP TEN OPD	11019		12370	

Source: DHMT, Annual Report, 2003

Table 1.2 shows the top five (5) causes of admissions in the district. Malaria leads the chart.

Table 1.3: Top Five Causes of Admissions

DISEASE	2002	%TOTAL	DISEASE	2003	% TOTAL
Malaria	726	31.3	Malaria	911	42.9
Anaemia	123	6.6	Anaemia	188	8.8
Skin Diseases & Ulcers	106	5.6	Pregnancy Complications	90	4.2
Hypertension	102	5.4	Hypertension	69	3.2
Pneumonia	47	2.5	Pneumonia	65	3

Source: DHMT, Annual Report, 2003

Table 1.3 also represents the top five (5) causes of death in the district since 2001. Once again, Malaria is leading the chart. As at 2001, HIV/AIDS was not among the top five (5), but since 2002, and 2003, HIV/AIDS has been among the top five causes of death.

Table 1.3: Top Five Causes of Deaths

DISEASE	2001	DISEASE	2002	2003
Malaria	21	Malaria	3	16
Anaemia	14	Anaemia	10	11
Pneumonia	3	Pneumonia	4	4
C.U.A.	4	HIV/AIDS	3	1
R.T.A	7	Pregnancy Complications	3	1

Source: DHMT, Annual Report, 2003

1.8 SCOPE OF STUDY

The research focused on the effectiveness of information, education and communication in the prevention of malaria among pregnant women in Ejisu-Juaben district. It also assessed the knowledge, attitudes, beliefs and practices in the prevention of malaria in pregnant women.

1.9 ORGANISATION OF REPORT

Chapter one, gives introduction on the research, chapter two reviews information on available literature on knowledge, belief, attitude and practices of pregnant women on malaria in pregnancy. It also provides information on quality of IEC programmes and strategies on malaria in pregnancy.

Chapter three shows the method used to collect information from the study population.

Chapter four presents the findings and results on study variables and factors that contribute quality IEC strategies on malaria in pregnancy.

Chapter five focuses on discussions of all variables and factors that influence Knowledge, Beliefs, Attitudes and Practices, quality of service and IEC strategies that will contribute to the prevention of malaria in pregnancy. Chapter six presents suggestions and recommendations for improving IEC on malaria in pregnancy.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1. INTRODUCTION

Success in improving health depends on specific efforts to promote appropriate behaviours and not just on the introduction of new drugs and technologies. Effective communication is the basis of behaviour change for all stakeholders; women, their families, community leaders, Programme managers and service providers. WHO encourages health promotion as a means of attaining the aims of primary health care concept (WHO,1994). Malaria is especially dangerous during pregnancy and this has prompted many advocacy campaigns to educate not only pregnant women, but also the general public on the importance of preventing malaria during pregnancy. This chapter sought to review literature on IEC, knowledge about malaria in pregnancy, beliefs attitudes and practices and the quality of service which contribute to the prevention of malaria in pregnancy.

2.1.1 Definition, Principles and Concepts of IEC

IEC is a comprehensive programme intervention with aims of achieving or consolidating behaviour or attitude changes in designated audience using a combination of communication technologies, approaches and processes in a flexible and participatory manner through a systematic and well researched manner (UNFPA, 1993).

IEC's starting point is to contribute to solving development problem or to supporting an issue among designated audiences in the content of a programme. Those designated audiences may include policy makers, service providers, change agents, communities and

or users of service. Information includes the generation of general and technical information, facts and issues to create awareness among policy makers, administrators, academics and the general public of important developments in the population situation and policies of a country. It may involve public information activities to advocate necessary changes in policies, leadership and resource allocation.

Communication is a planned process aimed at motivating people to adopt new attitudes or behaviour to utilize existing services. It is based on people's concerns; perceived needs, beliefs and current practices. It promotes dialogue which is also called "two-way communication", feedback and increased understanding among various actors. It is thus an integral component of all services and outreach activities. This process is most effective when it involves a strategic combination of mass media and interpersonal or face-to-face communication supported by print media and other audio-visual aids. Education refers to the process of facilitating learning, to enable audiences to make rational and informed decisions, and to influence their behaviour over the long term. Education can be carried out through the formal education sector or through non-formal channels such as social networks, continuing education and literacy classes, and cooperative and workers associations.

Key elements in the IEC concept is a component of a country programme, which aims to achieve measurable behaviour and attitudes change among specific audiences.

It is based on the needs of well-defined and well researched audience. It requires planned and multicultural interventions which combine information, educational and motivating

processes. It needs to be well synchronized and articulated with the provision of relevant products and services (UNFPA, 1993).

IEC is an approach, which attempts to change or reinforce a set of behaviours in a "target audience" regarding a specific problem in a predefined period of time. IEC is a process that informs, motivates and helps people to adopt and maintain healthy practices and life skills. It aims at empowering individuals and enabling them to make correct decisions about safe behaviour practices. IEC also attempts to create an environment which is conducive, and supports access to diagnosis and treatment services for those affected by diseases such as malaria. IEC strategies involve planning, implementation, monitoring and evaluation. When carefully carried out, health communication strategies help to foster positive health practices individually and institutionally, and can contribute to sustainable change toward healthy behaviours. (UNFPA, 1993)

2.2 KNOWLEDGE ON MALARIA IN PREGNANCY

Pregnant women may not be preventing and treating malaria correctly. Pregnant women are not taking steps to prevent or treat malaria because they have not been made aware of the seriousness of fever during pregnancy; they believe fever is a normal sign of pregnancy. They attribute low birth weight or miscarriages to witchcraft and infidelity not malaria (.John Hopkins, School of Public health, 2003)

Service providers offering antenatal services at public and private health facilities may not comply with malaria guidelines. Lack of provider compliance is due to inadequate

dissemination of the national guidelines; inability of some providers to understand guidelines; non-availability of guidelines in a language that is easily understood by the providers. Information for health providers on how to provide intermittent presumptive treatment (IPT) is not clear. Not much discussions exist between health workers and pregnant women about malaria, side effects of SP and SP schedule. There is the desire to reserve SP for treatment for those who are sick, rather than those who do not have symptoms of malaria. Communities may lack access as well as understanding of community level epidemiology information which may severely limit their ability to actively participate community based initiatives in the prevention of malaria. The population's perception of malaria is one of the most critical factors in determining whether any disease, be it malaria or not, will be treated effectively. People in malaria – endemic areas generally recognize malaria and have some sense of what to do if they or their children have the disease. However, in some endemic areas, many people still do not know that malaria is transmitted by mosquitoes.

Malaria is generally viewed as a febrile disease, but severe complications such as convulsions, splenomegaly and anaemia are sometimes thought to be completely unrelated in some of these ethnic communities, convulsions, for example, are believed to have supernatural origins. Under such circumstances, it is easy to understand why delay in presentation to the health service is common. Health workers and malaria program managers need to understand people's beliefs about malaria and its complications. It is an important responsibility of the public health personnel to educate communities in the use of available services. (Seshu Babu, 2004).

The European Commission's Cambodia Malaria Control Project (ECCMCP), in cooperation with the National Malaria Centre of the Ministry of Health (CNM), commissioned social research into health beliefs and practices amongst indigenous communities in Ratanakiri Province (Brown et al., 2002).

It was recommended from the study that health education should aim at creating awareness of cause and transmission of malaria, to encourage the ideas that malaria is controllable and preventable. It was pointed out that symptom recognition was especially important for mothers, to promote strategic access to health care. It was suggested that materials should be developed to strengthen effects by the Public Health Department during distribution and re-impregnation of bed nets. It was further recommended that the TBAs should be involved in health education, given that their motivation is high and they are trusted by the villagers. It should be pointed out that the aim of IEC is to effect positive behavior change in a sustainable way through the transmissions of knowledge by demonstration. IEC interventions are most effective in minority communities when used by people who are trusted and who speak the same language over a long period of time. A one off showing of a video dramatic event may have an immediate effect and in fact, but it must not be assumed that this will lead to behavior change in the long term (Bridget King, 2000)

Malaria knowledge was poor and only 48% associated malaria with mosquito bites. The perceived benefit of indoor residual spraying was associated to a reduction of

mosquitoes, a reduction in the numbers of cockroaches and rats, but only 3% associated it directly with the prevention of malaria transmission. Most villagers (97.6%) agreed with the indoor residual spraying of insecticides. Ninety nine percent (99%) of villagers had mosquito bednets, 75.7% used them all year round. Other measures used by villagers to prevent mosquito bites were smoke and mosquito coils. Above 40% of villagers self-medicated when any member of the family had a fever episode, but 51% attended proper health services (community dispensary, private physician, health worker). About 61% used pesticides for agricultural or livestock purposes and 55% applied them themselves. Women had a greater participation as family health promoters, with 70% of the housewives being in charge of the application of self-protection preventive measures. Educational programs aimed at increasing awareness on the participation of mosquitoes on malaria transmission could promote community participation in malaria control in the region. An advanced knowledge of the community beliefs and practices with respect to the disease in question is required to obtain and maintain its participation in surveillance and control activities. Accordingly, it is important to identify family members that are more sensitive and/or aware of the benefits that will accrue to the community from a vector control program. It is also necessary to understand who in the family is in charge of prophylactic activities, as this will help in directing health workers' efforts. The participation of women in malaria control has been noted, indicating a need to understand how women influence their environment, particularly the family habits, hygiene, and the interaction as a family unit with local health and education systems (Deressa et al., 2004).

2.2.1 Malaria-related knowledge among pregnant women

Malaria during pregnancy was reported by women in Kwamsisi and Kitifu villages to contribute to: stillbirths, death before or during child delivery, delivering a child with malaria and too much bleeding during and after delivery. However, malaria was commonly known among all FGD participants as a leading communicable disease. Anaemia in under-fives and pregnant women, fever, joint pains, fatigue, loss of appetite and general body malaise were reported by the majority of the participants to be prominent malaria-related conditions. Other conditions which they associated with malaria in pregnancy were swelling of legs, dizziness, high blood pressure/high heartbeats, abortion, dehydration, headache and vomiting. In Kwamsisi village persistent menstruation, even during pregnancy, was associated with malaria. The local terms for malaria were mixed, this partly being influenced by the ethnic language of the speakers. Some respondents interchangeably used the name *homa* to mean fever and this was exclusively attributed to malaria, whereas other respondents, particularly among people of the *Pare* and *Gweno* ethnic communities, used the term *itheng'u* to mean malaria (Mubyazi G. et al., 2005).

Malaria and anaemia were seen as important disease entities during pregnancy in our interviews. Moreover, most women interviewed were quite knowledgeable about effective malaria/anaemia prevention measures. However, compared to ANC users ANC non-users were significantly less knowledgeable about malaria/anaemia prevention measures. The interpretation is not straight forward because more knowledgeable women may be more likely to attend antenatal care or increased knowledge may be the result of

health education in antenatal care; most likely both effects contribute to the observed gap between ANC users and ANC non-users. And case management of malaria illness. What does a pregnant woman need to know about malaria?

She needs to know that pregnant women, especially, those in their first or second pregnancy or those who are HIV-positive are at higher risk of malaria. She needs to know that malaria is transmitted through mosquito bites so she can prevent mosquito bites. She needs to know that if malaria is untreated, it can cause severe anemia with some adverse consequences. She also needs to know that malaria can cause abortions, stillbirths and low birth weight newborns. She needs to hear the good news that malaria can be prevented through the use of intermittent preventive treatment with sulfadoxine-pyrimethamine (SP) and by sleeping under insecticide-treated nets. She needs to know that uncomplicated malaria can be easily treated, but when neglected it can progress to severe disease that requires expensive specialized treatment (Miaffo C. et al., 2004).

2.3 ATTITUDES, BELIEFS AND PRACTICES ON MALARIA IN PREGNANCY

Some Pregnant women are not taking steps to prevent or treat malaria because they may not be aware that the placenta can harbor malaria parasites without the women having any physical symptoms. They may not be aware of the seriousness of fever during pregnancy. They believe fever is a normal sign of pregnancy; sometimes they are not able to recognize the symptoms of malaria. They attribute low birth weight or miscarriages to witch craft or infidelity, not malaria. There is also the fear that chloroquine and SP are rather dangerous to pregnancy (John Hopkins Bloomberg School of Public Health center for communication programs, 2002).

Participants of FGD held in Kwamsisi village expressed dissatisfaction regarding the shortage of public health staff houses, which had necessitated the use of a building intended for ANC services as a residential house for health staff. The shortage of rooms for temporarily admitting pregnant women due for delivery seemed to be a strong concern among the majority of the discussion participants. As one indicated: *"When a pregnant woman comes to the clinic and finds that another woman is being attended to, she is told to go back and come the following day or later because there is no space or delivery bed to cater for an extra patient"*. She also stated that: *"We are sometimes rebuked by nurses as if we are young children"*. Other women expressed dissatisfaction with the way the current ANC service staff provide information about malaria to their clients. When probed further on this issue an FGD participant at Kwamsisi asserted: *"They address you as if you have come to beg for some money from them or as if they are forced to attend you at the clinic"*. Finally, staff shortages affecting the quality of services at ANC clinics and the long distances to ANC clinics affecting the accessibility of services were mentioned in the FGDs as major problems limiting the attendance of pregnant women to ANC clinics (Mubyazi G. et al., 2005).

2.4 QUALITY OF IEC SERVICES IN THE PREVENTION OF MALARIA IN PREGNANCY

For any program on malaria control during pregnancy to be successful, there must be a partnership between the providers of maternity services and malaria control staff. Antenatal clinic visits provide a unique opportunity to educate women about the effects of malaria on pregnancy and about what can be done to eliminate or minimize its adverse consequences. These interventions will include monitoring of maternal and fetal health,

provision of micronutrient supplementation to reduce the risk of anaemia, education on the benefits of using insecticide-treated nets, application of intermittent preventive treatment.

IEC does not only work in the area of demand creation; it also works on the “supply side” by improving the quality of services and as an “advocacy” tool for obtaining community support and political commitment. IEC can help improve services for instance, by:

- Training and motivating service providers in interpersonal and group communication skills.
- Changing the public’s perception of services.
- Assessing reasons why users are not attending service facilities or have discontinued practice.

Improving the quality of care in reproductive and family health services is an important, difficult, and long-term task. Yet it is essential in order to ensure full use of cost-effective preventive services and to maintain client confidence in curative services. From twenty years of experience and evidence, it is clear that the impact of quality improvement is greatest and more likely to be sustained when initiatives address both supply and demand.

(Heerey et al., 2003)

Participatory Approach - All the IEC country teams said that a participatory approach is a good method to develop IEC strategy and materials. It allows them to get to know the needs of their target population better. Involving the target population during the development process, including producing the materials, will help them to come up with

appropriate and friendly educational materials that can be utilized well in the communities. (RBM, 2004)

Information, Education and Communication-The section on information, education and communication (IEC) appears to be very well understood with regards to gathering of present information and development of key messages.

There is a process in place for the development of a National Communications in Health Strategy, including malaria, which is being supported by USAID/Zambia Integrated Health Programme (ZIHP) and WHO. We have seen from evaluations of some of the existing malaria control programmes that effective IEC is an integral component and should be intensified in the initial stages of a scale-up of RBM activities. There appears to be a relatively lack of materials, however, for malaria IEC this needs to be addressed. At the present time, many health workers are passing on outdated messages and there is often lack of consistency in the messages that are passed on, leading to confusion at the community level. The 'key messages' that have been developed are quite appropriate and cover all the important areas of malaria prevention and control. It is important to keep messages simple and short and this has been done. SFH should be encouraged to take the lead in the IEC area, drawing on their expertise in social marketing and the lessons learned in the implementation of the Eastern Province project. They have developed messages and materials in the course of this project and these can be used to reach the rural areas as much as possible. The potential collaboration with UNICEF in Kasama District is a step in the right direction. It is important to involve as many media as possible, including traditional media of songs, dances and drama to effectively communicate messages for behaviour change.

If Net Mark does indeed come in to Zambia in the new year, the malaria messages that are disseminated as a result of this programme will no doubt improve the general knowledge base in the country. Their impact, however, and their malaria/ITN messages will be felt more in the urban areas through mass media, and therefore more effort can be put into the rural IEC campaign by NMCC. It will be important to ensure that the Net Mark messages are consistent with the overall malaria messages that have been developed so that confusion does not result (Young et al., 2000).

Attention to the quality of care has been growing in the reproductive health field, and there have been significant efforts to define criteria and develop methodologies to assess the quality of maternal health services. Key determinants of quality include the technical competence of providers, their inter-personal skills, the availability of basic supplies and equipment, the quality of physical facilities and infrastructure, linkages to other health services and the existence of a functional referral system. High quality maternal health services must be part of a continuum of care that spans from the pre-pregnancy to the postpartum period, and in which women and health providers are partners in care.

High quality maternal health care can be provided in a variety of settings, and does not refer only to hospital-based treatment. High quality care must be assured in whatever environment maternal health care takes place: the home, rural or urban health centres, or well-equipped hospitals in large cities. In order to assure high quality, maternal health services should be evaluated at regular intervals, from both service provider and client perspectives, and improved as needed.

Good quality services are effective when qualified staff is working with adequate resources and other support, they are able to manage health problems more effectively, reducing deaths and chronic ill-health. In addition, when services are appreciated and valued by community members, they are more likely to be used on a timely basis, reducing the need for emergency interventions and helping to prevent the overburdening of referral facilities.

Good quality services improve staff morale and health workers are likely to have more positive attitudes toward their work and to perform better when they receive the support and resources they need to provide essential services, and when their work is valued by the community

Client-provider interactions: Many studies have found that health care workers often treat women in an insensitive manner, not paying adequate attention to their concerns and treating them rudely, particularly when they come late for treatment or do not comply with medical advice. Yet positive interactions between women and health care providers lead to client confidence and compliance. Many studies have found that poor women without formal education are most likely to be poorly treated by health care professionals.

Quality of care may be perceived differently by clients and providers, with providers anxious to ensure technical correctness whereas clients may be more concerned with issues such as birthing position and social support. The two approaches must be reconciled in the search for quality of care (WHO, 2000).

2.5 STRATEGIES FOR IMPROVING IEC PROGRAMMES

The following *strategies* are currently being adopted by the Cambodian Health Education department.

1. Health education on the day of distribution of bed nets.
2. Impart training to the community health centre staff on health education using pictorial material so that people are educated on preventing malaria, dengue, schistosomiasis and helminthiasis, through their own actions such as the use of impregnated bed nets and hammock net.
3. Contribute to the knowledge of health staff at health centres, Operational districts and volunteers on better understanding of malaria, dengue, schistosomiasis and helminthiasis prevention and control.
4. Facilitate collaboration between CNM and NGOs, Provincial Health departments, Operational Districts and Health Centres
5. Use of mass media through national TV, posters and leaflets
6. Research on health behaviour of the people which contributes to and confounds the malaria, dengue, schistosomiasis and helminthiasis problems in the country
7. Social marketing of hammock nets among forest-dependent risk groups all over the country; utilizing mass media and interpersonal communication channels for promoting the practice (Seshu Babu, 2004).

John Hopkins School of Public Health Center for Communication Programmes has also developed IEC strategies for prevention and control of malaria during pregnancy.

Creating a symbol that identifies providers and facilities offering correct information and services for malaria prevention and treatment for pregnant women. (This symbol can also identify sources of information and treatment for children under the age of five.

Building a sense of urgency among leaders and men and persuading them through radio, print and interpersonal channels to advocate for, support and provide the resources necessary to pregnant women for quality, focused antenatal care including intermittent – preventive treatment with an effective anti-malarial drug and use of an insecticide-treated net. Also, they should support prompt and proper treatment of pregnant women of fever.

Improving the quality of information and training provided to health care providers through effective dissemination of simplified treatment guidelines and job-aids.

Motivating pregnant women to seek IPT and use ITNs through group education sessions, radio, point of service materials and community- based interventions. (John Hopkins School of Public Health Centre for Communication Programme, 2002)

The provision of high-quality antenatal care is another strategy aimed at reducing the high risk of maternal mortality among African women and Perinatal mortality among their infants (WHO 1991). Although further efforts to find new or improved methods of promoting both maternal and infant health should continue, the fact remains that a package of antenatal services already exists which is not being delivered. For sub-Saharan Africa, this package includes providing effective anti-malaria. Understanding specific health problems, the necessary interventions, patient attitudes and behaviours,

and the ability of the ANC system to deliver interventions is essential to design and implement a successful antenatal care package. Data that identify opportunities for delivery of antenatal interventions, such as these presented here, should enable programs to better focus efforts at improved antenatal care. Program effectiveness can, in part, be judged by our ability to provide and women's choice to use these services. Application of current technology can decrease maternal and infant mortality through affordable, effective, and deliverable antenatal interventions — and pregnant women are accessing the health care system. We must seize the opportunity to improve the delivery of antenatal services lest we fail to reach women at the threshold of safe motherhood. Poor quality of healthcare services was reported to contribute to poor attendance of pregnant women at health facilities providing ANC services. (Mubyazi G. et al., 2005)

3.2 DATA COLLECTION TECHNIQUES AND TOOLS

Information on patient history was reviewed on the mother through "fish bone" search on ICD-9, and included in pregnancy, birth, reproductive and maternal history, and social history.

3.2.1 Quantitative Data

Quantitative data was obtained through use of a structured questionnaire and additional verbal interviews. Demographic characteristics and key study variables. The questionnaire was administered to the respondents. During data entry, the data was entered into a computer database. The data was then analyzed using SPSS software. The results were then presented in a report.

CHAPTER THREE

3.0 STUDY METHODS

3.1 RESEARCH METHODS AND DESIGN

A descriptive cross sectional survey was carried out to assess the effectiveness of Information, Education and Communication (IEC) strategies in the prevention of malaria in pregnancy in the Ejisu-Juaben District. Two hundred (200) pregnant women were selected from all the five (5) sub-district for interview. Four (4) focus group discussions (FGDs) and key informant interviews of three (3) health professionals in the district were also conducted.

3.2 DATA COLLECTION TECHNIQUES AND TOOLS

Information on related literature was reviewed on the internet through 'Pub med' search on IE&C and malaria in pregnancy. Both qualitative and quantitative methods were used to gather data for the study.

3.2.1 Quantitative Data

Quantitative data was obtained through the use of a structured questionnaire that addressed respondents' demographic characteristics and key study variables. The questions were administered to the respondents face-to face with the help of field assistance who were trained how to ask questions and interpret all the questions into respondents' local dialect (Twi).

3.2.2 Qualitative Data

Information on respondents was also collected through four (4) FGDs in four (4) communities; two (2) in rural setting and the other two (2) in a peri-urban setting within the district. A focus group discussion guide was employed to collect data during the focus group discussions. Two field assistants were trained as note-takers; they recorded all discussions with a tape recorder, cassette, notebook and a pen.

3.3 STUDY POPULATION

Pregnant women, mothers, husbands/fathers and health workers which included public health nurses and midwives in the district comprised the study population.

3.5 SAMPLING

Some respondents were selected through convenience sampling (pregnant women present at health facilities during the study). The respondents for the community-based component were selected through purposive sampling method. A sample size of 100 pregnant women was selected from various health facilities in the district and interviewed in person. Four FGDs with members of participants ranging between eight (8) and twelve (12) of both husbands/fathers were conducted. Two FGDs were made up of husbands/fathers and the other two were composed of women/midwives.

3.4 STUDY VARIABLES

Table 1.6 Key Study Variables

VARIABLE	INDICATOR	SCALE OF MEASUREMENT
Knowledge of malaria in pregnancy	Response to questions asked	ORDINAL 8-10 (Very high) 5- 7(High) 3-4 (Average) < 3 (Low)
Attitudes and beliefs of malaria in pregnancy	Response to questions asked	Nominal
Practices that contribute to control of malaria in pregnancies	The practices of pregnant women in relation to prevention and control of malaria.	Nominal
Quality of IEC services at ANC	Forms of service provided to pregnant women in relation to malaria.	ORDINAL Very good Good Satisfactory Poor

Source: Author, 2005

3.5 SAMPLING

Some respondents' were selected through convenience sampling (pregnant women present at facilities during the study). The respondents for the community-based component were selected through purposive sampling method. A sample size of two hundred (200) pregnant women was selected from across the district for interview on IEC and malaria in pregnancy. Four FGDs with number of participants ranging between eight (8) and twelve (12) in four communities were conducted. Two FGDs were made up of husband/fathers and the other two were composed of wives/mothers.

3.6 PRE-TESTING

Pre-testing of the questionnaire was done in two communities in the district together with field assistants. These two communities had similar settings as the study communities but were not selected as part of the study communities. Copies of the questionnaires, pencils and erasers were tools used in the pre-testing and appropriate corrections made.

3.7 DATA HANDLING

At the end of each day each questionnaire was crosschecked for completeness and internal consistency followed by storage in well-labelled files. During the interview, the process was monitored to ensure that research assistants adhered to the research procedures.

3.8 DATA ANALYSIS

The data was analysed by the use of Statistical Package for Social Scientist (SPSS) version eleven. Graphical representations and tables were done with Microsoft excel. The qualitative data was analysed using transcripts and were presented in prose.

3.9 ETHICAL CONSIDERATIONS

Permission was sought from the Regional Director of Health Services (Ashanti Region), District Director of Health Services, Ejisu-Juaben, the District Chief Executive – Ejisu-Juaben, and the Departments and Agencies concerned. Individuals who participated in the study gave their verbal consent after the study was explained to them. In all of this, strict confidentiality was observed.

3.10 LIMITATION OF STUDY

Some of the limitations were:

- Time constraints
- Financial constraints in relation to selection of sample size
- The data was not administered solely by the researcher
- The presence of the researcher in all situations could influence responses from respondents

3.11 ASSUMPTIONS

All the information collected from respondents was based on the assumptions that they were true and factually accurate.

CHAPTER FOUR

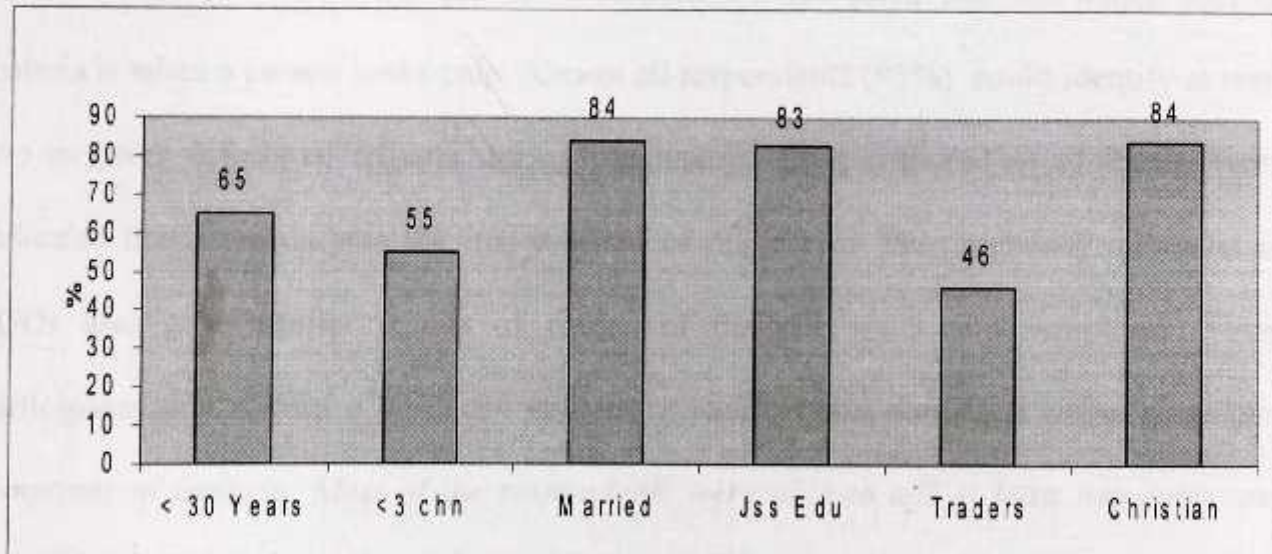
4.0 RESULTS

4.0 INTRODUCTION

This chapter shows the results of the interview of 200 women in the study area. The findings are organized according to the objectives of the study. The mean age of respondents was 27.25 with a SD of 6.09. More than sixty five per cent (65%) of interviewees were below the age of 30 years. The average number of children per woman was 2.53 (approx: 3 children) with a SD of 1.30. More than half (55%) of the women had at least two children. The highest level of education for the majority (83%) of respondents was Junior Secondary School. About four out of five (84%) were Christians and the same proportion (84%) was married. Trading was the major (46%) occupation among the women. Others were artisans (24%) and farmers (17%). Figure 4.1 illustrate a summary of the socio-economic background respondents.

4.1 BACKGROUND CHARACTERISTICS ON RESPONDENTS

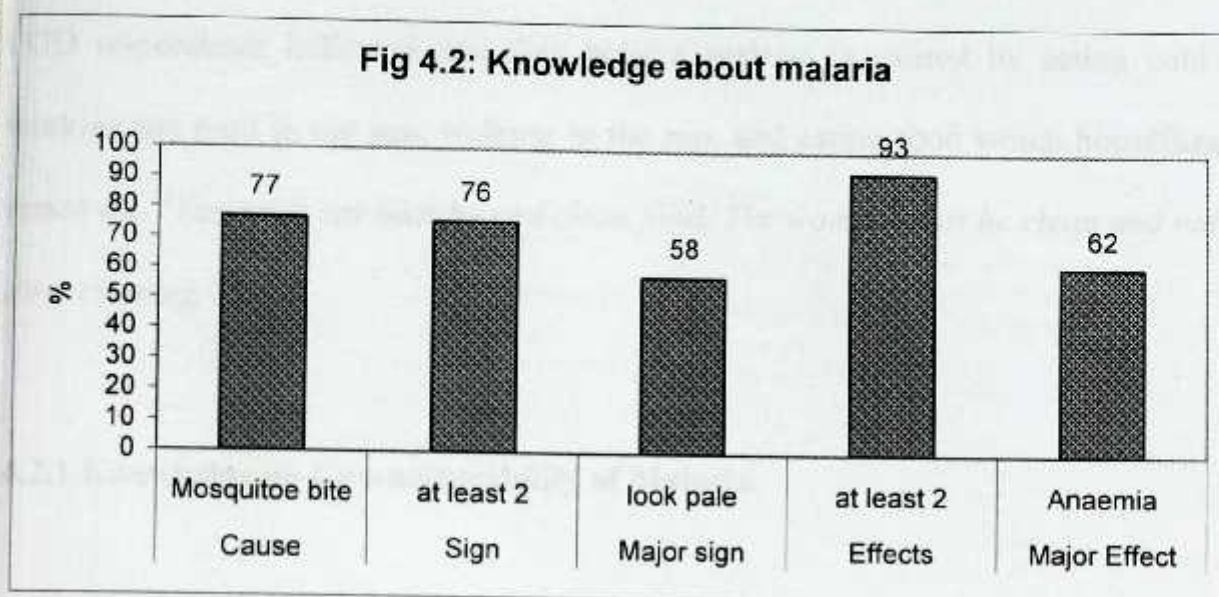
Fig. 4.1: Background Variables



Source: Author, 2005

4.2 KNOWLEDGE ON MALARIA IN PREGNANCY

Fig 4.2: Knowledge about malaria



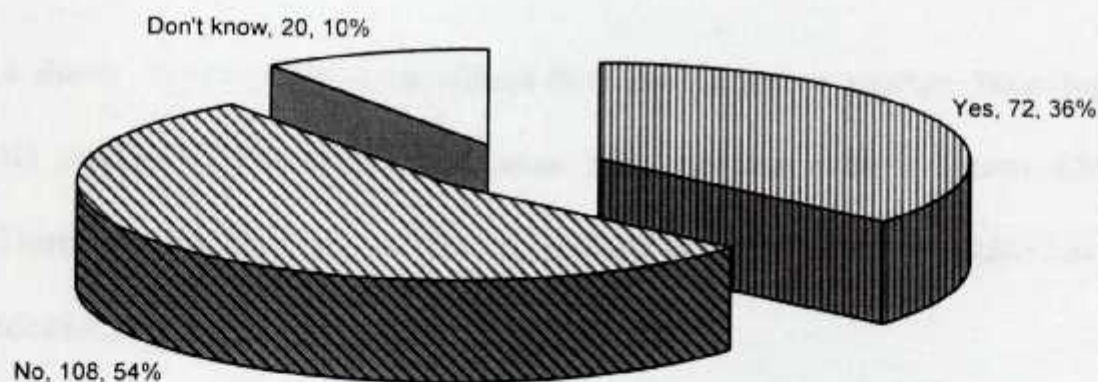
Source: Fieldwork, 2005

Figure 4.2 shows the level of knowledge of respondents in relations to the causes of malaria and whether they could recognize the signs and symptoms of the disease. While four out of five study participants (77%) knew that malaria is caused by mosquito bite, about the same percentage (76%) could mentioned at least two signs or symptom of malaria. Closer to three-fifth (58%) of respondents indicated that the major sign of malaria is when a person looks pale. Almost all respondents (93%) could identify at least two negative effects of malaria during pregnancy. Three-fifth (62%) of interviewees indicated that anaemia was the major effect of malaria on the pregnancy. Results of FGDs also gave similar results of causes of malaria, signs and symptoms. Some participants said: *"Here if you even get severe malaria you don't talk about sings and symptoms of malaria. Most of the respondents were able to tell at least two sings and*

symptom of malaria "She always has high body temperature which keeps recurring after treatment and she always complains that she is not well." A participant at Onwe said; "She has a hot body, dull eyes and no appetite." Talking about what causes malaria FGD respondents indicated that they believe malaria is caused by eating cold food, working too hard in the sun, walking in the sun, and eating food which houseflies have rested on. "You must eat healthy and clean food. The woman must be clean and not wear dirty clothing."

4.2.1 Knowledge on Communicability of Malaria

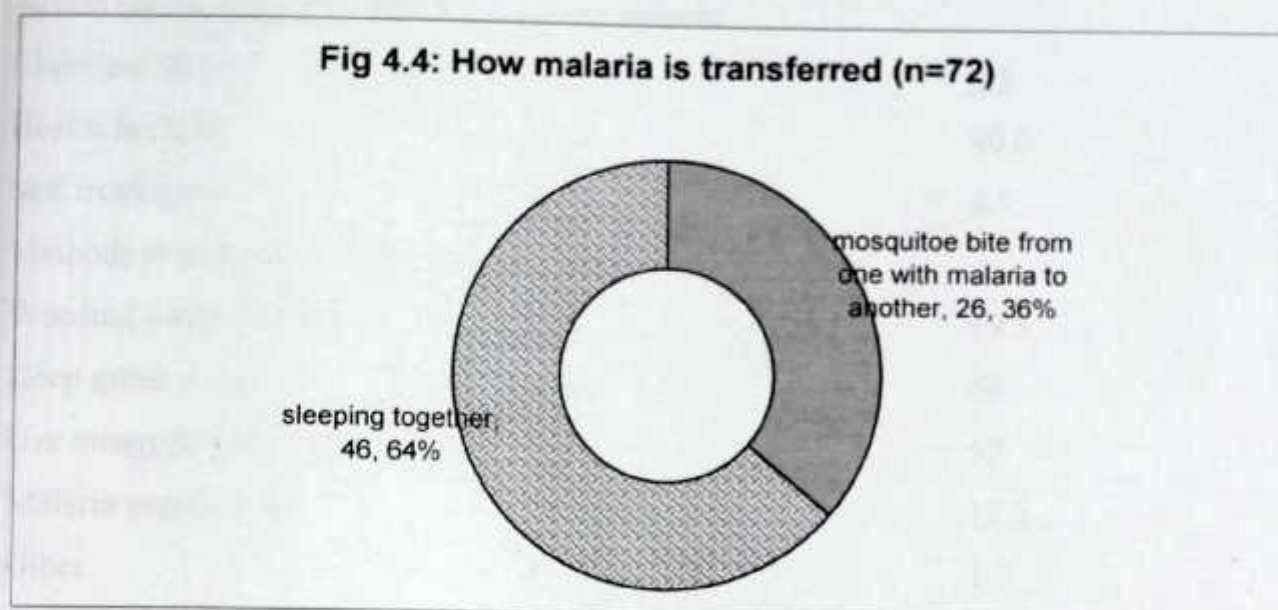
Fig 4.3: Communicability of malaria



Source: Fieldwork, 2005

Figure 4.3 shows the responses when respondents were asked whether malaria transmitted from one person to another or not. A little more than half (54%, (108/200)) of respondents said malaria was not communicable. The rest said malaria was

communicable. Ten per cent (10%) of the study women did not know whether malaria was communicable or not.



Source: Fieldwork, 2005

Figure 4.4 shows how malaria is transferred from one person to another. Sixty-four per cent (64%) mentioned that malaria is gotten from sleeping with a person who has malaria. Thirty-six (36%) of the women said malaria is gotten from mosquito bite from malaria infested person.

Table 4.1: Action Taken When Respondents Have Malaria and Knowledge about Preventive Methods of Malaria

Variables	Frequency	Percentage (%)
Action taking when one know he/she has malaria		
Chemical shop	11	5.5
Health facility	180	90.0
Self treatment	9	4.5
Methods to prevent malaria		
Weeding surroundings	139	69.5
Keep gutter clean	136	68
Use mosquitoes net, coils, sprays	104	52
Malaria prophylaxis	25	12.5
Other	3	1.5

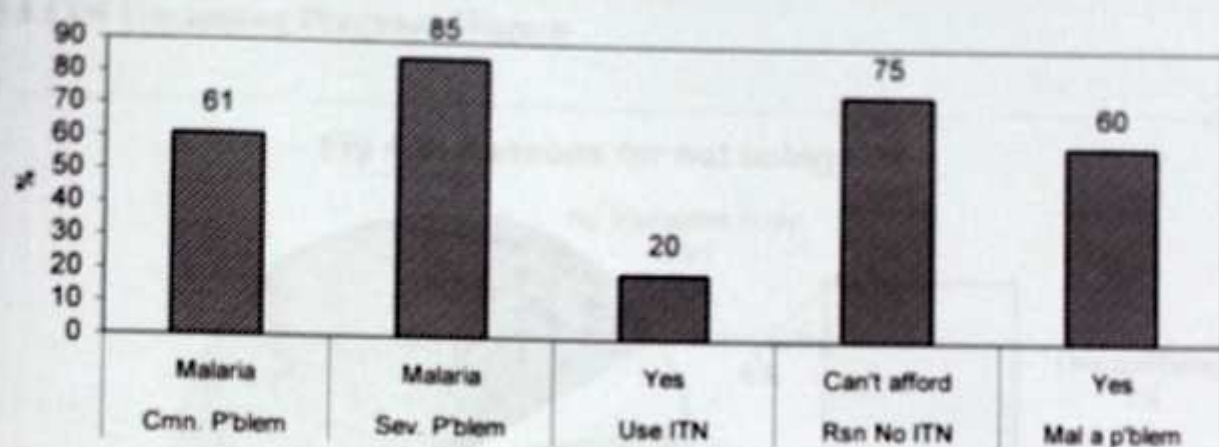
Source: Author, 2005

The Table above shows that majority (90%) of respondents visit health facility when they have malaria. About six percent (5.5%) go to a chemical shop and about five percent (4.5%) treat themselves at home.

About seventy percent (69.5%) of respondents mentioned that malaria could be prevented to a large extent if they weed their surroundings. Sixty eight percent 68% said malaria could be prevented if gutters are kept clean and not left choked. Half of the women (52%) said malaria could also be prevented by using mosquito nets, coils and sprays. Over twelfth (12.5%) respondents stated that malaria prophylaxis could be used.

4.3 BELIEFS, ATTITUDES AND PRACTICES ON SYMPTOMS AND PREVENTION OF MALARIA

Fig 4.5: Most Common and Severe health problem; Use of ITN; Reason for Non Usage of ITN; and Malaria a problem?

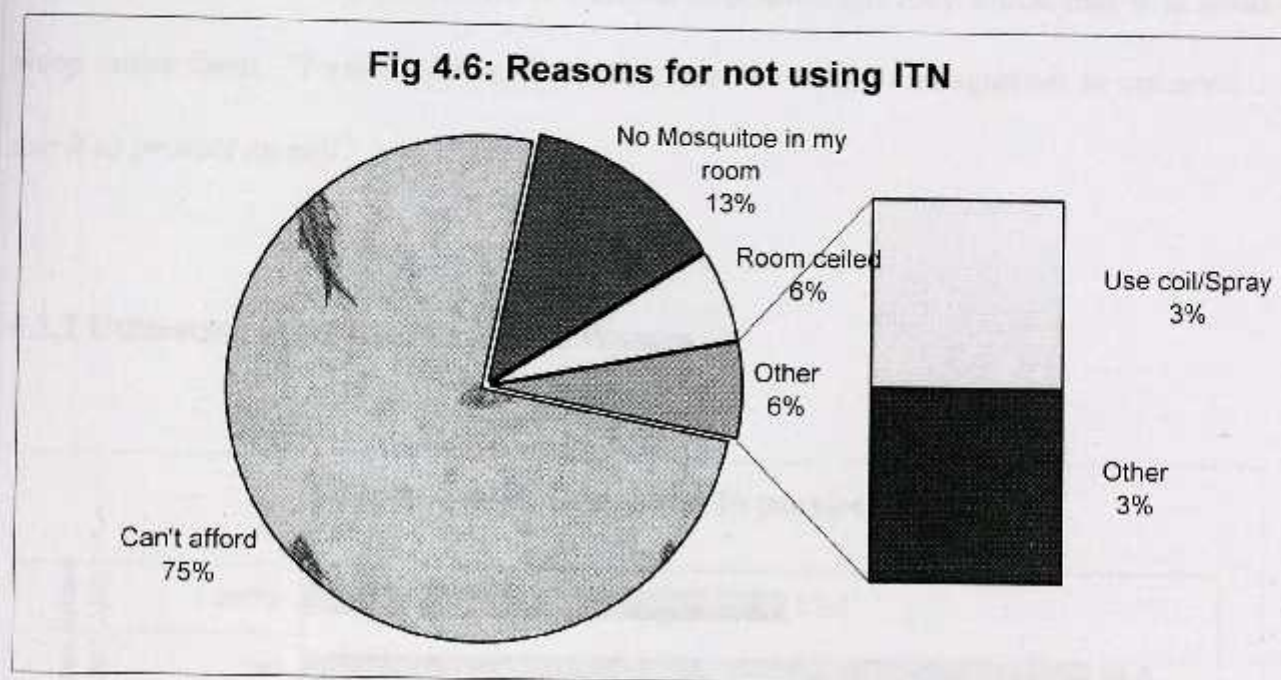


Source: Fieldwork, 2005

Figure 4.5 shows the beliefs attitudes and practices of participants. About two-thirds (61%) of the women acknowledged that malaria is one of the most common diseases in the district and four out of five (85%) of respondents said malaria was the severest of them all. On the usage of ITNs, twenty per cent (20%) of respondents reported that they were using ITN. Out of the (80%) who were not using ITN, seventy five percent (75%) indicated that they cannot afford it. However, three out of five (60%) reported that malaria is a major problem in the community. These were supported by responses from the qualitative survey. *"We are in a malaria endemic area so almost everybody suffers from malaria,"* Said a 35- year-old mother, during Key Informant Interview at Juaben. During Focus Group Discussions(FGDs) held with husbands in some communities, almost all the husbands mentioned malaria to be number one when it comes to illnesses that worry pregnant women in their communities. A Senior Public health nurse

mentioned that; “Malaria is quite endemic here and so whether the person is a pregnant woman or not, the person can get it. However, most of the pregnant women get malaria”.

4.3.1 ITN Use among Pregnant Women



Source: Fieldwork, 2005

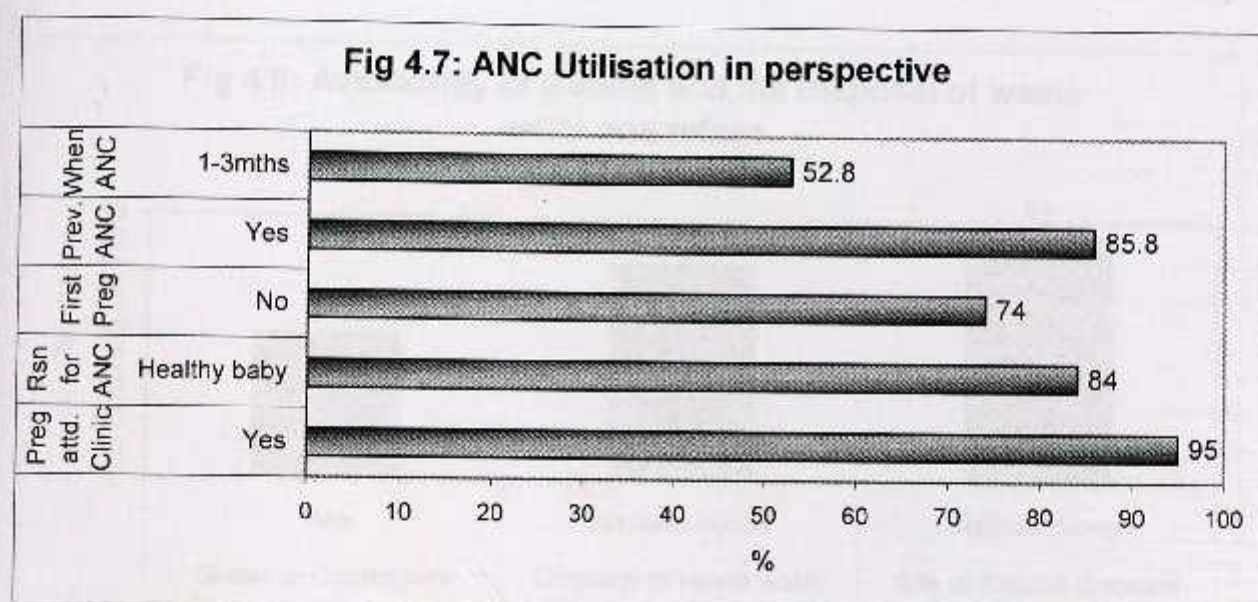
Figure 4.6 gives illustrations of reasons why some of the women do not use ITNs.

Thirteen per cent (13%) of the women did not sleep under mosquito nets because they believe there are no mosquitoes in their rooms. Sixteen per cent of (16%) believed that because their rooms had a ceiling they did not have a problem with mosquitoes thus there was no need to use mosquito nets. A negligible percentage (3%) used either a mosquito coil or a spray.

Results from the qualitative survey indicated that most of the participants and people in the community do not sleep under mosquito nets because they think the nets were expensive and should be highly subsidized and be made more available for them to buy

in their communities. *"I think they should reduce the price of the ITN and also make it available to us."* a female FGD participant in Juaben said. Some of the respondents also mentioned that they use mosquito coils. *"In the evening we don't open our doors and we use mosquito coil"*. Few of the respondents mentioned that they use mosquito nets and some reported that they just could not afford nets although they know that it is good to sleep under them. *"I use a bed net because there are a lot of mosquitoes in my area, so I use it to protect myself"*.

4.3.2 Utilisation of ANC of Pregnant Women



Source: Fieldwork, 2005

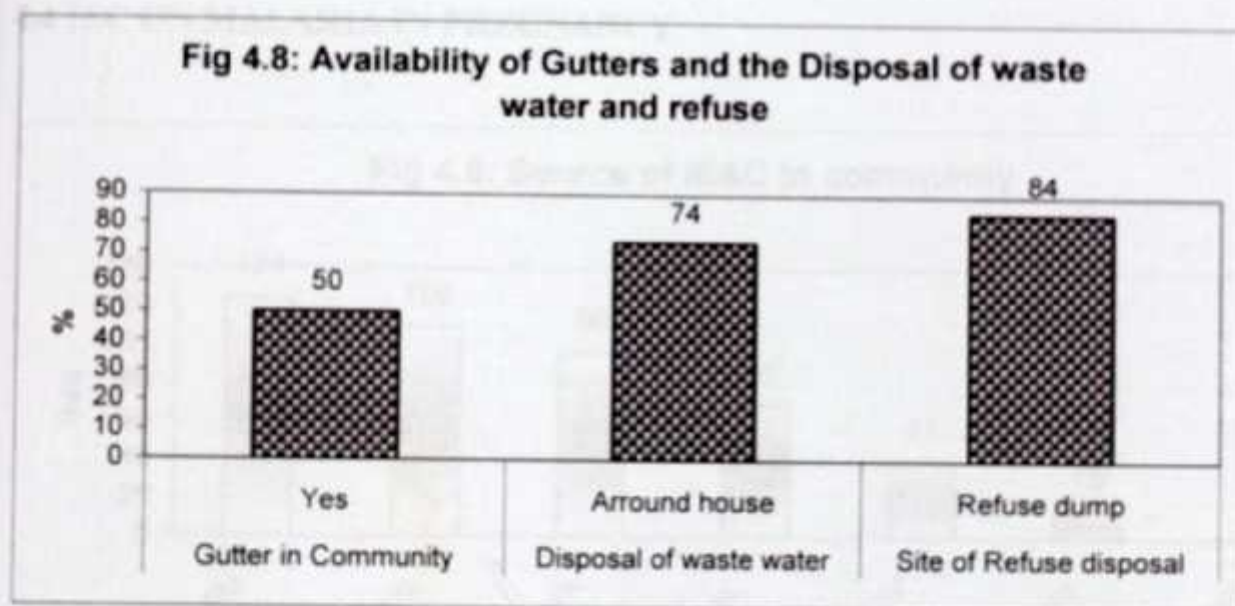
Almost all (95%) of respondents indicated that they believed that it is good for pregnant women to attend ANC. Again, four out of five participants (84%) reported that the practice of attending ANC during pregnancy was good for the health of the baby. Almost Twenty-six per cent (26%) of the respondents had had their first pregnancy. The rest (74%) were those who have had more than one pregnancy. An encouraging percentage

(85.8%) attended ANC and a little more than half of them (52.8%) attended ANC during the first trimester of pregnancy. The details are presented in figure 4.4.

Results from the qualitative component of the study revealed that almost all the women (95%) attended ANC for the good health of themselves and their babies.

'We attend clinic when we are sick to know how the baby is doing and also to protect the pregnant woman' They teach us how to sleep properly but when you are at home you will not know.'

4.3.3 Respondents' Attitude on Waste Disposal

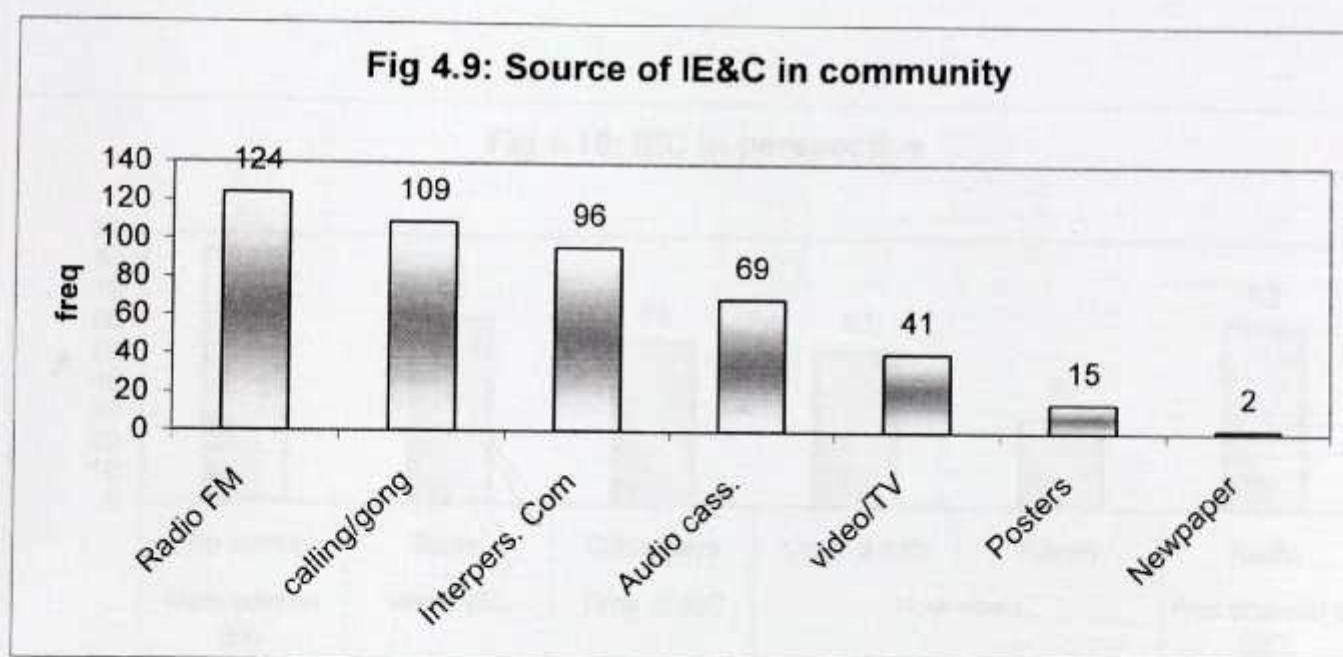


Source: Fieldwork, 2005

Figure 4.8 shows individual and community practices with regards to the disposal of waste in the Ejisu Juaben District. Half (50%) of the women had gutters in their community. Seventy four percent (74%) disposed waste water around the house. Majority (84%) of respondents dump refuse at designated sites for refuse disposal. Results of qualitative survey indicated that they have knowledge about how to prevent the breeding

of mosquitoes by keeping their environment clean. Focus group discussions held with husbands and fathers indicated that there are a lot of patches of water scattered in the community which might encourage the breeding of mosquitoes. They also mentioned that most of their gutters are not cemented thus impeding the free flow of water. *"We must clean gutters because our gutters disturb us a lot."* *"We need to cover the gutters and clean them frequently. We should cement the gutters so water can flow easily"*. Results of FGDs also indicated that sites for dumping rubbish were quite close and also very inadequate. This may also lead to breeding of mosquitoes since water collects into the empty cans." *Our rubbish dump is close by and it can also cause malaria."*

4.4 IEC ON MALARIA IN PREGNANCY

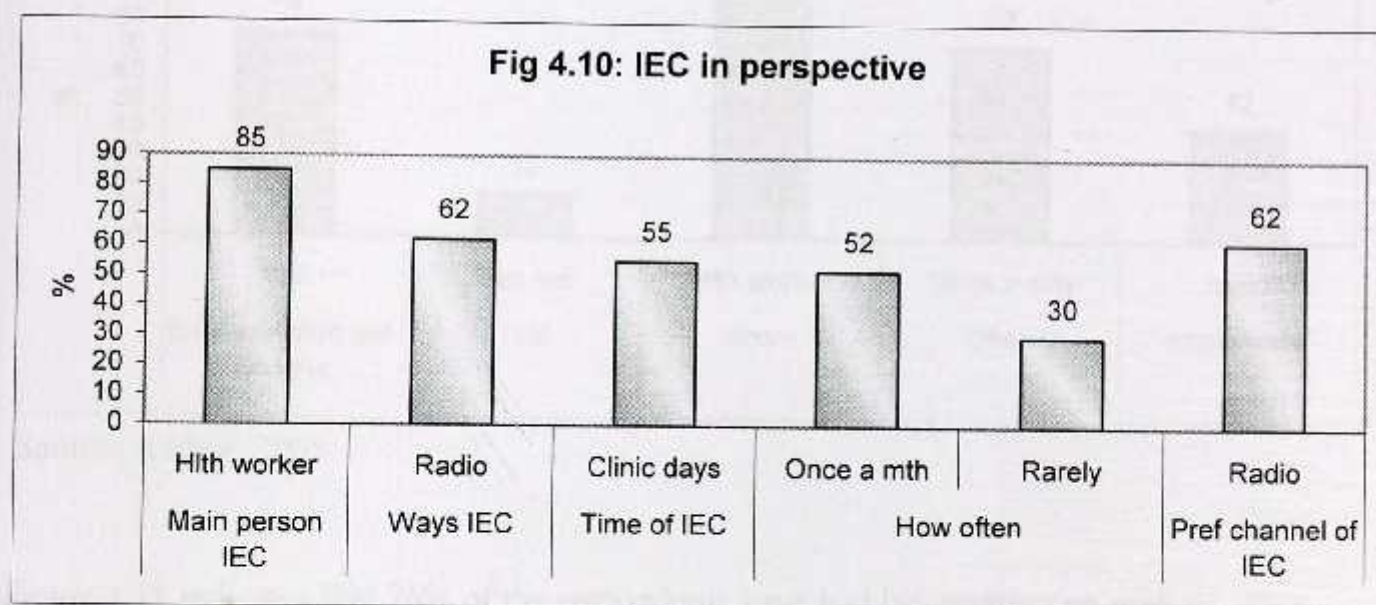


Source: Fieldwork, 2005

Figure 4.9 shows the sources of IEC on malaria in communities of the Ejisu Juaben District. Out of the 200 responses, 124 (62%) of the respondents said they get IEC messages from the various FM radio stations. One hundred and nine, representing 54.5%

of respondents reported that IEC messages get to them through traditional folk media such as the beating of a Gong- gong. Forty eight (48.0%) of respondents indicated that one source of IEC messages is through interpersonal communication mostly through provider-client interaction at ANC clinics. Sixty nine (34.5%) of the participants showed that small media such as the use of audio cassette recorders was a source of getting IEC messages to them. A few mentioned video or television, 41 (20.5%) and very few 15, (7.5%) mentioned posters. Most of the participants of the FGDs indicated that they often get their IEC messages from the radio stations, *"I often hear from the radio, which is the FM station. Mostly I get it from T.V, so we hear and see at the same time. ; At times programmes like Akan drama also help."*

Fig 4.10: IEC in perspective

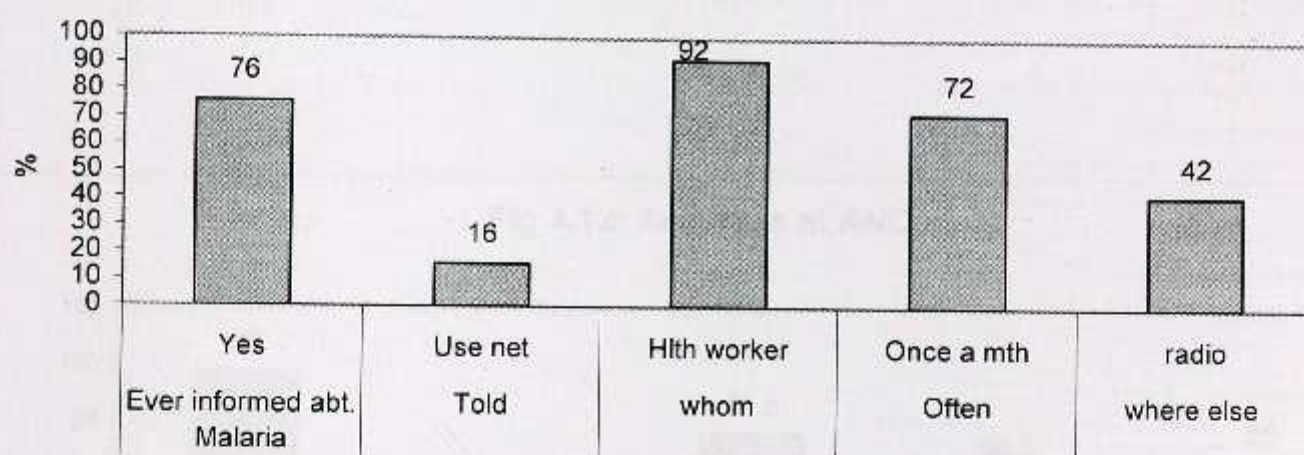


Source: Fieldwork, 2005

Majority (85%) of the women indicated that health personnel provide them messages on malaria. Over sixty percent (62%) of them said radio was the main medium of receiving

IEC messages in their communities. However, fifty five percent (55%) mentioned that clinic days are the main periods during which IEC messages were communicated. On how often messages are received, a little more than half, (52%) received IEC messages once in a month while almost one third (30%) rarely get access to these messages. The women preferred medium/channel of communication was radio, as evidenced in sixty two percent of the responses. A female participant at Krapa had this to say about their sources of information on malaria: *"Sometimes community health nurses give us information. Ministry of health sends agents between 6:30 and 7.00, to Capital Radio, Fox FM, Kessben and Hello F"*

Fig 4.11: IEC on Malaria in the community

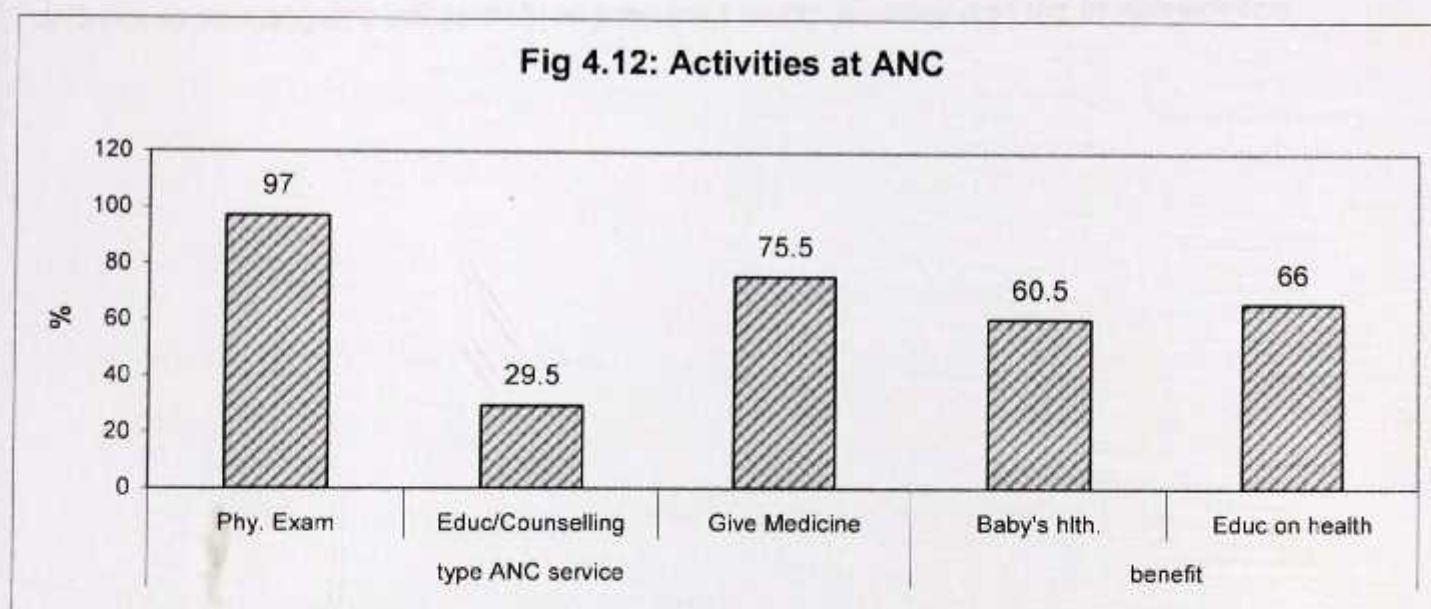


Source: Author, 2005

Figure 4.11 indicates that 76% of the respondents have had information on malaria. They have at least at one point or the other been educated on malaria. Sixteen percent (16%) of the respondents said they have been told something about the usage of the ITN. Almost all (92%) of the respondents were given IEC messages by a health worker. Talking about

how often they have access to IEC messages, majority of the study participants said once a month. Asked where else they get health information apart from the health facility and health workers during outreach programmes, forty-two per cent of (42%) mentioned radio as another means of getting information. Results of FGDs indicated that IEC activities in the community are not frequent. *"I hardly see health workers coming to give health talks so I think they should do it often."* *"Sometimes we see them once in a year"*, a male participant in Ejisu Zongo claimed. Key Informant Interview held with one of the senior public health nurses confirmed that *"In a year we may organize about two durbars. This is because we are understaffed. All the communities have been divided into zones and there are zonal heads which are in charge of the zones. Each head is to organize at least 1 durbar in a year."*

Fig 4.12: Activities at ANC



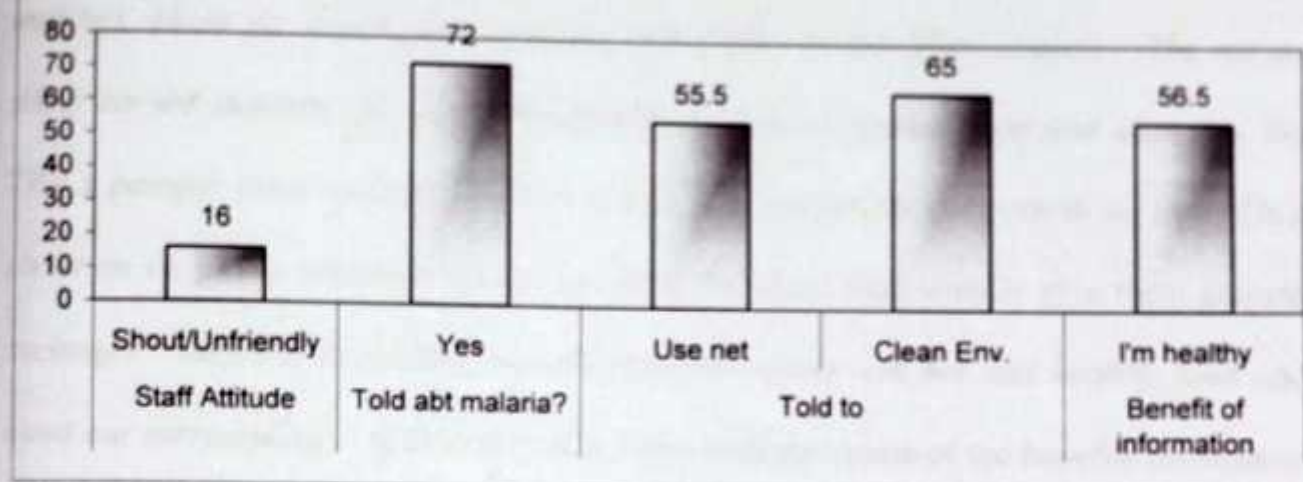
Source: Fieldwork, 2005

Figure 4.12 gives an illustration of the services and benefits they get when they attend ANC clinics. Almost all (97%) the women interviewed indicated that the main service

provided to them at antenatal clinics is, physical examination to find out how well they and their unborn babies were faring. About a third of the respondents (29.5) indicated that they were also educated and counselled. Three out of four respondents (75.5%) mentioned that they are given routine drugs such as folic acid and iron tablets and also treatment when necessary. Three-fifth (60.5%) of the women reported that one of the benefits they get from the clinic is that they know whether their babies were healthy or not and this helps for appropriate action to be taken when the need arises. Two-thirds (66%) of the women also said they benefit from the health education given to them when they attend clinics. During focus group discussions majority of the participants were of the view that *nurses in the clinic examine us to see how the baby is lying and they give blood where necessary. They measured my belly and said the baby was small so they want to give me blood. They gave me medicine; they take care of us and counsel us. They tell us what to eat so we and our baby will be healthy. They tell us what to bring for delivery so you prepare adequately so you don't worry yourself and the health workers.*

4.5 QUALITY OF IEC ON MALARIA IN PREGNANCY AT ANC

Fig 13: Quality of Malaria IEC at ANC



Source: Fieldwork, 2005

On health care provider attitudes that discourage women from using ANC, sixteen percent (16%) of respondents indicated that providers shouting at them or being unfriendly deter them from accessing the service. About two-thirds (72%) of respondents reported that they are told about malaria during clinic visits, while twenty eight percent indicated that they were not told. More than half (55%) of the women who used ANC were told to use bed nets and almost two-thirds (65%) said they were told to keep their environments clean. More than half of (56.5%) participants said that IEC messages had made them healthy.

Asked about the attitude of health workers some of the respondents said it was okay and some said the health workers are sometimes unfriendly and hostile to them. FGDs among the husbands/fathers indicated that sometimes the nurses are justified." *Some of the pregnant women do not keep their appointments so when they go later the nurses*

Shout on them. " You have to be clean and shave so if the nurses realize they are not neat then they shout on them, I think they are right but some of the nurses are not patient

Apart from 200,000 cedis, the women have to buy antiseptics, soap etc. " As for me my wife gave birth to twins, I was asked to pay 90,000 cedis per child, buy kerosene, matches, blade etc which they collected money for, at the Ejisu council." The nurses shout on the patients too much. Sometimes the nurses ignore them and chat, but the TBA's pamper them and talk to them gently. The nurses do not receive us well .They shout on us. FGDs indicated when they go to the clinic they usually give them general messages." they tell us to keep our environments clean, eat hot and healthy food and weed our surroundings" qualitative survey also indicated some of the benefits the women get from attending ANC. "We are sure about us and our babies" Contrary to the results gotten from the quantitative survey very few of the respondents of the respondents of the FGDs mentioned malaria as one of the things they were educated on at ANC most of them mentioned diet. The senior public health nurse mentioned that they educate them on all that they need to know." We cover almost every topic. There are topics written in the antenatal book and we go according to them. We tell them how to keep their surroundings clean and weed their surroundings to prevent mosquitoes, we tell them to sleep under mosquito nets"

CHAPTER FIVE

5.0 DISCUSSIONS

5.0 KNOWLEDGE ON MALARIA IN PREGNANCY.

Majority of the women (77%) knew the causes of malaria, symptoms (76%) and effects of malaria in pregnancy (93%). This shows a high level of knowledge of malaria among pregnant women. Most women had a good knowledge on how malaria could be prevented. About 70% said malaria can be prevented by cleaning our environment. Similar findings from a study conducted in rural Burkina Faso showed that most women interviewed were quite knowledgeable about effective malaria prevention measures (Miaffo et al., 2004).

Ownership of ITN was low, only twenty per cent (20%) of respondents had bed nets. But studies elsewhere indicated a high possession of ITN (99%) (Deressa et.al., 2004). Out of the eighty percent (80%) who were not using ITN, seventy five percent (75%) indicated that they cannot afford it. Results from qualitative survey indicated that most of the people do not sleep under mosquito nets because they think they are expensive recommended that bed nets should be highly subsidized and should be made readily available *"I think they should reduce the price of the ITNs and also make it available to us."* Some of the respondents also mentioned that they use mosquito coil *in the evening, we don't open our doors and we use mosquito coils.* Few of the respondents mentioned that they use mosquito nets and some admitted they just could not afford it although they

know that it is good sleep under the nets. *"I use a bed net because there are a lot of mosquitoes in my area, so I use it to protect myself" expensive."*

Focus group discussions and key informant interviews revealed that almost all the pregnant women and husbands/fathers had a good knowledge about malaria in pregnancy. Data collected from structured questionnaire, FGDs and key informant interviews indicated that malaria is the commonest health problem in the district. Three-fifth of the responses (62%) indicated that malaria topped the charts and was the common problem that affected pregnant women. A qualitative study using focus group discussions in the Korogwe District of North Eastern Tanzania also revealed that malaria was commonly known among participants as a leading communicable disease (Mubyazi et al., 2005). However, a study into the knowledge, attitude and practices of malaria in Butajira District in southern Ethiopia recorded that malaria knowledge was poor and only about half (48%) of respondents associated malaria with mosquito bites (Deressa et al., 2004).

An in-depth interview with a public health nurse in the district revealed that malaria was indeed a major problem in the area; *"Malaria is quiet endemic here and whether the person is pregnant or not she can get it"*. The results also indicated that malaria was the severest illness reported in the district.

Study participants in the district generally recognized malaria and had some sense of what to do when they and their children have malaria. However, there were a few who could not even tell what causes malaria. Some men interviewed said their gutters must be cemented so that water can pass through easily. They also recommended that, the gutters must be covered.

5.1 BELIEFS, ATTITUDES AND PRACTICES OF HEALTH WORKERS TOWARD PREGNANT WOMEN.

On provider attitudes that discourage women from using ANC, sixteen per cent (16%) of respondents indicated that, hostile or unfriendly attitude of health providers was a deterrent to accessing the service. Participants of FGDs held in Kwamsisi village corroborated the findings of the survey that unfriendly provider behaviours did not promote clinic attendance: *"When a pregnant woman comes to the clinic and finds that another woman is being attended to, she is told to go back and come the following day or later because there is no space or delivery bed to cater for an extra patient"*. She also stated that: *"We are sometimes rebuked by nurses as if we are young children"*. Other women expressed dissatisfaction with the way the current ANC service staff provide information about malaria to their clients. When probed further on this issue an FGD participant at Kwamsisi asserted: *"They address you as if you have come to beg for some money from them or as if they are forced to attend to you at the clinic"*. (Mubyazi et al., 2005)

Talking about the attitude of the health workers some of the respondents said it was okay, and some said the health workers were sometimes unfriendly and hostile to them. FGDs among the husbands/fathers indicated that sometimes the nurses are justified." *Some of the pregnant women do not keep their appointments so when they go later the nurses shout on them."* *You have to be clean and shave so if the nurses realize they are not neat then they shout on them, I think they are right but some of the nurses are not patient* *Apart from 200,000 cedis, the women have to buy antiseptics, soap etc."* *"As for me my wife gave birth to twins, I was asked to pay 90,000 cedis per child, buy kerosene,*

matches, blade etc which they collected money for, at the Ejisu council." The nurses shout on the patients too much. Sometimes the nurses ignore them and chat, but the TBA's pamper them and talk to them gently. The nurses do not receive us well. They shout on us. Health care workers were likely to treat women in an insensitive manner, not paying adequate attention to their concerns and treating them rudely, particularly when they come late for treatment or do not comply with medical advice (WHO, 2002).

5.2 INFORMATION, EDUCATION AND COMMUNICATION ON MALARIA IN PREGNANCY

More than half (55%) of the women who used ANC were told to Use bed nets and keep their environment. Again more than half (56.5%) of respondents reported that IEC messages had made a positive impact on their health.

It is worth noting that three of five (62%) of respondents mentioned that one of their sources of health information was from the radio. A similar study that looked into the knowledge and practices on malaria among community members in Zimbabwe showed that information about malaria mainly came from health workers (72.9%), radio (44.0%), television (37.5%), teachers (25.0%) and village community workers (10.0%) (Tsuyouka et. al, 2001).

Also, findings of the study indicated that a little more than half (52%) of the women receive IEC messages once a month and that happens to be the time they attend ANC. Thirty percent said they rarely received IEC messages. During FGDs most of the participants both men and women said they hardly get health workers coming over to give them health talks. They stated that they only see health vans and cars coming around

to make announcements on polio immunization. During a focus group discussion with selected men in Asawase community in the Ejisu sub district, one man said;” *If it is not polio I don't really see them here, it is only once they came here to talk to us about T.B and malaria.*

During an interview with a public health nurse, she mentioned that; *they do not often give health talks in the communities because they are understaffed, and that all the communities have been divided into zones with zonal heads in charge of the zones. Each head is therefore to organize at least a durbar in the year. The senior public health nurse also indicated that the pregnant women are always given education but they will not listen to what they tell them.*

5.3 QUALITY OF IEC SERVICE IN THE PREVENTION OF MALARIA IN PREGNANCY.

The responses from both the quantitative and qualitative data showed that most of the pregnant women get routine examination, routine drugs and health education when they attend ANC. Almost all the respondents (95%) believed that it is good and important for pregnant women to attend ANC. They contend that it would help expectant mothers to know the progress of their pregnancies. Majority of pregnant women (90%) reported that they visited a health facility when they had malaria.

During the FGDs, respondents gave their reasons for attending ANC as that, ANC visits would ensure them and their babies' good health and also provide them protection against diseases.

ANC attendance was very high (86%) among pregnant women and three out of five (63%) of them were likely to attend ANC in their first trimester. This gives an indication that pregnant women in the district were utilizing ANC services and knew of its importance.

Unfortunately, a high percentage of these women (90%) said that they only visit the health facility when they feel they are not well. Almost all respondents (97%) said that they were not given enough education on malaria at the ANC and only go through physical examination. Results from FGDs revealed that health education in the community is not frequent. *"I hardly see health workers coming to give health talks so I think they should do it often."* *"Sometimes we see them once in a year."*

Key Informant Interview with a public health nurse in the district confirmed the results from both the quantitative and qualitative data; that health education activity in the district was inadequate. *What has been done is not enough. Our problem is inadequate staff. For instance, last two weeks I was unavailable and there was no one around except for the ward assistant and she was the one who was handling everything. And this is not right. The other nurses also go to their place of work and only come in the evenings. The ideal situation should have been we going into the communities, at least once a month or quarterly. Because they are laymen and when you tell them today when you come back tomorrow they've already forgotten. So we need to keep on hammering the same message over again, but who is going to do that? We do it once, twice and another thing comes up. The issue of staff shortage is definitely affecting our performance.* Findings from the Korogwe district in North Eastern Tanzania supports the view that health workers shortages affect the quality of services at ANC clinics, besides the long distances that clients had to travel to get to ANC clinics (Mubyazi et al., 2005).

Two-thirds (66%) of respondents acknowledged that education on health issues given to them at ANC was very beneficial to their health. Responses from some elderly women indicated that they did not believe in trying to prevent malaria because according to them, malaria cannot be prevented since we cannot totally eradicate the mosquitoes.

The results showed that 13% of the women did not sleep in mosquito bed nets because they believe that there are no mosquitoes in their rooms. A few women (6%) were likely to believe that when a room is ceiled, mosquitoes cannot enter it

FGDs indicated when they go to the clinic they usually give them general messages.”
they tell us to keep our environments clean, eat hot and healthy food and weed our surroundings

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.0 CONCLUSIONS

Based on the results of the study, the following conclusions were drawn;

There was high knowledge of malaria in pregnancy (77%) and its effect on the unborn baby. Besides, ninety percent of the respondents mentioned that they visit the health facility when they have malaria.

Community members weed their surroundings as one of the ways of reducing the incidence of malaria apart from keeping their gutters clean, sleeping under mosquito nets, using insecticide sprays, coils and prophylactic medicine. In spite of all these, it was observed that, although they had knowledge about how to prevent malaria in pregnancy their surroundings did not reflect it.

Most of the participants of the FGDs indicated that they often get their IEC messages from radio stations, *"I often hear mine from the radio."*

Effectiveness of IEC strategies

On recall of key messages given at health talks, about 30% of the respondents could recall that they were given health education talks. And results from IDI with health workers indicated that health education activities in the communities were irregular.

The results of qualitative data indicated that IEC activities in the district are not frequent. Most of the respondents indicated that IEC in the community is given as once or twice a week in a year.

The study revealed that IEC campaigns are held at the antenatal clinics. Although knowledge about malaria in pregnancy was high, ITN use by study women was low (20%).

Information, Education & Communication (IEC) strategies for the control of malaria in pregnancy was weak and ineffective. ITN use and environmental control of malaria did not reflect the knowledge they had on ways of preventing malaria. Radio was the preferred channel of receiving health messages.

6.1 RECCOMENDATIONS

6.1.1 IMPROVING IEC STRATEGIES

To the Ghana health service (national level):

1. Health education should not be the preserve of only the RCH staff. There is the need for the Ghana Health Service to continuously organise in-service training for all staff who deal with pregnant women. IEC messages should also target health care providers, particularly in settings that are introducing new policies. Compliance of pregnant women and the general public with the new policy will depend on the change in behaviour of the health personnel.
2. Appropriate information, education and communication (IEC) strategies and programmes need to be developed to create messages for women and the general

public to educate them about the burden of malaria infection during pregnancy and the appropriate prevention and control measures that pregnant women should expect to receive under care. Emphasis should be given to effective communication between service delivery staff and pregnant women in order to enhance compliance with control measures among women and families at risk of malaria.

3. At the national level, programme managers need to develop policies, standards, and guidelines; to advocate for financial support; to develop and disseminate information, education and communication (IEC) materials on malaria; to facilitate training, and to strengthen support supervision, and monitoring and evaluation.

6.1.3 District Health Management Team (DHMT)

There is the need for DHMT to consider a district-wide review of IEC activities. IEC activities in the district should be intensified and more frequent

Health workers should make effective use of IEC materials. The health workers should take advantage of the high ANC attendance and use of ANC clinics for effective education

6.2.1 INTERSECTORAL COLLABORATION

The media, Ghana Education Service, Information Service Department should partner with the DHMT and communities in carrying out health education programmes.

Well planned and professionally designed mass media and enter-educate materials can achieve remarkable results raising awareness, increasing knowledge, changing attitudes including the use of ITN.

6.2.3 Non Governmental Organizations

Non-Governmental Organizations (NGOs) and International Organizations like UNICEF and WHO should also give priority to behaviour change projects and research to make IEC effective. What can we do at different levels of healthcare delivery in the country in order to move the agenda of malaria control during pregnancy forward?

6.3.1 HEALTH EDUCATION

6.3.1 DHMT

1. At the district level, district teams need to operationalize all guidelines and support supervision systems; provide proper logistics for drugs; sensitize the public about the importance of malaria control during pregnancy and promote the use of insecticide-treated nets

2. At the facility level, an integrated health education system must be developed which addresses malaria by mobilizing the community about malaria control measures, encouraging increased utilization of health facilities, promoting the use of insecticide-treated nets, providing SP in antenatal clinics, ensuring prompt and adequate treatment of clinical cases of malaria, ensuring proper data collection, and surveying patient satisfaction for quality improvement.
3. The district should put mechanisms in place to see to it that the RBM goal in the prevention of malaria in pregnancy will come to fruition in the district by providing insecticide-treated nets and IPT- SP to all pregnant women .
4. Finally, at the community level, community health workers and traditional birth attendants need to help sensitize the community about malaria control and conduct home visits to follow up with those who have been treated in the facilities in order to ensure compliance with recommended antimalarials medication.

REFERENCES

- Brown, E., Montavy, C., Rattana, H., and Bundet, S. (2002). Health beliefs and practices with regards to malaria in ethnic minority communities in North-East Cambodia. *Trop. Med Int Health*, Vol. 11(8):1166
- Deressa, Wakgari., Ali, Ahmed and Enquoselassie, Fikre. (2003). *Knowledge, Attitude and Practice About Malaria, the Mosquito and Antimalarial Drugs in a Rural Community. Ethiopian Journal of Health Development*, Vol. 17(2):99-104
- Ghana Health Services.** (2001). Roll Back Malaria Baseline Survey 2001. Accra, Ghana Health Service.
- Hencher, Kate** (2002); Pilot Strategy Development Project for malaria Information, Education and Communication (IEC)
- Johns Hopkins University (JHU) Bloomberg School of Public Health, Center for Communication Programs. (2000). "Illustrative Communications Strategy for Prevention and Control of Malaria During Pregnancy." Baltimore, MD: JHU
- King B** (2000). information, education, communication
- King B.** (2002) - IEC Implementation and results, Reports submitted to DFID
- Miaffo, M. C., Some, F., Kouyate, B., Jahn, A., Mueller, O.** (2004). Malaria and anaemia prevention in pregnant women of rural Burkina Faso. *BMC Pregnancy and Childbirth* Volume 4(18)
- Mubyazi G, Bloch P, Kamugisha M, Kitua A, Ijumba J** (2005) Intermittent preventive treatment of malaria during pregnancy: a qualitative study of knowledge attitudes and practices of district health managers, antenatal care staff and pregnant women in Korogwe District North Eastern Tanzania. *Malaria Journal*, Vol.4(31).
- Piotrow, P. T., Rimon, J.G. II, Payne Merritt, A., & Saffitz, G. (2003). *Advancing Health Communication: The PCS Experience in the Field*. Center Publication 103. Baltimore: Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs.
- Roll Back Malaria /Ghana Health Service.** (2004). Progress Report on Roll Back Malaria Strategies in Ghana. Accra, Ministry of Health/Ghana Health Service

Roll Back Malaria, MEASURE *Evaluation*, World Health Organization and UNICEF. (2004). Guidelines for Core Population Coverage Indicators for Roll Back Malaria: To Be Obtained from Household Surveys. MEASURE *Evaluation*: Calverton, Maryland.

Seshu Babu, V.V.R (2003) Behaviour Change Communication Strategies for malaria control in Cambodia.

UNFPA. (1993). *Developing IEC Strategies for Population Programmes*, Technical Paper Number 1. New York, UNFPA

World Health Organization. (2004). A Strategic Framework for Malaria Prevention and Control During Pregnancy in the African Region. Brazzaville: WHO Regional Office for Africa, AFR/MAL/04/01.

APPENDICES

APPENDIX: 1 - QUESTIONNAIRE

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF COMMUNITY HEALTH
IEC TO PREVENT AND CONTROL MALARIA IN PREGNANCY
INTERVIEW GUIDE FOR WOMEN OF REPRODUCTIVE AGE

A. IDENTIFICATION

Questionnaire code:

Date of interview:

Name of community:

House No:

B. BACKGROUND INFORMATION ON RESPONDENT:

1. Sex: Male/female Age.....

2. Occupation: a. Farmer [] b. Artisan []
c. trader [] d. house wife []

3. Number of children :[]

4. Marital status: a. Married [] b. Single []
c. Divorced [] d. Widow []

5. Educational Level: a. None [] b. Primary []
c. Middle/JSS [] d. Secondary/higher []

6. Religion: a. Traditional ☐ b. Christian ☐ c. Moslem ☐ Pagan ☐

C. BELIEFS, ATTITUDES AND PRACTICES

7a. What are the common diseases among pregnant women in this community?

a. Malaria [] b. Anacmia [] c. Fevers [] d. diarrhea []

Others(specify)

b. Which one of them do you think is more severe.....

8. Do you sleep under a mosquito insecticide treated net? 1. Yes [] 2.No[]

If no why don't you sleep under one?

9a. Do you consider malaria /fever a problem in this community?

1.Yes 2.No 3. Don't know

b. If yes why do you say so

10. Do you think pregnant women should attend clinic?

1.Yes 2.No 3.Don't know

If yes

why?.....

If no

why?.....

If yes why do you sleep under one?

11. Is this your first pregnancy? 1.Yes[] 2.No[]

12. If no, did you attend antenatal clinic during your last pregnancy? Yes[] No[]

13. At what time of your pregnancy did you first attend clinic?

a. 1st - 3rd month [] b. 7th - 9th []

c. 4th - 6th [] d. Don't know[] e.others[]

14.Do you have gutters in this community? 1.Yes 2.No

15. How do you dispose of waste water?

16. Where do you dump refuse ?

D. KNOWLEDGE LEVEL

17. What causes malaria ? a. mosquito bite [] b. walking in the sun [] c. working too hard [] d. eating unhygienic food e. not keeping the environment clean [] others(specify)

18. How do you know a pregnant woman has malaria?

a. looks pale [] b. Hot body [] c. body pains [] d. weakness []
e. loss of appetite []

19. what are some of the effects of malaria if a pregnant woman is not treated early?

a. Anaemia [] b. Still birth [] c. abortion [] d. Premature delivery e. small baby []
f. Don't know? [] g. Others(specify)

20a. Can malaria be transferred from one person to another? Yes/No

b. If yes, how is malaria spread from one person to the other?

a. sleeping together [] b. sleeping together []
c. mosquito bite from one with malaria and to another []

21a. Can malaria lead to other illness? 1. Yes [] 2. No [] 3. Don't know []

b. If yes what other illness does malaria lead to (complications)

22. What will you do if you develop a fever/malaria? a. Chemical shop [] b. Drug pedler [] c. Health facility [] d. Traditional Birth Attendant [] e. Herbalist [] f. Self treatment []

23. Are there things we do that increase the incidence of malaria?

24. How can malaria be prevented?

a. weeding surroundings [] b. Keep gutters clean [] c. Use of mosquito net, coils, sprays [] d. burning of herbs e. Malaria prophylaxis [] f. Other specify []

E. IEC

25. What are the usual ways of getting information in this community?

- a. Posters[] b. Interpersonal communication[] c. Calling /beating gong gong[]
d. Video/television/film[] e. Audio cassettes/mobile van[] f. Newspapers[] g. local drama[]
g. Radio/FM Others(specify).....

26. Who is the main person who gives health information?

- a. Health worker[] b. Drug peddler/chemical seller[] c. Herbalist d. mobile van operator[]
e. spiritualist[] f. TBA[] g. CBA/VHW[]
Others(specify).....

27. When is the information provided?

- a. Clinic days/CWC[] b. Community durbars[] c. Communal labour days[] d. Market
e. Home visits[] f. CBA consultation[] g. Others(specify)[]

28. How often do you receive health information?

- a. Daily[] b. Weekly[] c. Once a month[] d. rarely[] e. Others[]
specify.....

29. Which communication channels have been used to give you information?

- a. interpersonal(face to face ie Meetings, house to house, seminar, focus discussions etc).
b. posters, wall charts[] c. calling /beating gong gong[] d. Video/film[]
e. audio cassettes/mobile van[] d. Television[] e. Local drama[]
f. Others(specify).....

30. Which of this medium do you best prefer?

- a. interpersonal(face to face ie Meetings, house to house, seminar, focus discussions etc).
b. posters, wall charts[] c. calling /beating gong gong[] d. Video/film[]
e. audio cassettes/mobile van[] d. Television[] e. Local drama[]
f. Others specify.....

31a. Have you ever been given information on malaria in pregnancy? 1. Yes
2. No

- b. If yes what were you told?..... c. By whom? a. CBAs[] b. Health worker[] c. Field worker[] Others(specify).....
- How often? a. daily b. weekly c. Fortnightly d. Once a month e. rarely f. Others(specify).....
32. Where else do you get information on malaria in pregnancy?

F.QUALITY OF SERVICE

33. What do the health staff do for you when you attend ANC?
a. examine you[] b. give you education/counselling[] Give you medicine[] Others (specify).....
34. What do you benefit from attending ANC? a. We are able to know how our baby is doing [] b. We are given education about what to eat and how to stay healthy c. others (specify).....
35. Are there some things the staff do that you think discourage you from attending ANC? a. the health workers are unfriendly[] b. they shout on us[] c. the fees charged are too high[] Others(specify).....
36. Have you been told anything about how to prevent malaria in pregnancy Yes[] No[]
38. If yes, what were you told? a. use a net [] b. clean our environment c. others (specify).....
39. How has that information helped you to prevent malaria whilst you are pregnant?
.....
.....

APPENDIX: 2 - FOCUS GROUP DISCUSSIONS

MALARIA IN PREGNANCY FGD QUESTIONS KNOWLEDGE

What are some of the diseases pregnant women suffer in this community?

Why do you say so?

Of these diseases which do you think is the most severe and why?

What causes malaria?

How will you know a pregnant woman has malaria?

What are some of the effects of malaria if a woman is not treated early?

Can malaria be prevented? If yes how?

How do you prevent malaria in pregnancy?

Do people use bednets here? Who?

Are mosquitoes a problem in this community? How do you keep them away?

ATTITUDES AND BELIEFS & PRACTICES

How do you treat malaria?

What do you do for a pregnant woman who has malaria?

How do you treat anaemia?

Why do pregnant women attend ANC?

What do you think are the reasons why some pregnant women do not attend ANC?

Some women after attending ANC do not deliver in the hospital what do you think are the reasons for this ?

What do you suggest can be done to pregnant women to attend ANC?

QUALITY OF SERVICE

18. What do the health staff do for pregnant women they attend ANC?
19. What are some of the you like about ANC
20. Are there some things the staff do that you think discourage pregnant women from attending ANC
21. What are the types information pregnant women get when they attend ANC?

INFORMATION, EDUCATION AND COMMUNICATION

22. What are the usual ways of getting information in this community ? (rank the channels in order of preference).
- Who normally gives talks in this community on health issues?
23. What issues are normally discussed?
 24. How often do you receive this information? How has it helped you?
 25. Where do you normally receive this information?
 26. Who do you prefer to give talks on health to you?

APPENDIX: 3- KEY INFORMANT INTERVIEW GUIDE

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF COMMUNITY HEALTH

Key Informant Interview With Health Workers In The Community

Knowledge about malaria in pregnancy:

What do you think are the most common diseases in the communities in which you serve?

What in your opinion is the disease that disturb pregnant women in this community?

How do you treat malaria in your facility?

What are the causes of malaria

Beliefs Attitudes and Practices

Can you please tell me the way pregnant women in this community treat malaria in pregnancy?

2. What in your opinion are the general conception on about malaria in pregnancy in this community?

3. What do pregnant women in this community know about the consequences of malaria to the mother and the baby?

IEC

1. What are the general area you cover during IEC?

2. Do you educate them about malaria during pregnancy?

3. What do you tell them about malaria?

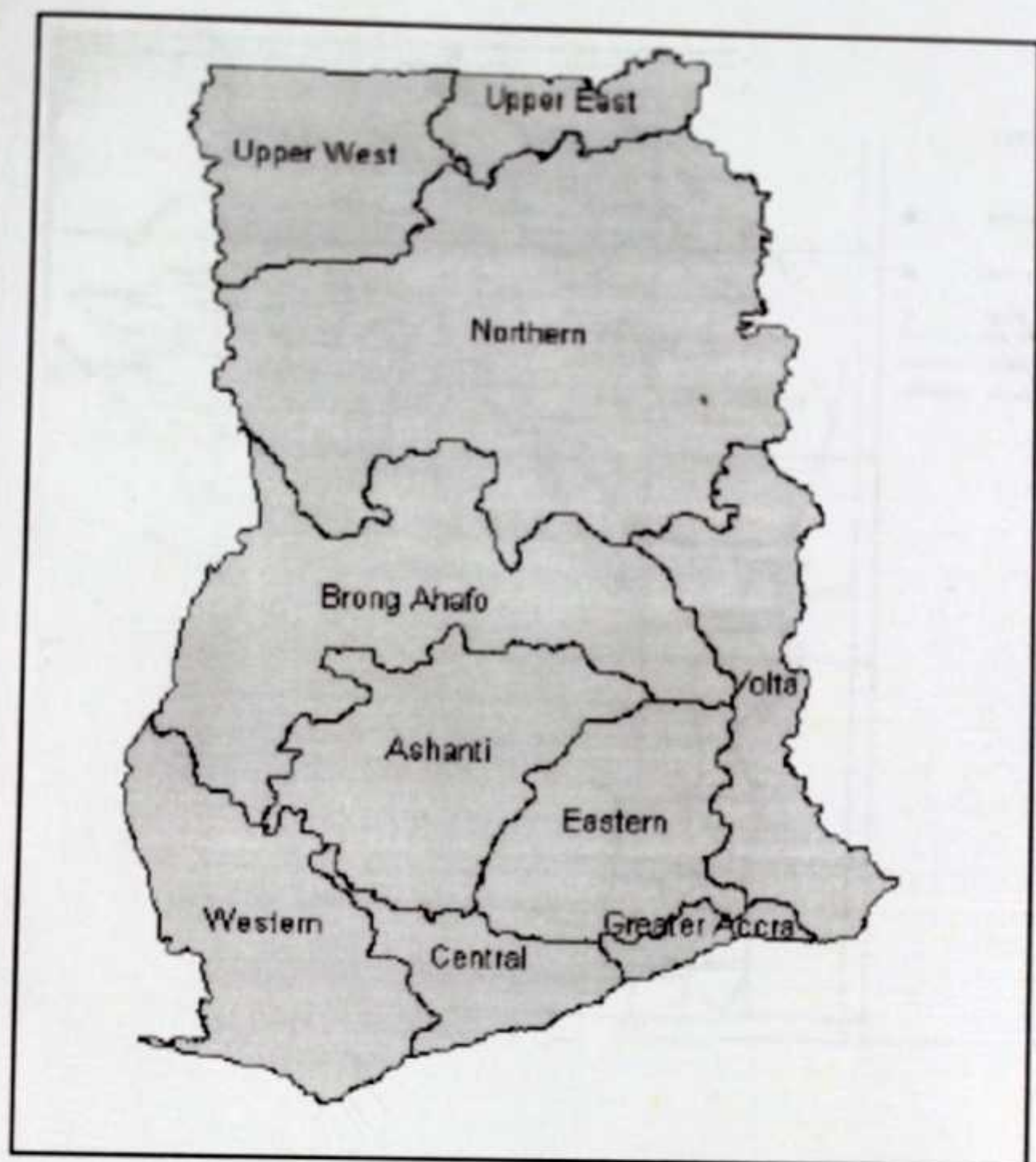
4. What kind of prophylaxis do you prescribe for the pregnant women?

5. How do you give the dosage ?

6. Why is it important to give education on malaria in pregnancy?

7. What provision have you made which will encourage pregnant women to sleep under ITNs?
8. Apart from the clinic what other venues do you give IEC?
9. Do you in your opinion think enough awareness have been created in the dangers of malaria in pregnancy and its prevention?

APPENDIX: 4- MAP OF GHANA



APPENDIX: 5- MAP OF STUDY AREA

